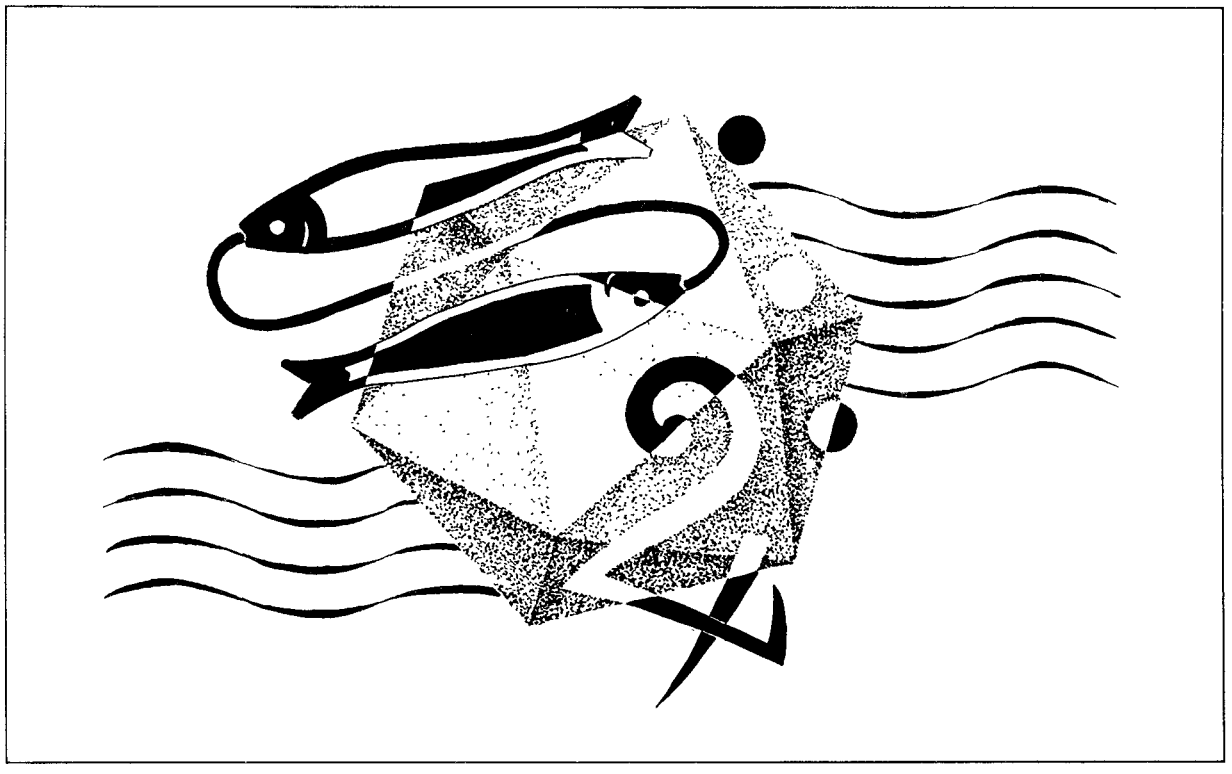
EUROPEAN COMMUNITY ENVIRONMENTAL LEGISLATION 1967 – 1987

Vol. 4

WATER



Commission of the European Communities
Directorate-General for Environment,
Consumer Protection and
Nuclear Safety
Brussels

EUROPEAN YEAR
OF THE ENVIRONMENT

E R R A T A

Ed. note: *The following pages can be photocopied and the additions pasted on to the relevant pages.*

ERRATA

— (p. 1) Directive 76/160; (p. 54) Directive 78/659.
The following text should be inserted below the title:

(as amended by the Act of Accession of Greece of 28 May 1979 (OJ L 291, 19.11.79, p. 17); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

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— (p. 4, Art. 11.2) Directive 76/160; (p. 57: Art. 14.2) Directive 78/659; (p. 89: Art. 15.2) Directive 80/778.
The majority of committee members should be '54' in the noted articles.

— (p. 4) Directive 76/160; (p. 78) Directive 75/440; (p. 89) Directive 80/778.
The following note should be inserted at the bottom of the page:

Ed. note: The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))

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— **(p. 70) Directive 75/440.**
The following text below the title should be deleted:

(as amended by the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

The following text should be inserted below the title:

(as amended by Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States (OJ L 271, 29.10.79, p. 44))

— (p. 72) *Art. 5 should be amended according to Art. 12 of Directive 79/869 (see page 78), that is, Art. 5.2; should be deleted and the following text should be inserted in its place ...*

[deleted]

Art. 5.3; should be deleted and the following text should be inserted in its place ...

3. Higher values than the parametric values for the water quality in question, shall not be taken into consideration in the calculation of the percentages referred to in paragraph 1 when they are the result of floods or natural disasters or abnormal weather conditions.

— (p. 86) **Directive 80/778.**
The following text should be inserted below the title:

(as amended by Council Directive 81/858/EEC of 19 October 1981 consequent upon the accession of Greece (OJ L 319, 7.11.81, p. 19); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

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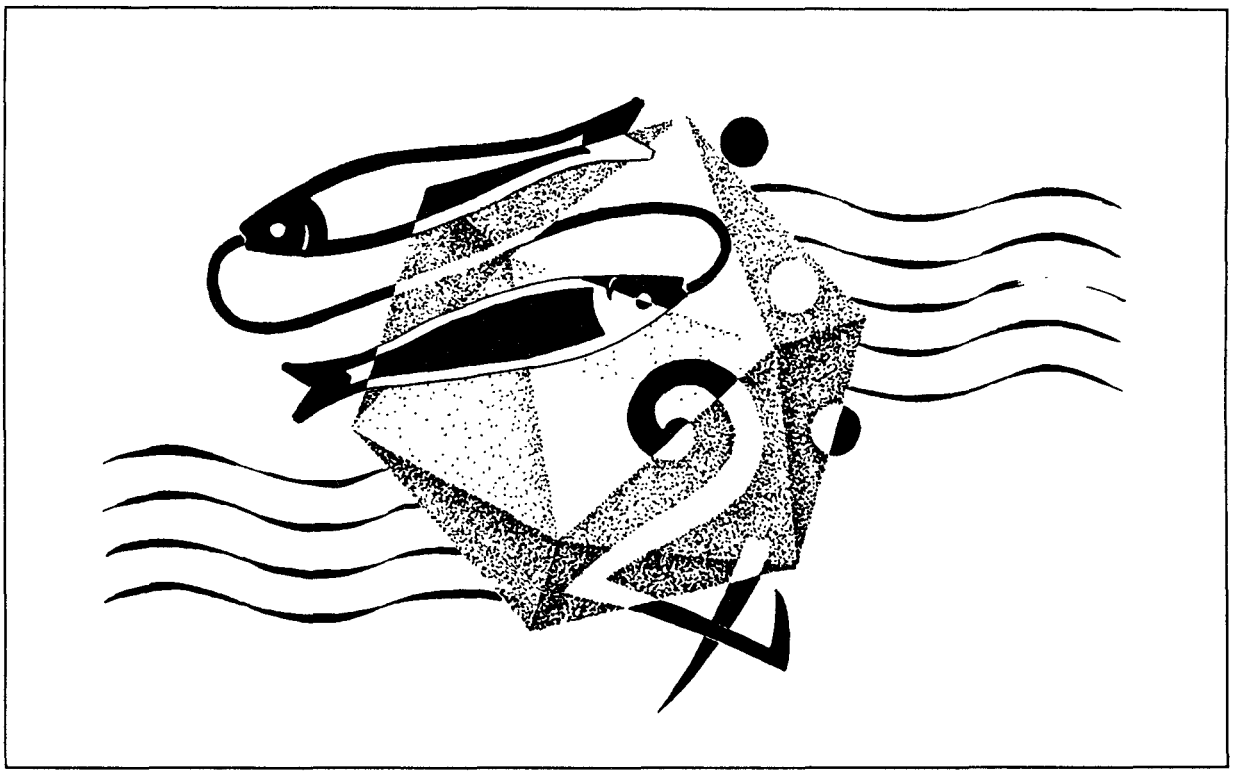

Commission of the European Communities
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EUROPEAN YEAR
OF THE ENVIRONMENT

European Community Environmental Legislation 1967 - 1987

Volume 4: Water

Document No. XI/989/87

Commission of the European Communities
Directorate-General for Environment,
Consumer Protection and Nuclear Safety

Brussels

European Community Environmental Legislation
Volume 4: Water

Series Editor: Cynthia Whitehead

The editor is grateful for the support of Nigel Haigh in the preparation of the introductions to these volumes. His book *EEC Environmental Policy & Britain, 2nd edition* (Longman: London, December 1987) offers fuller summaries and detailed analyses of the EC environment directives presented here.

The cover illustration, by Pierre Nagant, uses components of different symbolic systems to represent the element *Water* :
Platonic – the icosahedron; Astrological – Pisces; Planetary – Jupiter; Pythagorean – the second row of the Tetractys.

These volumes are also available in Danish, Dutch, French, German, Greek, Italian, Portuguese and Spanish.

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Contents

Preface

The Fourth Programme of Action for the Environment 1987-1992 sets out as one of its top priorities the correct application of the European directives for the protection of the environment by all member states. This goal is to be pursued with increased vigour by the Commission of the European Communities and it is to this end that this legislation is collected together in four volumes – in the nine languages of the Community.

The responsible authorities in each member state will have in this way a handy reference on the correct version of a particular directive.

The organisations for the protection of the environment and the public in general can find in these volumes what has been achieved until now for the European environment.

The various economic sectors can find here the directives that affect the organisation of their work.

In addition, there are included here multilateral conventions signed by the Community along with its neighbour countries – as well as many countries of the rest of the world – for the preservation of our planet.

These texts are the result of the collaboration of the member states within the Council of Ministers along with the Commission, under the scrutinizing eyes of the European Parliament and the Econmic and Social Committee. All in all they represent an impressive part of the growing domain of European law.

They have been achieved in a rather short time since the beginning of the active pursuit of a European environmental policy in 1973.

Finally these texts owe their existence not in a small measure to the efforts of all those who have been working in the Directorate-General XI for the Environment, Consumer Protection and Nuclear Safety.

They, along with me, proudly dedicate these four volumes to the people of Europe as our contribution to their well-being.

L. J. Brinkhorst

Director General

Introduction

1. The nature of the European Community

The European Community is a unique political entity. It is neither a national government nor just an international organisation. The EC member states are not subnational entities (like the 50 states of the USA or the German Länder) but sovereign states. Still, these states have given the Community law-making and law-enforcing powers that go far beyond those of international organisations such as the United Nations, the Organisation for Economic Co-operation and Development (OECD), or the secretariats set up under numerous international treaties whose primary functions are to gather information and propose actions.

The European Community has institutions which can propose and adopt legislation that is binding on citizens and the member states without further national review or ratification. Further, it can monitor, coordinate and enforce the implementation of its laws.

2. The Institutions of the European Community

The European Community was established by the 1957 Treaty of Rome, the Euratom Treaty, and the Treaty on Coal and Steel; it was strengthened by a series of amendments to the Treaties which are contained in the Single European Act of 1987.

At present, the EC has 12 member states – Belgium, Denmark, the Federal Republic of Germany, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom.

The EC has an elected Parliament, a Council of Ministers with legislative powers, a Commission to propose and administer laws and regulations, and a Court of Justice to interpret and enforce its laws and the founding Treaties. The Economic and Social Committee advises the Council and Commission on current issues of law and policy.

2.1 The Council

The Council is composed of one minister from each of the member states; in practice the Council is composed of the minister responsible for the subject under discussion. Thus, it has become usual to refer to the 'Agriculture Council' or the 'Environment' or 'Consumer Affairs' Council. The 'European Council', composed of the prime ministers or heads of state, meets at least twice a year to discuss broad policy issues, including environment.

The Presidency of the Council passes from one member state to the next every 6 months (in alphabetical order in the language of each country). It decides the agenda for and presides over the Council meetings.

The Council is the main legislative institution of the Community. It can only act upon a proposal from the Commission. It may request the Commission to make a proposal on a particular subject, but this request is not mandatory.

Each member state maintains a Permanent Representation in Brussels to maintain relations with the EC institutions. The Committee of Permanent Representations (COREPER) and its working groups prepare issues for the Council. The working group is chaired by an official of the member state that holds the Presidency of the Council. Hence, the priorities set during each Presidency affect not only the decisions of the Council during that Presidency but also the agendas for the following 12-18 months.

Most environment legislation falls under the competency of the Environment Council, but some issues might fall under the competency of the Council that deals with the Internal Market or Industrial Affairs, Agriculture or others. Occasionally, as in the case of dangerous chemicals, a special, combined Council will be convened to consider proposed legislation or issues that cut across several areas of competence.

2.2 The Commission

The Commission has the sole, formal power to propose legislation. It is composed of 17 Commissioners, proposed by the member states, who serve for a collective 4-year term of office and must take an oath that they are free from influence by their national government.

The Commissioners meet one day each week, normally Wednesdays, and must agree on all legislation proposed to the Council.

The Commission is supported by a number of administrative units: 'Directorates-General' and 'Services'. The Directorate-General XI (DG XI) is responsible for Environment, Consumer Protection and Nuclear Safety. The DG V – Employment, Social Affairs and Education – is responsible for worker safety and the DG III – Internal Markets and Industrial Affairs – is responsible for much product safety legislation, including pharmaceuticals, veterinary medicines, foodstuffs and food additives, and some dangerous chemical products. The DG VI – Agriculture – is responsible for pesticide regulation.

The Commissioners' responsibilities may cut across the competencies of or be divided among 2 or more Directorates-General.

In addition to its power to propose legislation, the Commission may adopt legislation in certain limited areas. This power, for example, is often used to adapt environmental laws to scientific or technical progress by amending requirements set out in annexes to the legislation; in such cases member states participate in the legislative process through a special committee.

The Commission is also responsible for monitoring the implementation of EC legislation by the member states. It is the 'Guardian of the Treaty' and can bring a member state before the Court of Justice for failure to carry out the obligations laid down in the EC Treaties or legislation.

2.3 The European Parliament

If the Council of Ministers may be said to represent the national interests of the member states, and the Commission to represent the 'Community interest', then the Parliament can be said to represent the voice of the people.

As the legislative role is filled by the Commission and the Council, the European Parliament is left with a largely advisory role. Its opinion must be obtained before certain types of legislation can be adopted by the Council and it has used this power quite frequently to delay legislation to achieve concessions from the Commission and the Council. It can raise new issues in parliamentary inquiries, debates and resolutions. The Parliament's consultative role has been strengthened by the Single European Act.

Members of the European Parliament (MEPs) are elected every 4 years and have divided themselves into political groupings cutting across nationalities.

Most of the work is carried out in the committees.

The Parliament meets once a month for about a week in Strasbourg, and the plenary sessions are open to the public. The committees meet once a month, usually in Brussels. The deliberations of the Environment Committee are open to the public, but this is not the case for many of the other committees.

2.4 The Court of Justice

The Court is composed of judges appointed by agreement with the member states. The judges are assisted by advocates general who analyse and propose decisions on the cases brought before it.

Cases may be brought by:

- the EC institutions against one another
- the Commission against member states
- the member states against the Commission
- natural or legal persons against the member states or the Commission.

National courts have retained the power to review actions taken by national institutions for implementation and enforcement of environmental legislation . They may apply to the Court of Justice for a preliminary ruling on an issue of EC law before reaching a decision.

The Court of Justice does not normally have the power to apply sanctions, but under the Treaty member states are required to comply with its rulings and have generally done so. National courts, of course, do have the power to enforce their decisions, including those concerning Community law.

2.5 The Economic and Social Committee (ESC)

The members of this Committee are nominated by the member states to represent employers, employees, and other public interest organisations, including local government, consumer and environmental organisations. Often, it too must deliver its opinion before EC legislation may be adopted.

3. Competence for Environmental Law

3.1 The Treaties of Rome

The Treaty establishing the European Economic Community did not provide for environment protection as such, but for the need to achieve 'the constant improvement of the living and working conditions'. The first environmental laws – those concerning products – were based on Art. 100 of the Treaty, which empowers the Council to issue directives for the aproximation of the laws, regulations or administrative actions in member states that directly affect the establishment or functioning of the common market. Later laws were based on Arts. 100 and 235. The latter empowers the Council to take appropriate measures to attain, in the course of the operation of the common market, one of the objectives of the Community where the Treaty has not provided the necessary powers.

3.2 The Single European Act

A new Title VII 'Environment' (Articles 130 R, S & T) has been added to Part Three of the EEC Treaty covering the 'foundations and the policy of the Community', covering also human health and natural resource management. Environmental protection requirements must become a component of other Community policies. Art. 130 S empowers the Council to decide to take certain decisions by qualified majority. The text discusses the relationship between the Community and the member states at length and explicitly empowers the member states to maintain or adopt more stringent protective measures.

The new Article 100 A on the internal market cuts across environmental protection interests by introducing decision-making by a qualified majority, the Council being required to take a 'high level of protection' as its starting point. This clearly applies to product legislation, but is qualified by an escape clause permitting member states, for reasons of worker or environment protection, to continue to apply existing, more stringent legislation, provided it is not protectionist.

The meaning of this overlap between the protection of the common market and the protection of the environment where decisions are taken by qualified majority will before long probably have to be decided by the Court of Justice.

4. Forms of European Community Legislation

The Council can adopt:

- non-binding **recommendations and resolutions**
- **regulations** that are binding and directly applicable in all member states
- **decisions** that are directly binding on the persons to whom it is addressed, including member states, individuals and legal persons
- **directives** that must be implemented by the laws or regulations of the member states within a designated time limit.

Regulations are usually used for very specific purposes such as trade in products and financial matters; they have not often been used for environmental legislation, except for controls on trade in endangered species.

Decisions have been primarily used in environmental legislation to authorise the Community to become a party to international conventions, but also for other purposes, e.g. to set up a system of information exchange on water quality.

The directive is the main tool of Community environmental policy. It empowers the Community to define objectives, standards and procedures but allows the member states some flexibility in that implementation must take place through national legislation and regulation.

In fact, environmental directives have sometimes been similar to regulations by laying down precise limits, controls, or technical, testing or labelling requirements, particularly regarding industrial products.

Some directives have set environmental quality standards combined with implementation plans or monitoring systems. This system allows the member states greater latitude in setting controls on actual emissions of individual polluters while meeting overall goals set by the Community.

Other directives have set broad environmental policy goals and encouraged cooperation among the member states without going so far as to define actual limits to pollution. This can be a useful tool when agreement on precise controls cannot be achieved in the Council.

The legislative process of the European Comunity is usually very thorough. It involves numerous close consultations with the member states, the European Parliament, the Economic and Social Committee, as well as private organisations, at both national and EC levels. During the process of developing their national positions on proposed EC legislation the member states must often formally consult their national parliaments and carry out informal consultations with national interest groups.

This painstaking process of consultation is a necessary part of the development of laws that must:

- serve the common interests of the European Community
- be integrated into the different legal systems of the member states, and
- be implemented by their different and varied administrations and levels of government.

5. Environmental Action Programmes

Although not legislation, the European Community has adopted three 5-year Action Programmes to guide its activities. The Action Programmes set out the Commission's priorities for the coming period.

The Fourth Environmental Action Programme

On 24 October 1987 the Council formally adopted the Fourth Environmental Action Programme.

The Fourth Programme will mark an important new phase in EC environmental policy. It reflects the fundamental improvement in the status of environmental policy under the Single European Act by calling for protection of the environment to become an integral part of EC and national economic and social policies, in particular the Common Agriculture Policy, and Regional, Social, and Development policies.

Four areas are given top priority:

- **Implementation of EC legislation**: The Commission intends to step up efforts to ensure that member states apply directives fully, controlling both formal legal compliance and practical implementation. It is examining the possibility of appointing Community environment inspectors, and plans to encourage individuals and NGOs to monitor and report implementation problems, and organize workshops where national authorities can discuss their experiences.
- **'Substance'- and 'Source'- oriented pollution control**: The Programme reinforces the Community's commitment to preventive environmental policies by adopting a 'substance-oriented' approach to the regulation of existing problem chemicals such as asbestos, cadmium and lead. This approach is based on the analysis of all emissions of the substance to the environment and its movement and distribution through air, water and soil. It also seeks to revive the 'source-oriented' approach (all emissions from an installation to whatever environmental medium).
- **Information**: In 1987, the Commission has promised to draft a proposal that would expand the rights of citizens to obtain information from government about environmental policies and problems. It will also publish a report on the state of the environment every three years, beginning in 1987.
- **Job creation**: The Commission has proposed a five-year programme of demonstration projects in all member states to examine the job-creation potential of environmental investment.

Cynthia Whitehead

Brussels, 1987

Summaries of the legislation

Council Directive 76/160/EEC – Bathing Water

The Directive lays down 19 physical, chemical and microbiological parameters for the quality of bathing waters, 13 of which are imperative (I) or guide (G) values, the most important being coliform counts. The Directive defines 'bathing water' as fresh or sea water in which:

- bathing is explicitly authorised by the member state, or
- is not prohibited and is traditionally practised by a large number of bathers.

The member states had to set values which bathing waters must meet which are at least equal to the I values by December 1985, although they could grant derogations under exceptional circumstances. The derogations had to be justified by reference to a management plan and communicated to the Commission by December 1981.

The Directive lays down conditions for sampling and the Annex lays down minimum sampling frequencies and reference methods of analysis and inspection. 95 percent of samples for I value parameters must be met.

At regular intervals from December 1979 member states must submit a report to the Commission on their bathing waters; the Commission may publish this information only with the consent of the member state concerned.

It was amended by the Act of Accession of Greece in 1979, and the Act of Accession of Spain and Portugal in 1985 to increase the number of members of the Committee on Adaptation to Technical Progress.

The deadline for compliance for Portugal was set by the Act of Accession at 1 January 1989.

Council Directive 76/464/EEC – Dangerous substances

This is a 'framework' directive which provides for the elimination or reduction of pollution of inland, coastal and territorial waters by particularly dangerous substances by means of 'daughter directives'. It is also intended to ensure Community-wide consistency in the implementation of international conventions.

Member states are to take appropriate steps to eliminate pollution by substances listed on List I in the Annex to the Directive and to reduce pollution by substances listed on List II in the Annex.

List I contains substances selected on the basis of their toxicity, persistence and bioaccumulation, e.g. organohalogen and organophosphorus compounds, carcinogenic substances, and mercury and cadmium compounds.

Member states must establish a prior authorisation system containing emission standards for the discharge of List I substances. These emission standards are to conform to 'limit values' laid

down by the Council which can govern the maximum concentration and quantity of the substances allowed to be discharged.

Alternatively, member states may establish emission standards set by reference to water 'quality objectives' laid down by the Council, if it can prove to the Commission in accordance with a monitoring procedure set up by the Council that the quality objectives are being met and continuously maintained.

For List II substances, member states must establish pollution reduction programmes with deadlines for implementation, and including a prior authorisation requirement and compliance with emission standards for all discharges. The emission standards must be based on quality objectives which must respect existing Community directives.

Summaries of the programmes and their implementation must be sent to the Commission, which can make regular comparisons and make proposals to coordinate national programmes.

The member states must draw up inventories of the discharges which may contain List I substances.

Only five 'daughter directives' have been adopted which designate List I substances; the other members of these families of substances are considered List II substances pending adoption of emission standards by the Council.

1. Council Directive 86/280/EEC

This is the most recent of the 'daughter directives'; it intends to accelerate implementation of Directive 76/464 by enabling substances to be added to an Annex, extending coverage to include non-point source pollution, for example from agriculture, requiring that standards corresponding to the 'best technical means available' be applied to the authorisation of new industrial plants, and, in Annex I, establishing compliance deadlines and monitoring procedures for limit values and quality objectives. Derogations may only be authorised for new plants if notified to the Commission in advance and supported by evidence.

It also establishes, in Annex II, limit values and quality objectives for three substances: carbon tetrachloride, DDT and pentachlorphenol. The member states must also draw up programmes to avoid or eliminate pollution from significant sources of Annex II substances (including multiple and diffuse sources) other than those subject to EC or national standards.

Every five years, the Commission must make a comparative assessment of the implementation of the Directive and submit the report to the Council.

2. Council Directive 82/176/EEC – Mercury

This is the first 'daughter directive', and concerns only mercury discharged from industrial plants which produce chlorine by electrolysing alkali chlorides.

Member states may only authorise discharges of mercury and its compounds from these plants if they at least conform to the limit values or quality objectives specified in Annexes I and II. Authorisations must be reviewed every four years.

New plants may only receive authorisation if the authorisation contains a reference to the standards corresponding to the best technical means available for preventing discharges of mercury.

Reference methods of measurement and monitoring procedures are laid down in Annexes III and IV. The Commission and the Council provide a statement on what standard of mercury discharge the 'best technical means' should be able to achieve.

3. Council Directive 84/156/EEC – Mercury

This 'daughter directive' regulates mercury from other kinds of industrial processes than the chlor-alkali process. It requires the member states to authorise industrial plants to discharge mercury in conformity, at the minimum, with the limit values or quality objectives laid down in Annexes I and II.

For multiple sources which are not industrial plants and for which limit values cannot be applied in practice, the member states must draw up programmes to avoid or eliminate mercury pollution, which must include the most appropriate measures and techniques for the replacement, retention and recycling of mercury. The programmes shall take effect on 1 July 1989.

4. Council Directive 83/513/EEC – Cadmium

This 'daughter' directive applies to most industrial discharges of cadmium, with the exception of industrial plants manufacturing phosphoric acid or fertilizer.

The Directive lays down limit values for different industrial sectors and quality objectives for different types of waters in Annexes I and II. Reference methods of measurement and monitoring procedures for quality objectives are laid down in Annexes III and IV.

Member states may only grant authorisations to new plants if they apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution.

No standard is provided for application of the 'best technical means'.

5. Council Directive 84/491/EEC – Hexachlorocyclohexane

This 'daughter' directive covers industrial plants producing hexachlorocyclohexane (HCH), the gamma isomer of which, commonly called lindane, is used as an agricultural pesticide in the European Community.

The Directive lays down limit values and quality objectives for HCH discharges in Annexes I and II, and provides methods of measurement and a procedure for monitoring quality objectives in Annexes III and IV.

Member states may only grant authorisations to new plants if they apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution.

No standard is provided for application of the 'best technical means'.

Council Directive 78/659/EEC – Freshwater fish

The Directive concerns the quality of fresh waters; it applies to those waters designated by the member states as needing protection or improvement in order to support fish life.

Two categories of waters must be designated:

- salmonid waters, for salmon, trout and whitefish
- cyprinid waters for cyprinids and other species (pike, eel)

Annex I sets out imperative (I) and guide (G) values for 14 physical and chemical parameters for both categories of waters. Member states must set values no less stringent than the I values, and must 'endeavour to respect' the G values.

Member states must establish pollution reduction programmes designed to ensure that the waters are brought into conformity with the set values within five years of designation. The Directive also lays down sampling procedures.

Member states must consult with each other formally concerning the designation of fresh waters that cross or form national frontiers and the Commission may participate in such consultations.

Member states must supply the Commission with a list of designated areas within two years of notification of the Directive, and supply a detailed report on implementation within five years thereafter.

It was amended by the Act of Accession of Greece in 1979, and the Act of Accession of Spain and Portugal in 1985 to increase the number of members of the Committee on Adaptation to Technical Progress.

Council Directive 79/923/EEC – Shellfish waters

The Directive is intended to protect and improve the quality of coastal and brackish waters designated by the member states for the support of shellfish life and growth.

Member states must designate such waters within two years following notification of the Directive.

Imperative (I) and guide (G) values, measurement methods and sampling procedures for 12 physical and chemical parameters for shellfish waters are set out in an Annex. Member states must set values no less stringent than the I values, and must 'endeavour to observe' the G values.

Member states must establish pollution reduction programmes designed to ensure that the waters are brought into conformity with the set values within six years of designation. The Directive also lays down sampling procedures. The frequency of sampling may be reduced if the quality of the water is 'appreciably higher' than the Directive requires.

Member states must consult with each other formally concerning the designation of fresh waters that cross or form national frontiers and the Commission may participate in such consultations.

Member states must supply the Commission with a list of designated areas within two years of notification of the Directive, and supply a detailed report on implementation within six years thereafter.

Council Directive 75/440/EEC – Surface water for drinking

The Directive has two purposes: to ensure that surface water abstracted for use as drinking water meets certain standards and is treated adequately before being introduced to the public supply, and thereby to improve the quality of rivers and other surface waters used as sources of drinking water.

Member states must classify sources of surface water for the abstraction of drinking water by their existing quality into three categories, A1, A2, and A3, according to the three standard methods of treatment given in Annex I.

Annex II contains the physical, chemical and microbiological characteristics used to define the three categories of water. Imperative (I) and guide (G) values are given for 46 parameters covering each of the three categories. The I and G values are lacking for a few parameters, but these are intended to be added later.

The member states must lay down values for sampling points where water is abstracted for all parameters for which an I or G value is given, which must be at least as stringent as those defined in the Directive.

Surface water having a quality worse than category A3 is prohibited from being abstracted for drinking water, except under exceptional conditions and with prior notification to the Commission.

The member states must draw up a plan of action containing deadlines for the improvement of these surface waters, especially A3 water, for the achievement of 'considerable improvements' over a ten year period. The plan of action must be drawn up in light of the need to improve the quality of the environment, and water, and economic and technical constraints.

Originally, the frequency of sampling, methods of measurement, and analysis were the responsibility of the member states 'pending a Community policy'. Directive 79/869/EEC established that policy and deleted the relevant clause in Directive 75/440 (Art. 5.2). It also introduced a new Art. 5.3, which states that higher values than the parametic values that are the result of floods, natural disasters or abnormal weather conditions shall not be taken into account.

The deadline for compliance for Portugal was set by the Act of Accession at 1 January 1989.

Council Directive 79/869/EEC – Sampling of surface water for drinking

The Directive supplements Directive 75/440 by recommending methods of measuring the parameters for surface water quality (Annex I) and setting the frequencies for such measurements (Annex II).

It was amended by the Act of Accession of Greece in 1979, and the Act of Accession of Spain and Portugal in 1985 to increase the number of members of the Committee on Adaptation to Technical Progress.

The deadline for compliance for Portugal was set by the Act of Accession at 1 January 1989.

Council Directive 80/778/EEC – Drinking water

The Directive lays down standards for the quality of water intended for human consumption, both directly and after processing, but does not apply to natural mineral waters or medicinal water recognized or defined by the member states. It has the purpose of promoting the free circulation of goods in the Community, as well as protecting human health and the environment.

Annex I lays down maximum admissible concentration (MAC) levels and guide (GL) levels for 62 parameters and minimum required concentrations (MRC) for four parameters, in seven categories:

A. organoleptid parameters
B. physio-chemical parameters
C. substances undesirable in excessive amounts

D. toxic substances
E. microbiological parameters
F. MRC for softened water

Not all of the parameters have MAC or GL values provided. For the parameters in categories A-E of Annex I, member states must lay down values less than or equal to the given MAC values, where those exist, otherwise taking as a basis the GL values. They may decide not to set values for those parameters lacking both MAC and GL values in the Directive.

Annex II provides a table of mandatory standard pattern analyses and mandatory minimum frequencies of standard analyses.

Annex III provides reference methods of analysis for the parameters listed in Annex I. It must be adhered to as far as practicable.

Derogations from Annex I parameters may be granted for a limited period of time if they do not constitute an unacceptable risk to health, but only following emergences and when a poor quality water supply for which adequate treatment is not possible must be used constantly.

Delays from Annex I parameters may be granted if particular difficulties are being experienced with compliance with the Directive, but must be applied for with a time-limited plan of remedial work and must relate to geographically defined population groups.

It was amended by the Act of Accession of Greece in 1979, and the Act of Accession of Spain and Portugal in 1985 to increase the number of members of the Committee on Adaptation to Technical Progress.

The deadline for compliance for Portugal was set by the Act of Accession at 1 January 1989.

Council Directive 80/68/EEC – the protection of groundwater against pollution

The object of the Directive is to prevent or limit the direct or indirect introduction to the groundwater of the families or groups of dangerous substances contained on list I and List II of the Annex. Member states must 'prevent' the introduction of list I substances. They must 'limit' the introduction of list II substances 'so as to prevent pollution'.

The Directive does not apply to discharges of domestic effluents from isolated dwellings situated outside areas protected for the abstraction of water for human consumption, to trace quantities of list I or list II substances, or to radioactive materials.

For list I substances, the member states must prohibit all direct discharges, and subject to prior investigation and and prohibition or authorisation of any disposal or tipping that might lead to indirect discharge. If the groundwater is permanently unsuitable for other uses, the discharge may be authorised, as may re-injection of water used for geothermal purposes or pumped out of mines, quarries, etc. Other activities must be subject to necessary and appropriate measures, which must be notified to the Commission.

For list II substances, the member states must establish an investigation and authorisation procedure for all direct discharges, disposal or tipping.

Criteria for the investigation and authorisation are laid down; the permit must be limited in time and reviewed every four years.

Member states must notify and consult with their affected neighbours in the case of authorisations for discharge to transfrontier groundwater.

The Commission may request certain information on a case-by-case basis.

International Conventions: *The Council has given the Commission authority to participate in the negotiation of international conventions on its behalf in several areas where the Community has competence. After signature, the practice has been for the Community to ratify these conventions, and subsequent protocols or actions, by means of the instrument of a Council Decision.*

Council Decision 75/437/EEC – Convention on marine pollution from land-based sources

The Convention, known as the 'Paris Convention', aims at preventing pollution of the North East Atlantic and the North Sea from land-based sources.

The contracting parties pledge to take 'all possible steps to prevent pollution of the sea' from human activities. The Convention provides three categories of substances in Annex A:

Part I substances, including persistant chemical families or materials, which must be eliminated as a matter of urgency

Part II substances, including less persistent organic substances and heavy metals, which must be reduced or eliminated, as appropriate; discharges must be subject to approval by the Contracting Party

Part III substances, radioactive substances and wastes; discharges must be forestalled and, as appropriate, eliminated.

A common monitoring network is to be set up to assess the levels of marine pollution and the effectiveness of control measures.

A Commission of representatives of the Contracting Parties was established to carry out a broad range of responsibilities in the framework of the Convention.

1. Council Decision 85/613/EEC – Marine pollution by mercury and cadmium

The Decision approves, for the Community, PARCOM Decisions 85/1 and 85/2 to the Paris Convention, indicating formally that the Community complies with the programmes of emission standards, limit values, quality objectives, reference methods of measurement, monitoring procedures and time limits laid down in the PARCOM Decisions by virtue of Directives 76/464/EEC, 83/513/EEC and 84/156/EEC.

It applies to mercury and cadmium discharges by sectors other than the chlor-alkali electrolysis industry.

2. Council Decision 87/57/EEC (not included)

The Decision approves the Protocol extending the scope of the Paris Convention to cover atmospheric inputs of pollutants.

Council Decision 77/585/EEC – Protection of the Mediterranean Sea

The Decision concludes the Convention for the protection of the Mediterranean Sea against pollution and the Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft (Barcelona Convention).

The contracting parties promised to take all appropriate measures to prevent, abate and combat pollution and to protect and enhance the marine environemnt. The Convention covers pollution caused by dumping from ships and aircraft, by discharges from ships, by exploration and exploitation of the continental shelf and the seabed and its subsoil, from land-based sources, joint monitoring programmes, and cooperation in emergencies.

The United Nations Environment Programme is designated as secretariat. Meetings of the contracting parties are held every two years to review the implementation of the Convention and Protocols.

1. Protocol on dumping from ships and aircraft

Adopted at the same time as the Convention, the Protocol requires the parties to take all appropriate measures to prevent and abate pollution caused by dumping from ships and aircraft.

The dumping of wastes or matter listed in Annex I is prohibited; this includes a list of families of organic compounds, mercury and cadmium, persistent synthetic materials, radioactive wastes, and harmful materials produced for chemical and biological warfare.

A special national permit is required for the dumping of substances and materials listed in Annex II. The dumping of all other wastes requires a prior general permit.

Factors to be considered in issuing the permits are listed in Annex III.

2. Council Decision 81/420/EEC – Emergency response to oil pollution

The Decision approves the Protocol on cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency.

The contracting parties agree to develop contingency emergency plans and means for combating pollution, and to cooperate in the regular monitoring of the Mediterranean and the salvage of harmful substances in case of grave and imminent danger from massive quantities of oil or other harmful substances resulting from accidents or the accumulation of small discharges.

They must require all ships and aircraft to report accidents or the presence of harmful substances quickly and adequately in the manner and to the extent laid down in the Protocol.

3. Council Decision 83/101/EEC – Pollution from land-based sources

The Decision approves the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources.

The groups of substances listed in Annex I must be eliminated; the groups of substances listed in Annex II must be strictly limited. The parties pledge to collaborate in the development of standards for pipelines, effluent treatment, the use of sea water, the control and replacement of dangerous products, and requirements for the control of substances listed in the Annexes.

4. Council Decision 84/132/EEC – Specially protected areas

The Decision approves the fourth Protocol to the Barcelona Convention – concerning Mediterranean specially protected areas.

At their first meeting, the contracting parties must adopt criteria for the selection, establishment, management and notification of information on protected areas, which are:

- sites of biological and ecological value
- genetic diversity
- representative types of ecosystems and ecological processes, or
- sites of particular scientific, aesthetic, historical, archaeological, cultural or educational importance.

The Protocol outlines the steps to be taken in the establishment, management, and protection of these areas, including public information and international cooperation.

Council Decision 77/586/EEC – Convention for the protection of the Rhine

The Decision concludes on behalf of the Community the Convention for the protection of the Rhine against chemical pollution and the Additional Agreement to the Agreement (signed in Berne on 29 April 1963) concerning the International Commission for the Proteciton of the Rhine against Pollution.

The contracting parties agree to gradually eliminate discharges of certain particularly toxic substances (Annex I) and to reduce pollution from other dangerous substances (Annex II). A monitoring programme is set up.

The parties must immediately inform the others if they detect a sudden considerable increase in pollution or learn of an accident on the Rhine.

The International Rhine Commission publishes the monitoring results annually and develops proposals for limits on the substances in the Annexes.

It was amended by Council Decision 82/460/EEC in 1982 to introduce limit values for mercury discharges from chlor-alkali electrolysis plants to Annex IV, and by Council Decision 85/336/EEC in 1985 to introduce limit values for cadmium discharges from a variety of industrial processes to Annex IV.

The Additional Agreement brings the European Community into the International Rhine Commission, giving it the number of votes corresponding to the number of its member states which are contracting parties to the Agreement.

Council Decision 77/795/EEC – information exchange on fresh water quality

The Decision sets up a system for the monitoring and exchange of information on the quality of rivers and watercourses. It designates sampling and measuring stations in the member states (Annex I) and lays down parameters for the information to be exchanged (Annex II).

It was amended by Council Decision 86/574/EEC in 1986, which introduced the requirement that the information received annually by the Commission is to be sent to the member states which request it. The Commission is now obliged to publish a report every three years starting

in 1987. The procedure for taking measurements is now more detailed and an additional Annex III specifies the reference methods of measurement to be used.

It was amended by the Act of Accession of Greece in 1979, and the Act of Accession of Spain and Portugal in 1985 to increase the number of members of the Committee on Adaptation to Technical Progress.

Council Decision 86/85/EEC – Information system on oil pollution at sea

The Decision sets up an information system under the direction of the Commission covering three areas of activity:

- an inventory of resources for combating marine oil pollution (Annex I)
- a list of national and joint plans for combating marine oil pollution
- a compendium of hydrocarbon properties and their behaviour and of methods of treatment (Annex II)
- an inventory of resources for combating other harmful substances spilled at sea (Annex IV).

Council Directive 73/404/EEC – Detergents

The Directive prohibits the placing on the market and use of detergents where average level of biodegradability of anionic, cationic, non-ionic and ampholytic surfactants is less than 90percent. These surfactants must also not be harmful to human or animal health under normal conditions of use.

It also forbids the member states from prohibiting or restricting the marketing of detergents which comply with these criteria.

The test methods for determining compliance with the Directive were left to be laid down in later directives.

The member states are allowed to prohibit the marketing of a detergent which violates the criteria of this Directive, although it is in compliance with the test methods. In this case, a procedure is provided that leads to a recommendation by the Commission.

The time limit for exemptions allowed for certain surfactants was extended by Directive 83/242/EEC, and again by Directive 86/94/EEC to 31 December 1989.

1. Council Directive 82/242/EEC – Test methods of non-ionic surfactants

The Directive lays down four methods of testing: an OECD method, a German method, a French method, and a British method. The biodegradability must be at least 80 percent.

It also amended Directive 73/404/EEC by establishing a Committee for the adaptation to technical progress of directives in the detergents sector.

2. Council Directive 86/94/EEC – Extension of exemption

The Directive extended the time limit for the exemption of certain detergents to 31 December 1989.

3. Council Directive 73/405/EEC – Anionic surfactants (not included)

The Directive lays down three methods of testing the biodegradability of these most commonly used surfactants – a French method, a German method, and an OECD method. Later, Council Directive 82/243/EEC (not included) added a British method. The biodegradability obtained must be at least 80 percent.

COUNCIL DIRECTIVE

of 8 December 1975

concerning the quality of bathing water

(76/160/EEC)

(as amended by the Act of Accession of Greece of 28 May 1979 (OJ L 291, 19.11.79, p. 17); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas, in order to protect the environment and public health, it is necessary to reduce the pollution of bathing water and to protect such water against further deterioration;

Whereas surveillance of bathing water is necessary in order to attain, within the framework of the operation of the common market, the Community's objectives as regards the improvement of living conditions, the harmonious development of economic activities throughout the Community and continuous and balanced expansion;

Whereas there exist in this area certain laws, regulations or administrative provisions in Member States which directly affect the functioning of the common market; whereas, however, not all the powers needed to act in this way have been provided for in the Treaty;

Whereas the programme of action of the European Communities on the environment [3] provides that quality objectives are to be jointly drawn up fixing the various requirements which an environment must meet *inter alia* the definition of parameters for water, including bathing water;

Whereas, in order to attain these quality objectives, the Member States must lay down limit values corresponding to certain parameters; whereas bathing water must be made to conform to these values within 10 years following the notification of this Directive;

Whereas it should be provided that bathing water will, under certain conditions, be deemed to conform to the relevant parametric values even if a certain percentage of samples taken during the bathing season does not comply with the limits specified in the Annex;

Whereas, to achieve a certain degree of flexibility in the application of this Directive, the Member States must have the power to provide for derogations; whereas such derogations must not, however, disre-

[1] OJ No C 128, 9. 6. 1975, p. 13.
[2] OJ No C 286, 15. 12. 1975, p. 5.
[3] OJ No C 112, 20. 12. 1973, p. 3.

gard requirements essential for the protection of public health;

Whereas technical progress necessitates rapid adaptation of the technical requirements laid down in the Annex; whereas, in order to facilitate the introduction of the measures required for this purpose, a procedure should be provided for whereby close cooperation would be established between the Member States and the Commission within a Committee on Adaptation to Technical Progress;

Whereas public interest in the environment and in the improvement of its quality is increasing; whereas the public should therefore receive objective information on the quality of bathing water,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive concerns the quality of bathing water, with the exception of water intended for therapeutic purposes and water used in swimming pools.

2. For the purposes of this Directive:

(a) 'bathing water' means all running or still fresh waters or parts thereof and sea water, in which:

— bathing is explicitly authorized by the competent authorities of each member State, or

— bathing is not prohibited and is traditionally practised by a large number of bathers;

(b) 'bathing area' means any place where bathing water is found;

(c) 'bathing season' means the period during which a large number of bathers can be expected, in the light of local custom, and any local rules which may exist concerning bathing and weather conditions.

Article 2

The physical, chemical and microbiological parameters applicable to bathing water are indicated in the Annex which forms an integral part of this Directive.

Article 3

1. Member States shall set, for all bathing areas or for each individual bathing area, the values applicable to bathing water for the parameters given in the Annex.

In the case of the parameters for which no values are given in the Annex, Member States may decide not to fix any values pursuant to the first subparagraph, until such time as figures have been determined.

2. The values set pursuant to paragraph 1 may not be less stringent than those given in column I of the Annex.

3. Where values appear in column G of the Annex, whether or not there is a corresponding value in column I of the Annex, Member States shall endeavour, subject to Article 7, to observe them as guidelines.

Article 4

1. Member States shall take all necessary measures to ensure that, within 10 years following the notification of this Directive, the quality of bathing water conforms to the limit values set in accordance with Article 3.

2. Member States shall ensure that, in bathing areas specially equipped for bathing to be created by the competent authorities of the Member States after the notification of this Directive, the 'I values' laid down in the Annex are observed from the time when bathing is first permitted. However, for bathing areas created during the two years following the notification of this Directive, these values need not be observed until the end of that period.

3. In exceptional circumstances Member States may grant derogations in respect of the 10-year time limit laid down in paragraph 1. Justifications for any such derogations based on plans for the management of water within the area concerned must be communicated to the Commission as soon as possible and not later than six years following the notification of this Directive. The Commission shall examine these justifications in detail and, where necessary, make appropriate proposals concerning them to the Council.

4. As regards sea water in the vicinity of frontiers and water crossing frontiers which affect the quality of the bathing water of another Member State, the consequences for the common quality objectives for bathing areas so affected shall be determined in

collaboration by the riparian Member States concerned.

The Commission may participate in these deliberations.

Article 5

1. For the purposes of Article 4, bathing water shall be deemed to conform to the relevant parameters:

if samples of that water, taken at the same sampling point and at the intervals specified in the Annex, show that it conforms to the parametric values for the quality of the water concerned, in the case of:

— 95% of the samples for parameters corresponding to those specified in column I of the Annex;

— 90% of the samples in all other cases with the exception of the 'total coliform' and 'faecal coliform' parameters where the percentage may be 80%

and if, in the case of the 5, 10 or 20% of the samples which do not comply:

— the water does not deviate from the parametric values in question by more than 50%, except for microbiological parameters, pH and dissolved oxygen;

— consecutive water samples taken at statistically suitable intervals do not deviate from the relevant parametric values.

2. Deviations from the values referred to in Article 3 shall not be taken into consideration in the calculation of the percentage referred to in paragraph 1 when they are the result of floods, other natural disasters or abnormal weather conditions.

Article 6

1. The competent authorities in the Member States shall carry out sampling operations, the minimum frequency of which is laid down in the Annex.

2. Samples should be taken at places where the daily average density of bathers is highest. Samples should preferably be taken 30 cm below the surface of the water except for mineral oil samples which shall be taken at surface level. Sampling should begin two weeks before the start of the bathing season.

3. Local investigation of the conditions prevailing upstream in the case of fresh running water, and of the ambient conditions in the case of fresh still water and sea water should be carried out scrupulously and repeated periodically in order to obtain geographical and topographical data and to determine the volume and nature of all polluting and potentially polluting discharges and their effects according to the distance from the bathing area.

4. Should inspection by a competent authority or sampling operations reveal that there is a discharge or a probable discharge of substances likely to lower the quality of the bathing water, additional sampling must take place. Such additional sampling must also take place if there are any other grounds for suspecting that there is a decrease in water quality.

5. Reference methods of analysis for the parameters concerned are set out in the Annex. Laboratories which employ other methods must ensure that the results obtained are equivalent or comparable to those specified in the Annex.

Article 7

1. Implementation of the measures taken pursuant to this Directive may under no circumstances lead either directly or indirectly to deterioration of the current quality of bathing water.

2. Member States may at any time fix more stringent values for bathing water than those laid down in this Directive.

Article 8

This Directive may be waived:

(a) in the case of certain parameters marked (0) in the Annex, because of exceptional weather or geographical conditions;

(b) when bathing water undergoes natural enrichment in certain substances causing a deviation from the values prescribed in the Annex.

Natural enrichment means the process whereby, without human intervention, a given body of water receives from the soil certain substances contained therein.

In no case may the exceptions provided for in this Article disregard the requirements essential for public health protection.

Where a Member State waives the provisions of this Directive, it shall forthwith notify the Commission thereof, stating its reasons and the periods anticipated.

Article 9

Such amendments as are necessary for adapting this Directive to technical progress shall relate to:

— the methods of analysis

— the G and I parameter values set out in the Annex.

They shall be adopted in accordance with the procedure laid down in Article 11.

Article 10

1. A Committee on Adaptation to Technical Progress (hereinafter called 'the committee') is hereby set up. It shall consist of representatives of the Member States and be chaired by a representative of the Commission.

2. The committee shall draw up its own rules of procedure.

Article 11

1. Where the procedure laid down in this Article is to be followed, matters shall be referred to the committee by the chairman, either on his own initiative or at the request of the representative of a Member State.

2. The representative of the Commission shall submit to the committee a draft of the measures to be adopted. The committee shall deliver its opinion on the draft within a time limit set by the chairman having regard to the urgency of the matter. Opinions shall be adopted by a majority of 54 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall adopt the measures envisaged where they are in accordance with the opinion of the committee.

(b) Where the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is adopted, the Commission shall without delay propose to the Council the measures to be adopted. The Council shall act by a qualified majority.

(c) If, within three months of the proposal being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 12

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification. They shall forthwith inform the Commission thereof.

2. Member States will communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 13

Member States shall, four years following the notification of this Directive and at regular intervals thereafter, submit a comprehensive report to the Commission on their bathing water and the most significant characteristics thereof.

After prior consent has been obtained from the Member State concerned the Commission may publish the information obtained.

Article 14

This Directive is addressed to the Member States.

Done at Brussels, 8 December 1975.

For the Council

The President

M. PEDINI

Ed. note: The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))

ANNEX

QUALITY REQUIREMENTS FOR BATHING WATER

	Parameters	G	I	Minimum sampling frequency	Method of analysis and inspection
	Microbiological:				
1	Total coliforms /100 ml	500	10 000	Fortnightly (1)	Fermentation in multiple tubes. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number) or membrane filtration and culture on an appropriate medium such as Tergitol lactose agar, 'endo agar, 0·4% Teepol broth, subculturing and identification of the suspect colonies. In the case of 1 and 2, the incubation temperature is variable according to whether total or faecal coliforms are being investigated.
2	Faecal coliforms /100 ml	100	2 000	Fortnightly (1)	
3	Faecal streptococci /100 ml	100	—	(2)	Litsky method. Count according to MPN (most probable number) or filtration on membrane. Culture on an appropriate medium.
4	Salmonella /1 litre	—	0	(2)	Concentration by membrane filtration. Inoculation on a standard medium. Enrichment — subculturing on isolating agar — identification.
5	Entero viruses PFU/10 litres	—	0	(2)	Concentrating by filtration, flocculation or centrifuging and confirmation.
	Physico-chemical:				
6	pH	—	6 to 9 (0)	(2)	Electrometry with calibration at pH 7 and 9.
7	Colour	—	No abnormal change in colour (0)	Fortnightly (1)	Visual inspection or photometry with standards on the Pt.Co scale.
		—	—	(2)	

	Parameters	G	I	Minimum sampling frequency	Method of analysis and inspection
8	Mineral oils mg/litre	—	No film visible on the surface of the water and no odour	Fortnightly (1)	Visual and olfactory inspection or extraction using an adequate volume and weighing the dry residue.
		≤ 0·3	—	(2)	
9	Surface-active substances reacting with methylene blue mg/litre (lauryl-sulfate)	—	No lasting foam	Fortnightly (1)	Visual inspection or absorption spectrophotometry with methylene blue.
		≤ 0·3	—	(2)	
10	Phenols (phenol indices) mg/litre C_6H_5OH	—	No specific odour	Fortnightly (1)	Verification of the absence of specific odour due to phenol or absorption spectrophotometry 4-aminoantipyrine (4 AAP) method.
		≤ 0·005	≤ 0·05	(2)	
11	Transparency m	2	1 (0)	Fortnightly (1)	Secchi's disc.
12	Dissolved oxygen % saturation O_2	80 to 120	—	(2)	Winkler's method or electrometric method (oxygen meter).
13	Tarry residues and floating materials such as wood, plastic articles, bottles, containers of glass, plastic, rubber or any other substance. Waste or splinters	Absence		Fortnightly (1)	Visual inspection.
14	Ammonia mg/litre NH_4			(3)	Absorption spectrophotometry, Nessler's method, or indophenol blue method.
15	Nitrogen Kjeldahl mg/litre N			(3)	Kjeldahl method.
	Other substances regarded as indications of pollution				
16	Pesticides (parathion, HCH, dieldrin) mg/litre			(2)	Extraction with appropriate solvents and chromatographic determination

	Parameters	G	I	Minimum sampling frequency	Method of analysis and inspection
17	Heavy metals such as: — arsenic mg/litre As — cadmium Cd — chrome VI Cr VI — lead Pb — mercury Hg			(2)	Atomic absorption possibly preceded by extraction
18	Cyanides mg/litre Cn			(2)	Absorption spectrophotometry using a specific reagent
19	Nitrates and phosphates mg/litre NO_3 PO_4			(2)	Absorption spectrophotometry using a specific reagent

G = guide.

I = mandatory.

(0) Provision exists for exceeding the limits in the event of exceptional geographical or meteorological conditions.

(1) When a sampling taken in previous years produced results which are appreciably better than those in this Annex and when no new factor likely to lower the quality of the water has appeared, the competent authorities may reduce the sampling frequency by a factor of 2.

(2) Concentration to be checked by the competent authorities when an inspection in the bathing area shows that the substance may be present or that the quality of the water has deteriorated.

(3) These parameters must be checked by the competent authorities when there is a tendency towards the eutrophication of the water.

COUNCIL DIRECTIVE

of 4 May 1976

on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community

(76/464/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas there is an urgent need for general and simultaneous action by the Member States to protect the aquatic environment of the Community from pollution, particularly that caused by certain persistent, toxic and bioaccumulable substances;

Whereas several conventions or draft conventions, including the Convention for the prevention of marine pollution from land-based sources, the draft Convention for the protection of the Rhine against chemical pollution and the draft European Convention for the protection of international watercourses against pollution, are designed to protect international watercourses and the marine environment from pollution; whereas it is important to ensure the coordinated implementation of these conventions;

Whereas any disparity between the provisions on the discharge of certain dangerous substances into the aquatic environment already applicable or in preparation in the various Member States may create unequal conditions of competition and thus directly affect the functioning of the common market; whereas it is therefore necessary to approximate laws in this field, as provided for in Article 100 of the Treaty;

Whereas it seems necessary for this approximation of laws to be accompanied by Community action so that one of the aims of the Community in the sphere of protection of the environment and improvement of the quality of life can be achieved by more extensive rules; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked as the powers required for this purpose have not been provided for by the Treaty;

Whereas the programme of action of the Europea Communities on the environment [3], provides for number of measures to protect fresh water and se water from certain pollutants;

Whereas in order to ensure effective protection of th aquatic environment of the Community, it is necessary to establish a first list, called List I, of certain individual substances selected mainly on the basis of their toxicity, persistence, and bioaccumulation, with the exception of those which are biologically harmless or

[1] OJ No C 5, 8. 1. 1975, p. 62
[2] OJ No C 108, 15. 5. 1975, p. 76

[3] OJ No C 112, 20. 12. 1973, p. 1.

which are rapidly converted into substances which are biologically harmless, and a second list, called List II, containing substances which have a deleterious effect on the aquatic environment, which can, however, be confined to a given area and which depend on the characteristics and location of the water into which they are discharged; whereas any discharge of these substances should be subject to prior authorization which specifies emission standards;

Whereas pollution through the discharge of the various dangerous substances within List I must be eliminated; whereas the Council should, within specific time limits and on a proposal from the Commission, adopt limit values which the emission standards should not exceed, methods of measurement, and the time limits with which existing dischargers should comply;

Whereas the Member States should apply these limit values, except where a Member State can prove to the Commission, in accordance with a monitoring procedure set up by the Council, that the quality objectives established by the Council, on a proposal from the Commission, are being met and continuously maintained throughout the area which might be affected by the discharges because of the action taken, among others, by that Member State;

Whereas it is necessary to reduce water pollution caused by the substances within List II; whereas to this end the Member States should establish programmes which incorporate quality objectives for water drawn up in compliance with Council Directives where they exist; whereas the emission standards applicable to such substances should be calculated in terms of these quality objectives;

Whereas, subject to certain exceptions and modifications, this Directive should be applied to discharges into ground water pending the adoption of specific Community rules in the matter;

Whereas one or more Member States may be able, individually or jointly, to take more stringent measures than those provided for under this Directive;

Whereas an inventory of discharges of certain particularly dangerous substances into the aquatic environment of the Community should be drawn up in order to know where they originated,

Whereas it may be necessary to revise and, where required, supplement Lists I and II on the basis of experience, if appropriate, by transferring certain substances from List II to List I,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Subject to Article 8, this Directive shall apply to:

— inland surface water,

— territorial waters,

— internal coastal waters,

— ground water.

2. For the purposes of this Directive:

(a) 'inland surface water' means all static or flowing fresh surface water situated in the territory of one or more Member States;

(b) 'internal coastal waters' means waters on the landward side of the base line from which the breadth of territorial waters is measured, extending, in the case of watercourses, up to the fresh-water limit;

(c) 'fresh-water limit' means the place in the watercourse where, at low tide and in a period of low fresh-water flow, there is an appreciable increase in salinity due to the presence of sea-water;

(d) 'discharge' means the introduction into the waters referred to in paragraph 1 of any substances in List I or List II of the Annex, with the exception of:

— discharges of dredgings,

— operational discharges from ships in territorial waters,

— dumping from ships in territorial waters;

(e) 'pollution' means the discharge by man, directly or indirectly, of substances or energy into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water.

Article 2

Member States shall take the appropriate steps to eliminate pollution of the waters referred to in Article 1 by the dangerous substances in the families and groups of substances in List I of the Annex and to reduce pollution of the said waters by the dangerous substances in the families and groups of substances in List II of the Annex, in accordance with this Directive, the provisions of which represent only a first step towards this goal.

Article 3

With regard to the substances belonging to the families and groups of substances in List I, hereinafter called 'substances within List I':

1. all discharges into the waters referred to in Article 1 which are liable to contain any such substance shall require prior authorization by the competent authority of the Member State concerned;
2. the authorization shall lay down emission standards with regard to discharges of any such substance into the waters referred to in Article 1 and, where this is necessary for the implementation of this Directive, to discharges of any such substance into sewers;
3. in the case of existing discharges of any such substance into the waters referred to in Article 1, the dischargers must comply with the conditions laid down in the authorization within the period stipulated therein. This period may not exceed the limits laid down in accordance with Article 6 (4);
4. authorizations may be granted for a limited period only. They may be renewed, taking into account any charges in the limit values referred to in Article 6.

Article 4

1. Member States shall apply a system of zero-emission to discharges into ground water of substances within List I.

2. Member States shall apply to ground water the provisions of this Directive relating to the substances belonging to the families and groups of substances in List II, hereinafter called 'substances within List II'.

3. Paragraphs 1 and 2 shall apply neither to domestic effluents nor to discharges injected into deep, saline and unusable strata.

4. The provisions of this Directive relating to ground water shall no longer apply upon the implementation of a separate Directive on ground water.

Article 5

1. The emission standards laid down in the authorizations granted pursuant to Article 3 shall determine:

(a) the maximum concentration of a substance permissible in a discharge. In the case of dilution the limit value provided for in Article 6 (1) (a) shall be divided by the dilution factor;

(b) the maximum quantity of a substance permissible in a discharge during one or more specified periods of time. This quantity may, if necessary, also be expressed as a unit of weight of the pollutant per unit of the characteristic element of the polluting activity (e.g. unit of weight per unit of raw material or per product unit).

2. For each authorization, the competent authority of the Member State concerned may, if necessary, impose more stringent emission standards than those resulting from the application of the limit values laid down by the Council pursuant to Article 6, taking into account in particular the toxicity, persistence, and bioaccumulation of the substance concerned in the environment into which it is discharged.

3. If the discharger states that he is unable to comply with the required emission standards, or if this situation is evident to the competent authority in the Member State concerned, authorization shall be refused.

4. Should the emission standards not be complied with, the competent authority in the Member State concerned shall take all appropriate steps to ensure that the conditions of authorization are fulfilled and, if necessary, that the discharge is prohibited.

Article 6

1. The Council, acting on a proposal from the Commission, shall lay down the limit values which the emission standards must not exceed for the various dangerous substances included in the families and groups of substances within List I. These limit values shall be determined by:

(a) the maximum concentration of a substance permissible in a discharge, and

(b) where appropriate, the maximum quantity of such a substance expressed as a unit of weight of the pollutant per unit of the characteristic element of the polluting activity (e.g. unit of weight per unit of raw material or per product unit).

Where appropriate, limit values applicable to industrial effluents shall be established according to sector and type of product.

The limit values applicable to the substances within List I shall be laid down mainly on the basis of:

— toxicity,

— persistence,

— bioaccumulation,

taking into account the best technical means available.

2. The Council, acting on a proposal from the Commission, shall lay down quality objectives for the substances within List I.

These objectives shall be laid down principally on the basis of the toxicity, persistence and accumulation of the said substances in living organisms and in sediment, as indicated by the latest conclusive scientific data, taking into account the difference in characteristics between salt-water and fresh water.

3. The limit values established in accordance with paragraph 1 shall apply except in the cases where a Member State can prove to the Commission, in accordance with a monitoring procedure set up by the Council on a proposal from the Commission, that the quality objectives established in accordance with paragraph 2, or more severe Community quality objectives, are being met and continuously maintained throughout the area which might be affected by the discharges because of the action taken, among others, by that Member State.

The Commission shall report to the Council the instances where it has had recourse to the quality objectives method. Every five years the Council shall review, on the basis of a Commission proposal and in accordance with Article 148 of the Treaty, the instances where the said method has been applied.

4. For those substances included in the families and groups of substances referred to in paragraph 1, the deadlines referred to in point 3 of Article 3 shall be laid down by the Council in accordance with Article 12, taking into account the features of the industrial sectors concerned and, where appropriate, the types of products.

Article 7

1. In order to reduce pollution of the waters referred to in Article 1 by the substances within List II, Member States shall establish programmes in the implementation of which they shall apply in particular the methods referred to in paragraphs 2 and 3.

2. All discharges into the waters referred to in Article 1 which are liable to contain any of the substances within List II shall require prior authorization by the competent authority in the Member State concerned, in which emission standards shall be laid down. Such standards shall be based on the quality objectives, which shall be fixed as provided for in paragraph 3.

3. The programmes referred to in paragraph 1 shall include quality objectives for water ; these shall be laid down in accordance with Council Directives, where they exist.

4. The programmes may also include specific provisions governing the composition and use of substances or groups of substances and products and shall take into account the latest economically feasible technical developments.

5. The programmes shall set deadlines for their implementation.

6. Summaries of the programmes and the results of their implementation shall be communicated to the Commission.

7. The Commission, together with the Member States, shall arrange for regular comparisons of the programmes in order to ensure sufficient coordination in their implementation. If it sees fit, it shall submit relevant proposals to the Council to this end.

Article 8

Member States shall take all appropriate steps to implement measures adopted by them pursuant to this Directive in such a way as not to increase the pollution of waters to which Article 1 does not apply. They shall in addition prohibit all acts which intentionally or unintentionally circumvent the provisions of this Directive.

Article 9

The application of the measures taken pursuant to this Directive may on no account lead, either directly or indirectly, to increased pollution of the waters referred to in Article 1.

Article 10

Where appropriate, one or more Member States may individually or jointly take more stringent measures than those provided for under this Directive.

Article 11

The competent authority shall draw up an inventory of the discharges into the waters referred to in Article 1 which may contain substances within List I to which emission standards are applicable.

Article 12

1. The Council, acting unanimously, shall take a decision within nine months on any Commission proposal made pursuant to Article 6 and on the proposals concerning the methods of measurement applicable.

Proposals concerning an initial series of substances as well as the methods of measurement applicable and the deadlines referred to in Article 6 (4) shall be submitted by the Commission within a maximum period of two years following notification of this Directive.

2. The Commission shall, where possible within 27 months following notification of this Directive, forward the first proposals made pursuant to Article 7 (7). The Council, acting unanimously, shall take a decision within nine months.

Article 13

1. For the purposes of this Directive, Member States shall supply the Commission, at its request to be submitted in each case, with all the necessary information, and in particular:

— details of authorizations granted pursuant to Article 3 and Article 7 (2),

— the results of the inventory provided for in Article 11,

— the results of monitoring by the national network,

— additional information on the programmes referred to in Article 7.

2. Information acquired as a result of the application of this Article shall be used only for the purpose for which it was requested.

3. The Commission and the competent authorities of the Member States, their officials and other servants shall not disclose information acquired by them pursuant to this Directive and of a kind covered by the obligation of professional secrecy.

4. The provisions of paragraphs 2 and 3 shall not prevent publication of general information or surveys which do not contain information relating to particular undertakings or associations of undertakings.

Article 14

The Council, acting on a proposal from the Commission, which shall act on its own initiative or at the request of a Member State, shall revise and, where necessary, supplement Lists I and II on the basis of experience, if appropriate, by transferring certain substances from List II to List I.

Article 15

This Directive is addressed to the Member States.

Done at Brusssels, 4 May 1976.

For the Council

The President

G. THORN

ANNEX

List I of families and groups of substances

List I contains certain individual substances which belong to the following families and groups of substances, selected mainly on the basis of their toxicity, persistence and bioaccumulation, with the exception of those which are biologically harmless or which are rapidly converted into substances which are biologically harmless:

1. organohalogen compounds and substances which may form such compounds in the aquatic environment,
2. organophosphorus compounds,
3. organotin compounds,
4. substances in respect of which it has been proved that they possess carcinogenic properties in or via the aquatic environment (1),
5. mercury and its compounds,
6. cadmium and its compounds,
7. persistent mineral oils and hydrocarbons of petroleum origin,

and for the purposes of implementing Articles 2, 8, 9 and 14 of this Directive:

8. persistent synthetic substances which may float, remain in suspension or sink and which may interfere with any use of the waters.

List II of families and groups of substances

List II contains:

— substances belonging to the families and groups of substances in List I for which the limit values referred to in Article 6 of the Directive have not been determined,

— certain individual substances and categories of substances belonging to the families and groups of substances listed below,

and which have a deleterious effect on the aquatic environment, which can, however, be confined to a given area and which depend on the characteristics and location of the water into which they are discharged.

Families and groups of substances referred to in the second indent

1. The following metalloids and metals and their compounds:

1. zinc	6. selenium	11. tin	16. vanadium
2. copper	7. arsenic	12. barium	17. cobalt
3. nickel	8. antimony	13. beryllium	18. thalium
4. chromium	9. molybdenum	14. boron	19. tellurium
5. lead	10. titanium	15. uranium	20. silver

2. Biocides and their derivatives not appearing in List I.

3. Substances which have a deleterious effect on the taste and/or smell of the products for human consumption derived from the aquatic environment,

   and compounds liable to give rise to such substances in water.

4. Toxic or persistent organic compounds of silicon, and substances which may give rise to such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances.

(1) Where certain substances in List II are carcinogens, they are included in category 4 of this list.

5. Inorganic compounds of phosphorus and elemental phosphorus.

6. Non persistent mineral oils and hydrocarbons of petroleum origin.

7. Cyanides, fluorides.

8. Substances which have an adverse effect on the oxygen balance, particularly: ammonia, nitrites.

Statement on Article 8

With regard to the discharge of waste water into the open sea by means of pipelines, Member States undertake to lay down requirements which shall be not less stringent than those imposed by this Directive.

COUNCIL DIRECTIVE

of 12 June 1986

on limit values and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC

(86/280/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [1], and in particular Article 6 thereof,

Having regard to the proposal from the Commission [2],

Having regard to the opinion of the European Parliament [3],

Having regard to the opinion of the Economic and Social Committee [4],

Whereas, in order to protect the aquatic environment of the Community against pollution by certain dangerous substances, Article 3 of Directive 76/464/EEC introduces a system of prior authorization laying down emission standards for discharges of the substances in List I in the Annex thereto; whereas Article 6 of the said Directive provides that limit values shall be laid down for such emission standards and also quality objectives for the aquatic environment affected by discharges of these substances;

Whereas Member States are required to apply the limit values except in cases where they may employ quality objectives;

Whereas the dangerous substances covered by this Directive have been chosen mainly on the basis of the criteria adopted in Directive 76/464/EEC;

Whereas, since pollution due to the discharge of these substances into the aquatic environment is caused by a large number of industries, it is necessary to lay down specific limit values for discharges according to the type of industry concerned and to lay down quality objectives for the aquatic environment into which these substances are discharged;

Whereas the purpose of the limit values and quality objectives is to eliminate pollution of the various parts of the aquatic environment which might be affected by discharges of these substances;

Whereas such limit values and quality objectives must be laid down for this purpose and not with the intention of establishing rules pertaining to consumer protection or to the marketing of products from the aquatic environment;

Whereas, to enable Member States to demonstrate that the quality objectives are being met, provision should be made for reports to the Commission for each quality objective chosen and applied;

Whereas Member States should seek to ensure that the measures taken pursuant to this Directive do not have the effect of increasing soil or air pollution;

Whereas, moreover, for the purposes of effective implementation of this Directive, provision should be made for the monitoring by the Member States of the aquatic environment affected by discharges of the substances in question; whereas the powers to introduce such monitoring are not provided by Directive 76/464/EEC; whereas, since the specific powers have not been provided for in the Treaty, recourse should be had to Article 235 thereof;

Whereas, in the case of certain significant sources of pollution by these substances other than sources subject to Community limit values or national emission standards, specific programmes should be devised to eliminate the pollution; whereas the necessary powers to that effect have not been provided by Directive 76/464/EEC; whereas, since the specific powers have not been provided for in the EEC Treaty, recourse should be had to Article 235 thereof;

Whereas ground water can be excluded from the scope of this Directive since it is the subject of Directive 80/68/EEC [5];

Whereas, for the purposes of effective implementation of this Directive, it is important that the Commission should forward to the Council, every five years, a comparative assessment of its implementation by the Member States;

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[1] OJ No L 129, 18. 5. 1976, p. 23.
[2] OJ No C 70, 18. 3. 1985, p. 15.
[3] OJ No C 120, 20. 5. 1986.
[4] OJ No C 188, 29. 7. 1985, p. 19.
[5] OJ No L 20, 26. 1. 1980, p. 43.

Whereas this Directive will have to be amended and supplemented, on proposals from the Commission, in line with developments in scientific knowledge relating principally to the toxicity, persistence and accumulation of the substances referred to in living organisms and sediments, or in the event of an improvement in the best technical means available; whereas it is necessary, for that purpose, to provide for additions to this Directive, relating to measures in respect of other dangerous substances, and for amendments to the content of the Annexes,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive:

— lays down, pursuant ot Article 6 (1) of Directive 76/464/EEC, limit values for emission standards for the substances referred to in Article 2 (a) in discharges from industrial plants as defined in Article 2 (e) of this Directive,

— lays down, pursuant to Article 6 (2) of Directive 76/464/EEC, quality objectives for the substances referred to in Article 2 (a) of this Directive in the aquatic environment,

— lays down, pursuant to Article 6 (4) of Directive 76/464/EEC, the time limits for compliance with the conditions specified in the authorizations granted by the competent authorities of Member States in respect of existing discharges,

— lays down, pursuant to Article 12 (1) of Directive 76/464/EEC, the reference methods of measurement enabling the content of the substances referred to in Article 2 (a) of this Directive in discharges and in the aquatic environment to be determined,

— establishes, pursuant to Article 6 (3) of Directive 76/464/EEC, a monitoring procedure,

— requires Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State,

— requires Member States to draw up programmes to avoid or eliminate pollution arising from the sources referred to in Article 5,

— lays down in Annex I a set of general provisions applicable to all the substances referred to in Article 2 (a) and relating, in particular, to limit values for emission standards (heading A), quality objectives (heading B) and reference methods of measurement (heading C),

— lays down in Annex II a set of specific provisions which amplify and supplement those headings in respect of individual substances.

2. This Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC, with the exception of ground water.

Article 2

For the purposes of this Directive:

(a) 'substances' means:

those dangerous substances, belonging to the families and groups of substances appearing in List I in the Annex to Directive 76/464/EEC, which are specified in Annex II to this Directive;

(b) 'limit values' means:

the values specified in Annex II, under heading A, in respect of the substances referred to in (a);

(c) 'quality objectives' means:

the requirements specified in Annex II, under heading B, in respect of the substances referred to in (a);

(d) 'handling of substances' means:

any industrial process involving the production, the processing or use of the substances referred to in (a), or any other industrial process in which the presence of such substances is inherent;

(e) 'industrial plant' means:

a plant at which the substances referred to in (a), or any other substances containing them, are handled;

(f) 'existing plant' means:

an industrial plant which is operational at a date 12 months after the date of notification of this Directive or, where applicable, at a date 12 months after the date of notification of any Directive amending it that relates to such plant;

(g) 'new plant' means:

— an industrial plant which becomes operational later than 12 months after the date of notification of this Directive or, where applicable, later than 12 months after the date of notification of any Directive amending it that relates to such plant,

— an existing industrial plant whose capacity for handling the substances is substantially increased later than 12 months after the date of notification of this Directive or, where applicable, later than 12 months after the date of notification of any Directive amending it that relates to such plant.

Article 3

1. The limit values, the time limits for compliance therewith and the procedures for monitoring discharges are laid down in the Annexes, under heading A.

2. The limit values shall normally apply at the point where waste waters containing the substances referred to in Article 2 (a) leave the industrial plant.

Should it be considered necessary in the case of certain substances to lay down other points where the limit values shall apply, these points shall be listed in Annex II.

When waste waters containing these substances are treated outside the industrial plant at a treatment plant intended for their removal, the Member State may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

3. The authorizations referred to in Article 3 of Directive 76/464/EEC must contain provisions as stringent as those set out under heading A in the Annexes to this Directive, except where a Member State is complying with Article 6 (3) of Directive 76/464/EEC on the basis of heading B in the Annexes to this Directive.

Authorizations shall be reviewed at least every four years.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to Directive 76/464/EEC, Member States may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution in accordance with Article 2 of the said Directive or for the prevention of distortions of competition.

Whatever method it adopts, the Member State concerned shall, where for technical reasons the measures envisaged do not correspond to the best technical means available, provide the Commission, before any authorization, with evidence in support of those reasons.

The Commission shall immediately forward such evidence to the other Member States and shall send all Member States a report, at the earliest opportunity, giving its opinion on the derogation referred to in the second subparagraph. If necessary, it shall at the same time submit appropriate proposals to the Council.

5. The reference method of analysis to be used in determining the presence of the substances referred to in Article 2 (a) is given under heading C in Annex II. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down under heading C in Annex II.

6. Member States shall seek to ensure that the measures taken pursuant to this Directive do not result in an increase in the pollution of other media, notably soil and air, by these substances.

Article 4

The Member States concerned shall be responsible for monitoring the aquatic environment affected by discharges from industrial establishments and by other sources of significant discharges.

In the case of discharges affecting the waters of more than one Member State, the Member States concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 5

1. As regards substances to which specific reference is made in Annex II, the Member States shall draw up specific programmes to avoid or eliminate pollution from significant sources of these substances (including multiple and diffuse sources) other than sources of discharges subject to Community limit value rules or national emission standards.

2. The programmes shall include the most appropriate measures and techniques for the replacement, retention and/or recycling of the substances referred to in paragraph 1.

3. The specific programmes must be implemented not later than five years after the date of notification of the Directive which relates specifically to the substance concerned.

Article 6

1. The Commission shall make a comparative assessment of the implementation of this Directive by Member States on the basis of information supplied to it by them pursuant to Article 13 of Directive 76/464/EEC at its request, which it must submit case by case. The information concerned shall, in particular, comprise:

— details of authorizations laying down emission standards for discharges of the substances,

— the inventory of the substances discharged into the waters referred to in Article 1 (2),

— compliance with either the limit values or the quality objectives set out under headings A and B of Annex II,

— the results of the monitoring referred to in Article 4 of the area of the aquatic environment which is affected by discharges,

— the specific elimination programmes referred to in Article 5.

2. The Commission shall forward the comparative assessment referred to in paragraph 1 to the Council every five years, and for the first time four years after notification of this Directive.

3. Should there be a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of the substances referred to in Article 2 (a) in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall submit appropriate proposals to the Council with the aim of making the limit values and the quality objectives more stringent, if appropriate, or of establishing new limit values and additional quality objectives.

Article 7

1. Member States shall bring into force the measures necessary to comply with this Directive by 1 January 1988. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission, immediately after adoption, the texts of the provisions of national law which they adopt in the field governed by this Directive.

Article 8

This Directive is addressed to the Member States.

Done at Luxembourg, 12 June 1986.

For the Council

The President

P. WINSEMIUS

ANNEX I

GENERAL PROVISIONS

This Annex is divided into three headings which set out the general provisions applicable to all the substances concerned:

— A: limit values for emission standards,

— B: quality objectives,

— C: reference methods of measurement.

The general provisions are amplified and supplemented in Annex II by a series of specific provisions applicable to individual substances.

HEADING A

Limit values, dates set for compliance therewith and procedures for monitoring discharges

1. The limit values and the dates set for compliance therewith are set out in Annex II, under heading A, in respect of the different types of industrial plant concerned.

2. The quantities of substances discharged are expressed in terms of the quantity of substances produced, processed or used by the industrial plant during the same period or, in accordance with Article 6 (1) of Directive 76/464/EEC, of another parameter characteristic of that activity.

3. Limit values for industrial plants which discharge substances referred to in Article 2 (a) and which are not mentioned under heading A in Annex II will, where necessary, be determined by the Council at a later stage. Meanwhile, the Member States will independently set, in accordance with Directive 76/464/EEC, emission standards for discharges of such substances. Such standards must take into account the best technical means available and must not be less stringent than the most nearly comparable limit value set out under heading A in Annex II.

   This paragraph will also apply where an industrial plant has activities other than those for which limit values have been set under heading A in Annex II and which are likely to be a source of discharges of the substances referred to in Article 2 (a).

4. Limit values expressed as concentrations which, in principle, must not be exceeded are given in Annex II under heading A, in respect of the industrial plants concerned. In no instance may limit values expressed as maximum concentrations, when they are not the only values applicable, be greater than limit values expressed by weight divided by water requirements per element characteristic of the polluting activity. However, because the concentration of these substances in effluents depends on the volume of water involved, which varies for different processes and plants, the limit values expressed in terms of the weight of the substances discharged in relation to the parameters characteristic of the activity given under heading A in Annex II, must be complied with in all cases.

5. A monitoring procedure must be instituted to check whether the discharges of the substances referred to in Article 2 (a) comply with the emission standards.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and the quantity of substances handled or, where appropriate, measurement of the parameters characteristic of the activity causing pollution as listed in Annex II, heading A.

   In particular, should the quantity of substances handled be impossible to determine, the monitoring procedure may be based on the quantity of substances that may be used as a function of the production capacity on which the authorization was based.

6. A sample representative of the discharge over a period of 24 hours must be taken. The quantity of substances discharged over one month must be calculated on the basis of the daily quantities of substances discharged.

Annex II may, however, lay down for discharges of certain substances quantitative thresholds below which the Member States may apply a simplified monitoring procedure.

7. The sampling and flow measurement provided for in paragraph 5 shall normally be effected at the points of application of the limit values provided for in Article 3 (2).

   However, where necessary to ensure that the measurements comply with the requirements of heading C of the Annexes, a Member State may allow the sampling and flow measurement to be effected at another point before that at which the limit values apply, provided that:

   — all waters discharged from the plant that may have been polluted by the substance in question are taken into account by those measurements,

   — regular checks show that the measurements are fully representative of the quantities discharged at the points of application of the limit values or are always higher.

HEADING B

Quality objectives, dates set for compliance therewith and procedure for monitoring compliance with them

1. For those Member States which opt for the exception provided for in Article 6 (3) of Directive 76/464/EEC, the emission standards which they must establish and apply, pursuant to Article 5 of that Directive, will be fixed so that the appropriate quality objective or objectives from those fixed pursuant to paragraphs 2 and 3 below is or are complied with in the area affected by discharges of the substances referred to in Article 2 (a). The competent authority will determine the area affected in each case and will select from the quality objectives fixed pursuant to paragraphs 2 and 3 below the objective or objectives that it deems appropriate having regard to the intended use of the area affected, while taking account of the fact that the purpose of this Directive is to eliminate all pollution.

2. With a view to eliminating pollution, as defined in Directive 76/464/EEC, and pursuant to Article 2 of that Directive, the quality objectives and dates set for compliance therewith are set out under heading B in Annex II.

3. Unless otherwise specified under heading B in Annex II, all the concentrations mentioned as quality objectives refer to the arithmetic mean of the results obtained over a year.

4. Where more than one quality objective is applied to waters within one area, the quality of the water must be sufficient to comply with each of those objectives.

5. For each authorization granted pursuant to this Directive, the competent authority will specify the detailed rules, monitoring procedures and dates for ensuring compliance with the quality objective or objectives concerned.

6. In accordance with Article 6 (3) of Directive 76/464/EEC, the Member States will, for each quality objective chosen and applied, report to the Commission on:

   — the points of discharge and the means of dispersal,

   — the area in which the quality objective is applied,

   — the location of sampling points,

   — the frequency of sampling,

   — the methods of sampling and measurement,

   — the results obtained.

7. Samples must be taken at a point sufficiently close to the discharge point to be representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, having regard in particular to natural variations in hydrological conditions.

HEADING C

Reference methods of measurement and limit of detection

1. The definitions given in Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States [1] will apply in the context of this Directive.

2. The reference methods of measurement to be used for determining the concentration of the substances in question and the limit of detection for the environment concerned are set out under heading C in Annex II.

3. The limit of detection, the accuracy and the precision of the method are specified for each substance under heading C in Annex II.

4. Effluent flow measurements must be carried out to an accuracy of ± 20 %.

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[1] OJ L 271 of 29.10.1979, p. 44.

ANNEX II

SPECIFIC PROVISIONS

1. Relating to carbon tetrachloride

2. Relating to DDT

3. Relating to pentachlorophenol

The numbering of the substances listed in this Annex corresponds to the list of 129 substances contained in the communication from the Commission to the Council of 22 June 1982 (1).

Should substances be included in future in this Annex which are not set out in the abovementioned list, they shall be numbered in chronological order of inclusion beginning with No 130.

(1) OJ No C 176, 14. 7. 1982, p. 3.

I. Specific provisions relating to carbon tetrachloride (No 13) (1)

CAS No 56-23-5 (2)

(1) Article 5 applies in particular to use of carbon tetrachloride in industrial laundries.
(2) CAS (Chemical Abstract Service) number.

Heading A (13): Limit values for emission standards

Type of industrial plant (1) (2)	Type of average value	Limit values expressed as (3)		To be complied with as from
		weight	concentration	
1. Carbon tetrachloride production by perchlorination	Monthly	a) process involving washing: 40 g CCl_4 per tonne of total production capacity of CCl_4 and perchloroethylene	1,5 mg/l	1. 1. 1988
		b) process not involving washing: 2,5 g/tonne	1,5 mg/l	
	Daily	a) process involving washing: 80 g/tonne	3 mg/l	
		b) process not involving washing: 5 g/tonne	3 mg/l	
2. Production of chloromethanes by methane chlorination (including high-pressure electrolytic chlorine generation) and from methanol	Monthly	10 g CCl_4 per tonne of total production capacity of chloromethanes	1,5 mg/l	1. 1. 1988
	Daily	20 g/tonne	3 mg/l	
3. Production of chlorofluorocarbons (4)	Monthly	—	—	—
	Daily	—	—	—

(1) Among the industrial establishments referred to under heading A, point 3, of Annex I, reference is made in particular to plants using carbon tetrachloride as a solvent.

(2) A simplified monitoring procedure may be introduced if annual discharges do not exceed 30 kg a year.

(3) In view of the volatility of carbon tetrachloride and in order to ensure compliance with Article 3 (6), where a process involving agitation in the open air of effluent containing carbon tetrachloride is used, the Member States shall require compliance with the limit values upstream of the plant concerned; they shall ensure that all water likely to be polluted is taken fully into account.

(4) It is not possible at present to adopt limit values for this sector. The Council is to adopt such limit values at a later date, acting on a Commission proposal.

Heading B (13): Quality objectives (1)

Environment	Quality objective	Unit of measurement	To be complied with as from
Inland surface waters Estuary waters Internal coastal waters other than estuary waters Territorial waters	12	µg/l CCl_4	1. 1. 1988

(1) Without prejudice to Article 6 (3) of Directive 76/464/EEC, where there is no evidence of any problem in meeting and continuously maintaining the quality objective set out above, a simplified monitoring procedure may be introduced.

Heading C (13): Reference method of measurement

1. The reference method of measurement to be used for determining the presence of carbon tetrachloride in effluents and water is gas chromatography.

   A sensitive detector must be used when concentration levels are below 0,5 mg/l and in this case the determination limit (1) is 0,1 µg/l. For concentration levels higher than 0,5 mg/l a determination limit (1) of 0,1 mg/l is acceptable.

2. The accuracy and precision of the method must be ± 50 % at a concentration which represents twice the value of the determination limit (1).

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(1) The 'determination limit' xg of a given substance is the smallest quantity, quantitatively determinable in a sample on the basis of a given working method, which can still be distinguished from zero.

II. **Specific provisions relating to DDT (No 46) (1) (2)**

CAS No 50-29-3 (3)

STANDSTILL: The concentration of DDT in the aquatic environment, sediments and/or molluscs and/or shellfish and/or fish must not increase significantly with time.

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(1) The sum of the isomers 1,1,1-trichloro-2,2 bis (*p*-chlorophenyl) ethane;
1,1,1-trichloro-2 (*o*-chlorophenyl) -2- (*p*-chlorophenyl) ethane;
1,1,1-dichloro-2,2 bis (*p*-chlorophenyl) ethylene; and
1,1,1-dichloro-2,2 bis (*p*-chlorophenyl) ethane.

(2) Article 5 applies to DDT if sources other than those mentioned in this Annex are identified.

(3) CAS (Chemical Abstract Service) number.

Heading A (46): Limit values for emission standards (1) (2)

Type of industrial plant (3) (4)	Type of average value	Limit value expressed as		To be complied with as from
		g/tonne of substances produced, handled or used	mg/l of water discharged	
Production of DDT including formulation of DDT on the same site	Monthly	8	0,7	1. 1. 1988
	Daily	16	1,3	1. 1. 1988
	Monthly	4	0,2	1. 1. 1991
	Daily	8	0,4	1. 1. 1991

(1) With regard to new plants, the best technical means available must already make it possible to lay down, for DDT, emission standards lower than 1 g/tonne substances produced.

(2) On the basis of experience gained in implementing this Directive, the Commission will submit to the Council, pursuant to Article 6 (3) of this Directive, in good time, proposals aimed at fixing more stringent limit values to enter into force by 1994.

(3) Among the industrial plants referred to under heading A, point 3, of Annex I, reference is made in particular to plants formulating DDT away from the production site and to the dicofol production industry.

(4) A simplified monitoring procedure may be introduced if annual discharges do not exceed 1 kg a year.

Heading B (46): Quality objectives

Environment	Quality objective	Unit of measurement	To be complied with as from
Inland surface waters Estuary waters Internal coastal waters other than estuary waters Territorial sea waters	10 for the isomer para-para-DDT 25 for total DDT	µg/l	1. 1. 1988

Heading C (46): Reference method of measurement

1. The reference method of measurement to be used for determining DDT in effluents and the aquatic environment is gas chromatography with electron capture detection after extraction by means of an appropriate solvent. The limit of determination (1) for total DDT is approximately 4 µg/l for the aquatic environment and 1 µg/l for effluents, depending on the number of extraneous substances present in the sample.

2. The reference method to be used for determining DDT in sediments and organisms is gas chromatography with electron capture detection after appropriate preparation of samples. The limit of determination (1) is 1 µg/kg.

3. The accuracy and precision of the method must be ± 50 % at a concentration which represents twice the value of the limit of determination (1).

(1) The 'limit of determination' xg of a given substance is the smallest quantity, quantitatively determinable in a sample on the basis of a given working method, which can still be distinguished from zero.

III. Specific provisions relating to pentachlorophenol (No 102) (1) (2)

CAS No 87-86-5 (3)

STANDSTILL: The concentration of PCP in sediments and/or molluscs and/or shellfish and/or fish must not increase significantly with time.

(1) The chemical compound 2,3,4,5,6-Pentachloro-1-hydroxybenzene and its salts.
(2) Article 5 applies to pentachlorophenol, and particularly to its use for treating wood.
(3) CAS (Chemical Abstract Service) number.

Heading A (102): Limit values for emission standards

Type of industrial plant (1) (2)	Type of average value	Limit values expressed as		To be complied with as from
		g/tonne production/utilization capacity	mg/l of water discharged	
Production of sodium pentachlorophenate by hydrolysis of hexachlorobenzene	Monthly	25	1	1. 1. 1988
	Daily	50	2	1. 1. 1988

(1) Among the industrial plants referred to under heading A, point 3, of Annex I, reference is made in particular to plants producing sodium pentachlorophenate by saponification and to those producing pentachlorophenol by chlorination.
(2) A simplified monitoring procedure may be introduced if annual discharges do not exceed 3 kg a year.

Heading B (102): Quality objectives

Environment	Quality objective	Unit of measurement	To be complied with as from
Inland surface waters Estuary waters Internal coastal waters other than estuary waters Territorial waters	2	µg/l	1. 1. 1988

Heading C (102): Reference method of measurement

1. The reference method of measurement to be used for determining pentachlorophenol in effluents and the aquatic environment is high-pressure liquid chromatography or gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination (1) is 2 µg/l for effluents and 0,1 µg/l for the aquatic environment.

2. The reference method to be used for determining pentachlorophenol in sediments and organisms is high-pressure liquid chromatography or gas chromatography with electroncapture detection after appropriate preparation of samples. The limit of determination (1) is 1 µg/kg.

3. The accuracy and precision of the method must be ± 50 % at a concentration which represents twice the value of the limit of determination (1).

(1) The 'limit of determination' ^{x}g of a given substance is the smallest quantity, quantitatively determinable in a sample on the basis of a given working method, which can still be distinguished from zero.

COUNCIL DIRECTIVE

of 22 March 1982

on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry

(82/176/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (1), and in particular Article 6 thereof,

Having regard to the proposal from the Commission (2),

Having regard to the opinion of the European Parliament (3),

Having regard to the opinion of the Economic and Social Committee (4),

Whereas, in order to protect the aquatic environment of the Community against pollution by certain dangerous substances, Article 3 of Directive 76/464/EEC provides for a system of prior authorization laying down emission standards for discharges of the substances in List I in the Annex thereto; whereas Article 6 of the same Directive provides that limit values shall be laid down for such emission standards and also quality objectives for the aquatic environment affected by these substances;

Whereas mercury and its compounds are included in List I;

Whereas the Member States are required to apply the limit values except in the cases where they may employ quality objectives;

Whereas, since the pollution caused by discharges of mercury into water is caused, to a large extent, by the electrolysis of alkali chlorides, in the first instance limit values should be established for this industry and quality objectives should be laid down for the aquatic environment into which mercury is discharged by this industry; whereas such discharges should therefore require prior authorization;

Whereas the purpose of such quality objectives must be to eliminate mercury pollution of the various parts of the aquatic environment which might be affected by mercury-bearing discharges from the chlor-alkali electrolysis industry;

Whereas such quality objectives must be laid down expressly for this purpose and not with the intention of establishing rules pertaining to consumer protection or to the marketing of products from the aquatic environment;

Whereas a specific monitoring procedure should be instituted to enable the Member States to demonstrate that the quality objectives are complied with;

Whereas provision should be made for the monitoring by the Member States of the aquatic environment affected by the said mercury discharges with a view to efficient application of this Directive; whereas Article 6 of Directive 76/464/EEC does not provide for the powers to introduce such monitoring; whereas, since the necessary powers of action have not been provided for in the Treaty, Article 235 thereof should be invoked;

(1) OJ No L 129, 18. 5. 1976, p. 23.
(2) OJ No C 169, 6. 7. 1979, p. 2.
(3) OJ No C 341, 31. 12. 1980, p. 24.
(4) OJ No C 83, 2. 4. 1980, p. 16.

Whereas it is important that the Commission forward to the Council, every five years, a comparative assessment of the implementation of this Directive by the Member States;

Whereas, since groundwater is the subject of a specific Directive, it is excluded from the scope of this Directive,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive:

— in pursuance of Article 6 (1) of Directive 76/464/EEC, lays down limit values for emission standards for mercury in discharges from industrial plants as defined in Article 2 point (d) of this Directive,

— in pursuance of Article 6 (2) of Directive 76/464/EEC, lays down quality objectives for mercury in the aquatic environment,

— in pursuance of Article 6 (4) of Directive 76/464/EEC, lays down the time limits for compliance with the conditions of the authorizations granted by the competent authorities of Member States in the case of existing discharges,

— in pursuance of Article 12 (1) of Directive 76/464/EEC, lays down the reference methods of measurement enabling the mercury content in discharges and in the aquatic environment to be determined,

— in pursuance of Article 6 (3) of Directive 76/464/EEC, establishes a monitoring procedure,

— requires Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State.

2. This Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC with the exception of groundwater.

Article 2

For the purposes of this Directive:

(a) 'mercury' means:

— the chemical element mercury,

— the mercury contained in any of its compounds;

(b) 'limit values' means:

the values specified in Annex I;

(c) 'quality objectives' means:

the requirements specified in Annex II;

(d) 'industrial plant' means:

a plant in which alkali chlorides are electrolyzed by means of mercury cells;

(e) 'existing plant' means:

an industrial plant which is operational on the date of notification of this Directive;

(f) 'new plant' means:

— an industrial plant which has become operational after the date of notification of this Directive,

— an existing industrial plant whose capacity for the electrolysis of alkali chlorides by means of mercury cells has been substantially increased after the date of notification of this Directive.

Article 3

1. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I.

2. The authorizations referred to in Article 3 of Directive 76/464/EEC must contain provisions at least as stringent as those in Annex I to this Directive, except in cases where a Member State is complying with Article 6 (3) of Directive 76/464/EEC on the basis of Annexes II and IV to the present Directive.

The authorizations shall be reviewed at least every four years.

3. Without prejudice to their obligations arising out of paragraphs 1 and 2 and the provisions of Directive 76/464/EEC, Member States may grant authorizations for new plants only if such authorizations contain a reference to the standards corresponding to the best technical means available for preventing discharges of mercury.

Whatever the method it adopts, the Member State, where for technical reasons the intended measures do not conform to the best technical means available, shall provide the Commission, before any authorization, with the justifications for these reasons.

Within three months, the Commission shall send a report to the Member States stating its opinion on the derogation covered by the second subparagraph.

4. The reference method of analysis for determining the presence of mercury are given in Annex III.1. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III.1. The accuracy required in the measurement of effluent flow is given in Annex III.2.

Article 4

The Member States concerned shall be responsible for monitoring the aquatic environment affected by industrial discharges.

In the case of discharges affecting the waters of several Member States, the Member States concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 5

1. From the information supplied to it by the Member States pursuant to Article 13 of Directive 76/464/EEC on receipt of a request which it must submit in each case, in particular concerning:

— details of authorizations laying down emission standards with regard to discharges of mercury,

— results of measurements made by the national network set up to determine concentrations of mercury,

the Commission shall make a comparative assessment of the implementation of the present Directive by the Member States.

2. Every five years the Commission shall forward to the Council the comparative assessment referred to in paragraph 1.

In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of mercury in living organisms and sediments or in the event of an improvement in the best technical means available, the Commission shall submit appropriate proposals to the Council with the aim of reinforcing, if necessary, the limit values and the quality objectives.

Article 6

1. Member States shall bring into force the measures necessary to comply with this Directive before 1 July 1983. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field governed by this Directive.

Article 7

This Directive is addressed to the Member States.

Done at Brussels, 22 March 1982.

For the Council

The President

L. TINDEMANS

ANNEX I

Limit values, time limits by which they must be complied with, and monitoring procedure for discharges

1. The limit values expressed in terms of concentration which, in principle, should not be exceeded are set out in the following table.

Unit of measurement	Monthly average limit values not to be exceeded from 1 July		Remarks
	1983	1986	
Recycled brine and lost brine Micrograms of mercury per litre	75	50	Applicable to the total quantity of mercury present in all mercury-containing water discharged from the site of the industrial plant

In all cases, limit values expressed as maximum concentrations may not be greater than those expressed as maximum quantities divided by water requirements per tonne of installed chlorine production capacity.

2. However, because the concentration of mercury in effluents depends upon the volume of water involved, which is different for different processes and plants, the limit values expressed in terms of quantity of mercury discharged in relation to installed chlorine production capacity given in the following table must be observed in all cases.

Unit of measurement	Monthly average limit values not to be exceeded from 1 July		Remarks
	1983	1986	
Recycled brine Grams of mercury per tonne of installed chlorine production capacity	0·5	0·5	Applicable to the mercury present in effluent discharged from the chlorine production unit
	1·5	1·0	Applicable to the total quantity of mercury present in all mercury-containing water discharged from the site of the industrial plant
Lost brine Grams of mercury per tonne of installed chlorine production capacity	8·0	5·0	Applicable to the total quantity of mercury present in all mercury-containing water discharged from the site of the industrial plant

3. The daily average limit values are four times the corresponding monthly average limit values given in points 1 and 2.

4. In order to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex, a monitoring procedure must be instituted. This procedure must provide for:

— the taking each day of a sample representative of the discharge over a period of 24 hours and the measurement of the mercury concentration of that sample, and

— the measurement of the total flow of the discharge over that period.

The quantity of mercury discharged during a month must be calculated by adding together the quantities of mercury discharged each day during that month. This total must then be divided by the installed chlorine production capacity.

ANNEX II

Quality objectives

For those Member States which apply the exception provided for in Article 6 (3) of Directive 76/464/EEC, the emission standards which Member States must establish and ensure are applied, pursuant to Article 5 of that Directive, shall be fixed so that the appropriate quality objective or objectives from among those listed below is or are complied with in the area affected by discharges of mercury from the chlor-alkali electrolysis industry. The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in paragraph 1 the objective or objectives that it deems appropriate having regard to the intended use of the area affected, taking account of the fact that the purpose of this Directive is to eliminate all pollution.

1. In order to eliminate pollution as defined in Directive 76/464/EEC, and pursuant to Article 2 of that Directive, the following quality objectives are set:

1.1. The concentration of mercury in a representative sample of fish flesh chosen as an indicator must not exceed 0·3 mg/kg wet flesh.

1.2. The total concentration of mercury in inland surface waters affected by discharges must not exceed 1 µg/l as the arithmetic mean of the results obtained over a year.

1.3. The concentration of mercury in solution in estuary waters affected by discharges must not exceed 0·5 µg/l as the arithmetic mean of the results obtained over a year.

1.4. The concentration of mercury in solution in territorial sea waters and internal coastal waters other than estuary waters affected by discharges must not exceed 0·3 µg/l as the arithmetic mean of the results obtained over a year.

1.5. The quality of the waters must be sufficient to comply with the requirements of any other Council Directive applicable to such waters as regards the presence of mercury.

2. The concentration of mercury in sediments or in shellfish must not increase significantly with time.

3. Where several quality objectives are applied to waters in an area, the quality of the waters must be sufficient to meet each of them.

4. The numerical values of the quality objectives specified in 1.2, 1.3 and 1.4 may, as an exception and where this is necessary for technical reasons, be multiplied by 1·5 until 30 June 1986, provided that the Commission has been notified beforehand.

ANNEX III

Reference method of measurement

1. The reference method of analysis for determining the mercury content in waters, the flesh of fish, sediments and shellfish is by flameless atomic absorption spectrophotometry after suitable pre-treatment of the sample which takes account in particular of pre-oxidation of the mercury and of successive reduction of the mercury ions Hg (II).

   The limits of detection (1) must be such that the mercury concentration can be measured to an accuracy (1) of ± 30 % and a precision (1) of ± 30 % at the following concentrations:

   — in the case of discharges, one tenth of the maximum permitted concentration of mercury specified in the authorization,

   — in the case of surface water, one tenth of the mercury concentration specified in the quality objective,

(1) The definitions of these terms are as given in Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States (OJ No L 271, 29. 10. 1979, p. 44).

— in the case of the flesh of fish and shellfish, one tenth of the mercury concentration specified in the quality objective,

— in the case of sediments, one tenth of the mercury concentration in the sample or 0·05 mg/kg dry weight, whichever is the greater.

2. Flow measurement must be carried out to an accuracy of ± 20 %.

ANNEX IV

Monitoring procedure for quality objectives

1. For each authorization granted in pursuance of this Directive, the competent authority shall specify the restrictions, the monitoring procedure and deadlines for ensuring compliance with the quality objective or objectives concerned.

2. In accordance with Article 6 (3) of Directive 76/464/EEC, the Member State shall report to the Commission for each quality objective chosen and applied, on :

— the points of discharge and the means of dispersal,

— the area in which the quality objective is applied,

— the location of sampling points,

— the frequency of sampling,

— the methods of sampling and of measurement,

— the results obtained.

3. Samples must be properly representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, taking into account in particular natural variations in the hydrological regime. The salt-water fish analysis must be carried out on a sufficiently representative number of samples and species.

4. With regard to the quality objective in 1.1 of Annex II, the competent authority shall choose the species of fish to be adopted as indicators for analysis. For salt waters the species chosen from among those inhabiting coastal waters and caught locally may include cod, whiting, plaice, mackerel, haddock and flounder.

Statement on Article 3 (3)

The Council and the Commission state that the application of the best technical means available makes it possible to limit discharges of mercury from the site of a new industrial plant using the recycled-brine process to less than 0·5 g/tonne of installed chlorine production capacity.

COUNCIL DIRECTIVE

of 8 March 1984

on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry

(84/156/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [1], and in particular Articles 6 and 12 thereof,

Having regard to the proposal from the Commission [2],

Having regard to the opinion of the European Parliament [3],

Having regard to the opinion of the Economic and Social Committee [4],

Whereas, in order to protect the aquatic environment of the Community against pollution by certain dangerous substances, Article 3 of Directive 76/464/EEC introduces a system of prior authorization laying down emission standards for discharges of the substances in List I in the Annex thereto; whereas Article 6 of the said Directive provides that limit values shall be laid down for such emission standards and also quality objectives for the aquatic environment affected by discharges of these substances;

Whereas mercury and its compounds are included in List I;

Whereas the Member States are required to apply the limit values except in the cases where they may employ quality objectives;

Whereas, since pollution due to the discharge of mercury into water is caused by a large number of industries, it is necessary to lay down specific limit values according to the type of industry concerned and to lay down quality objectives for the aquatic environment into which mercury is discharged by such industries;

Whereas the purpose of the quality objectives must be to eliminate mercury pollution of the various parts of the aquatic environment which might be affected by mercury discharges;

Whereas such quality objectives must be laid down expressly for this purpose and not with the intention of establishing rules pertaining to consumer protection or to the marketing of products from the aquatic environment;

Whereas a specific monitoring procedure should be laid down to enable Member States to demonstrate that the quality objectives are being complied with;

Whereas provision should be made for the monitoring by Member States of the aquatic environment affected by the aforesaid mercury discharges with a view to effective implementation of this Directive; whereas Article 6 of Directive 76/464/EEC does not provide

(1) OJ No L 129, 18. 5. 1976, p. 23.
(2) OJ No C 20, 25. 1. 1983, p. 5.
(3) OJ No C 10, 16. 1. 1984, p. 300.
(4) OJ No C 286, 24. 10. 1983, p. 1.

for the powers to introduce such monitoring; whereas, since the specific powers have not been provided for in the Treaty, Article 235 thereof should be invoked;

Whereas, in the case of discharges from certain types of plant for which emission standards cannot be established or regularly monitored by reason of the scattered nature of the sources, specific programmes must be devised to avoid or eliminate mercury pollution from these plants; whereas, since the powers have not been provided either by Article 6 of Directive 76/464/EEC or by the specific provisions of the Treaty, Article 235 of the Treaty should be invoked;

Whereas Directive 82/176/EEC (1) lays down limit values for mercury discharges into the aquatic environment by the chlor-alkali electrolysis industry and also sets quality objectives for the aquatic environment into which mercury is discharged;

Whereas it is important that the Commission report every four years on the implementation of this Directive by Member States;

Whereas, since groundwater is the subject of Directive 80/68/EEC (2), it is excluded from the scope of this Directive;

Whereas the level of industrialization is very low in Greenland because of the overall situation of the island, and in particular the fact that it is sparsely populated, its considerable size and its special geographical position; whereas, therefore, this Directive should not apply to Greenland,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive:

— pursuant to Article 6 (1) of Directive 76/464/EEC, lays down limit values for emission standards for mercury in discharges from industrial plants as defined in Article 2 (e) hereof,

— pursuant to Article 6 (2) of Directive 76/464/EEC, lays down quality objectives for mercury in the aquatic environment,

— pursuant to Article 6 (4) of Directive 76/464/EEC, lays down the time limits for compliance with the conditions specified in the authorizations granted by the competent authorities of Member States in respect of existing discharges,

— pursuant to Article 12 (1) of Directive 76/464/EEC, lays down the reference methods of measurement enabling the mercury content in discharges and in the aquatic environment to be determined,

— pursuant to Article 6 (3) of Directive 76/464/EEC, establishes a monitoring procedure,

— requires Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State,

— requires the Member States to draw up programmes to avoid or eliminate pollution caused by discharges within the meaning of Article 4.

2. This Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC, with the exception of groundwater.

Article 2

For the purposes of this Directive:

(a) 'mercury' means:

— the chemical element mercury,

— the mercury contained in any of its compounds;

(b) 'limit values' means:

the values specified in Annex I;

(c) 'quality objectives' means:

the requirements specified in Annex II;

(d) 'handling of mercury' means:

any industrial process involving the production or use of mercury, or any other industrial process in which the presence of mercury is inherent;

(e) 'industrial plant' means:

a plant at which mercury or any substance containing mercury is handled, with the exception of the industrial plant referred to in Article 2 (d) of Directive 82/176/EEC;

(f) 'existing plant' means:

an industrial plant which is operational on the date of notification of this Directive;

(g) 'new plant' means:

— an industrial plant which has become operational after the date of notification of this Directive,

— an existing industrial plant whose mercury-handling capacity has been substantially increased since the date of notification of this Directive.

Article 3

1. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I.

2. The limit values shall normally apply at the point where waste waters containing mercury leave the industrial plant.

(1) OJ No L 81, 27. 3. 1982, p 29.
(2) OJ No L 20, 26. 1. 1980, p 43

When waste waters containing mercury are treated outside the industrial plant at a treatment plant intended for the removal of mercury, the Member State may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

3. The authorizations referred to in Article 3 of Directive 76/464/EEC must contain provisions at least as stringent as those in Annex I to this Directive, except where a Member State is complying with Article 6 (3) of Directive 76/464/EEC on the basis of Annex II to this Directive and Annex IV to Directive 82/176/EEC.

Authorizations shall be reviewed at least every four years.

4. Without prejudice to their obligations arising from paragraph 1, 2 and 3 and to the provisions of Directive 76/464/EEC, Member States may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution in accordance with Article 2 of the said Directive or for the prevention of distortion of competition.

Whatever method it adopts, the Member State shall, where for technical reasons the intended measures do not correspond to the best technical means available, provide the Commission, before any authorization, with evidence in support of these reasons.

The Commission shall forward this evidence to the other Member States immediately and shall send all Member States a report as soon as possible giving its opinion on the derogation referred to in the second subparagraph. If necessary, it shall at the same time submit appropriate proposals to the Council.

5. The reference method of analysis to be used in determining the presence of mercury is given in Annex III (1) to Directive 82/176/EEC. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III (1) to Directive 82/176/EEC. The accuracy required in the measurement of effluent flow is given in Annex III (2) to that Directive.

Article 4

1. The Member States shall draw up specific programmes for mercury discharges by multiple sources which are not industrial plants and for which the emission standards laid down in Article 3 cannot be applied in practice.

2. The purpose of these programmes shall be to avoid or eliminate pollution. They shall include the most appropriate measures and techniques for the replacement, retention and recycling of mercury. The elimination of waste containing mercury shall be carried out in accordance with Council Directive 78/319/EEC of 20 March 1978 on toxic and dangerous waste [1], as amended by the 1979 Act of Accession.

3. The specific programmes shall apply as from 1 July 1989 and shall be communicated to the Commission.

Article 5

The Member States concerned shall be responsible for monitoring the aquatic environment affected by industrial discharges.

In the case of discharges affecting the waters of more than one Member State, the Member States concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 6

1. The Commission shall report every four years on the implementation of this Directive by Member States on the basis of information supplied to it by them pursuant to Article 13 of Directive 76/464/EEC at its request, which it must submit case by case. The information concerned shall, in particular, comprise :

— details of authorizations laying down emission standards for discharges of mercury,

— the results of the inventory of mercury discharged into the waters referred to in Article 1 (2),

— the results of measurements made by the national network set up to determine concentrations of mercury.

2. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of mercury in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall submit appropriate proposals to the Council with the aim of reinforcing, if necessary, the limit values and the quality objectives or of establishing additional limit values and additional quality objectives.

[1] OJ No L 84, 31. 3. 1978, p. 43.

Article 7

1. Member States shall bring into force the measures necessary to comply with this Directive within two years following its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field governed by this Directive.

Article 8

This Directive shall not apply to Greenland.

Article 9

This Directive is addressed to the Member States.

Done at Brussels, 8 March 1984.

For the Council

The President

C. LALUMIERE

ANNEX I

Limit values, time limits by which they must be complied with, and the procedure for monitoring discharges

1. The limit values and the time limits for the industrial sectors concerned are set out together in the table below :

Industrial sector (1)	Limit value which must be complied with as from :		Unit of measurement
	1 July 1986	1 July 1989	
1. Chemical industries using mercury catalysts :			
(a) in the production of vinyl chloride	0,1	0,05	mg/l effluent
	0,2	0,1	g/t vinyl chloride production capacity
(b) in other processes	0,1	0,05	mg/l effluent
	10	5	g/kg mercury processed
2. Manufacture of mercury catalysts used in the production of vinyl chloride	0,1	0,05	mg/l effluent
	1,4	0,7	g/kg mercury processed
3. Manufacture of organic and non-organic mercury compounds (except for products referred to in point 2)	0,1	0,05	mg/l effluent
	0,1	0,05	g/kg mercury processed
4. Manufacture of primary batteries containing mercury	0,1	0,05	mg/l effluent
	0,05	0,03	g/kg mercury processed
5. Non-ferrous metal industry (2)			
5.1. Mercury recovery plants	0,1	0,05	mg/l effluent
5.2. Extraction and refining of non-ferrous metals	0,1	0,05	mg/l effluent
6. Plants for the treatment of toxic wastes containing mercury	0,1	0,05	mg/l effluent

(1) Limit values for industrial sectors other than the chlor-alkali electrolysis industry which are not mentioned in this table, such as the paper and steel industries or coal-fired power stations, will, if necessary, be fixed by the Council at a later stage. In the meantime, the Member States will fix emission standards for mercury discharges autonomously in accordance with Directive 76/464/EEC. Such standards must take into account the best technical means available and must not be less stringent than the most nearly comparable limit value in this Annex.

(2) On the basis of experience gained in the implementation of this Directive the Commission will, pursuant to Article 6 (3), submit to the Council proposals for more stringent limit values to be introduced 10 years after the notification of this Directive.

The limit values given in the table correspond to a monthly average concentration or to a maximum monthly load.

The amounts of mercury discharged are expressed as a function of the amount of mercury used or handled by the industrial plant over the same period or as a function of the installed vinyl chloride production capacity.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table for the industrial sectors 1 to 4. In no instance may limit values expressed as maximum concentrations be greater than those expressed as maximum quantities divided by water requirements per kilogram of mercury handled or per tonne of installed vinyl chloride production capacity.

   However, because the concentration of mercury in effluents depends on the volume of water involved, which differs for different processes and plants, the limit values, expressed in terms of the quantity of mercury discharged in relation to the quantity of mercury handled or to the installed vinyl chloride production capacity, given in the above table, must be complied with in all cases.

3. The daily average limit values are twice the corresponding monthly average limit values given in the table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and, where appropriate, the quantity of mercury handled.

   Should the quantity of mercury handled be impossible to determine, the monitoring procedure may be based on the quantity of mercury that may be used in the light of the production capacity on which the authorization was based.

5. A sample representative of the discharge over a period of 24 hours will be taken. The quantity of mercury discharged over a month must be calculated on the basis of the daily quantities of mercury discharged.

   However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 7,5 kilograms of mercury per annum.

ANNEX II

Quality objectives

For those Member States which apply the exception referred to in Article 6 (3) of Directive 76/464/EEC, the emission standards which Member States must establish and ensure are applied, pursuant to Article 5 of that Directive, will be fixed so that the appropriate quality objective or objectives from among those listed in sections 1, 2 and 3 of Annex II to Directive 82/176/EEC is or are complied with in the area affected by discharges of mercury.

The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in section 1 of Annex II to Directive 82/176/EEC the objective or objectives that it deems appropriate having regard to the intended use of the area affected, while taking account of the fact that the purpose of this Directive is to avoid or eliminate all pollution.

The numerical values of the quality objectives specified in 1.2, 1.3 and 1.4 of Annex II to Directive 82/176/EEC may, as an exception and where this is necessary for technical reasons, be multiplied by 1.5 until 1 July 1989, provided that the Commission has been notified beforehand.

COUNCIL DIRECTIVE

of 26 September 1983

on limit values and quality objectives for cadmium discharges

(83/513/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (1), and in particular Articles 6 and 12 thereof,

Having regard to the proposal from the Commission (2),

Having regard to the opinion of the European Parliament (3),

Having regard to the opinion of the Economic and Social Committee (4),

Whereas, in order to protect the aquatic environment of the Community against pollution by certain dangerous substances, Article 3 of Directive 76/464/EEC introduces a system of prior authorization laying down emission standards for discharges of the substances in List I in the Annex thereto; whereas Article 6 of the said Directive provides that limit values shall be laid down for such emission standards and also quality objectives for the aquatic environment affected by discharges of these substances;

Whereas cadmium and its compounds are included in List I;

Whereas the Member States are required to apply the limit values except in the cases where they may employ quality objectives;

Whereas, since pollution due to the discharge of cadmium into water is caused by a large number of industries, it is necessary to lay down specific limit values according to the type of industry concerned and to lay down quality objectives for the aquatic environment into which cadmium is discharged by such industries;

Whereas at the present time it is not, however, possible to establish limit values for discharges arising from the manufacture of phosphoric acid and phosphatic fertilizer from phosphatic rock;

Whereas the purpose of the quality objectives must be to eliminate cadmium pollution of the various parts of the aquatic environment which might be affected by cadmium discharges;

Whereas such quality objectives must be laid down expressly for this purpose and not with the intention of establishing rules pertaining to consumer protection or to the marketing of products from the aquatic environment;

(1) OJ No L 129, 18. 5. 1976, p. 23.
(2) OJ No C 118, 21. 5. 1981, p. 3.
(3) OJ No C 334, 20. 12. 1982, p. 138.
(4) OJ No C 230, 10. 9. 1981, p. 22.

Whereas a specific monitoring procedure should be laid down to enable Member States to demonstrate that the quality objectives are being complied with;

Whereas provision should be made for the monitoring by Member States of the aquatic environment affected by the aforesaid cadmium discharges with a view to effective implementation of this Directive; whereas Article 6 of Directive 76/464/EEC does not provide for the powers to introduce such monitoring; whereas, since the specific powers have not been provided for in the Treaty, Article 235 thereof should be invoked;

Whereas it is important that the Commission forward to the Council, every five years, a comparative assessment of the implementation of this Directive by Member States;

Whereas, since groundwater is the subject of Directive 80/68/EEC [1], it is excluded from the scope of this Directive;

Whereas the level of industrialization is very low in Greenland because of the overall situation of the island, and in particular the fact that it is sparsely populated, its considerable size and its special geographical position; whereas, therefore, this Directive should not apply to Greenland,

HAS ADOPTED THIS DIRECTIVE :

Article 1

1. This Directive :

— in pursuance of Article 6 (1) of Directive 76/464/EEC, lays down limit values for emission standards for cadmium in discharges from industrial plants as defined in Article 2 (e) hereof,

— in pursuance of Article 6 (2) of Directive 76/464/EEC, lays down quality objectives for cadmium in the aquatic environment,

— in pursuance of Article 6 (4) of Directive 76/464/EEC, lays down the time limits for compliance with the conditions specified in the authorizations granted by the competent authorities of Member States in respect of existing discharges,

— in pursuance of Article 12 (1) of Directive 76/464/EEC, lays down the reference methods of measurement enabling the cadmium content in discharges and in the aquatic environment to be determined,

— in pursuance of Article 6 (3) of Directive 76/464/EEC, establishes a monitoring procedure,

— requires Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State.

2. This Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC with the exception of groundwater.

Article 2

For the purposes of this Directive :

(a) 'cadmium' means :
  — the chemical element cadmium,
  — the cadmium contained in any of its compounds;

(b) 'limit values' means the values specified in Annex I;

(c) 'quality objectives' means the requirements specified in Annex II;

(d) 'handling of cadmium' means any industrial process involving the use or production of cadmium, or any other process in which the presence of cadmium is inherent;

(e) 'industrial plant' means any plant at which cadmium or any substance containing cadmium is handled;

(f) 'existing plant' means an industrial plant which is operational on the date of notification of this Directive;

(g) 'new plant' means :
  — an industrial plant which has become operational after the date of notification of this Directive,
  — an existing industrial plant whose cadmium-processing capacity has been substantially increased after the date of notification of this Directive.

Article 3

1. The limit values, the time limits by which they must be complied with and the monitor-

[1] OJ No L 20, 26. 1. 1980, p. 43.

ing procedure for discharges are laid down in Annex I.

2. The limit values shall normally apply at the point where waste waters containing cadmium leave the industrial plant.

When waste waters containing cadmium are treated outside the industrial plant at a treatment plant intended for the removal of cadmium, the Member State may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

3. The authorizations referred to in Article 3 of Directive 76/464/EEC must contain provisions at least as stringent as those in Annex I to this Directive, except where a Member State is complying with Article 6 (3) of Directive 76/464/EEC on the basis of Annexes II and IV to this Directive.

Authorizations shall be reviewed at least every four years.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to the provisions of Directive 76/464/EEC, Member States may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution in accordance with Article 2 of the said Directive or for the prevention of distortion of competition.

Whatever method it adopts, the Member State shall, where for technical reasons the intended measures do not correspond to the best technical means available, provide the Commission, before any authorization, with evidence in support of these reasons.

The Commission shall forward this evidence to the other Member States immediately and shall send all Member States a report as soon as possible giving its opinion on the derogation referred to in the second subparagraph. If necessary, it shall at the same time submit appropriate proposals to the Council.

5. The reference method of analysis to be used in determining the presence of cadmium is given in Annex III (1). Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III (1). The accuracy required in the measurement of effluent flow is given in Annex III (2).

Article 4

The Member States concerned shall be responsible for monitoring the aquatic environment affected by industrial discharges.

In the case of discharges affecting the waters of more than one Member State, the Member States concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 5

1. The Commission shall make a comparative assessment of the implementation of this Directive by Member States on the basis of information supplied to it by them pursuant to Article 13 of Directive 76/464/EEC at its request, which it must submit case by case. The information concerned shall, in particular, comprise :

— details of authorizations laying down emission standards for discharges of cadmium,

— the results of the inventory of cadmium discharged into the waters referred to in Article 1 (2),

— the results of measurements made by the national network set up to determine concentrations of cadmium.

2. The Commission shall forward the comparative assessment referred to in paragraph 1 to the Council every five years, and for the first time four years after notification of this Directive.

3. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of cadmium in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall submit appropriate proposals to the Council with the aim of reinforcing, if necessary, the limit values and the quality objectives or of establishing new limit values and new quality objectives.

Article 6

1. Member States shall bring into force the measures necessary to comply with this Directive within two years following its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field governed by this Directive.

Article 7

This Directive shall not apply to Greenland.

Article 8

This Directive is addressed to the Member States.

Done at Brussels, 26 September 1983.

For the Council
The President
C. SIMITIS

ANNEX I

Limit values, time limits fixed for compliance with these values and monitoring procedures to be applied to discharges

1. *Limit values and time limits*

Industrial sector (1)	Unit of measurement	Limit values which must be complied with as from	
		1. 1. 1986	1. 1. 1989 (2)
1. Zinc mining, lead and zinc refining, cadmium metal and non-ferrous metal industry	Milligrams of cadmium per litre of discharge	0,3 (3)	0,2 (3)
2. Manufacture of cadmium compounds	Milligrams of cadmium per litre of discharge	0,5 (3)	0,2 (3)
	Grams of cadmium discharged per kilogram of cadmium handled	0,5 (4)	(5)
3. Manufacture of pigments	Milligrams of cadmium per litre of discharge	0,5 (3)	0,2 (3)
	Grams of cadmium discharged per kilogram of cadmium handled	0,3 (4)	(5)
4. Manufacture of stabilizers	Milligrams of cadmium per litre of discharge	0,5 (3)	0,2 (3)
	Grams of cadmium discharged per kilogram of cadmium handled	0,5 (4)	(5)
5. Manufacture of primary and secondary batteries	Milligrams of cadmium per litre of discharge	0,5 (3)	0,2 (3)
	Grams of cadmium discharged per kilogram of cadmium handled	1,5 (4)	(5)
6. Electroplating (6)	Milligrams of cadmium per litre of discharge	0,5 (3)	0,2 (3)
	Grams of cadmium discharged per kilogram of cadmium handled	0,3 (4)	(5)
7. Manufacture of phosphoric acid and/or phosphatic fertilizer from phosphatic rock (7)		—	—

(1) Limit values for industrial sectors not mentioned in this table will, if necessary, be fixed by the Council at a later stage. In the meantime the Member States will fix emission standards for cadmium discharges autonomously in accordance with Directive 76/464/EEC. Such standards must take into account the best technical means available and must not be less stringent than the most nearly comparable limit value in this Annex.

(2) On the basis of experience gained in implementing this Directive, the Commission will, pursuant to Article 5 (3), submit in due course to the Council proposals for fixing more restrictive limit values with a view to their coming into force by 1992.

(3) Monthly flow-weighted average concentration of total cadmium.

(4) Monthly average.

(5) It is impossible for the moment to fix limit values expressed as load. If need be, these values will be fixed by the Council in accordance with Article 5 (3) of this Directive. If the Council does not fix any limit values, the values expressed as load given in column '1. 1. 1986' will be kept.

(6) Member States may suspend application of the limit values until 1 January 1989 in the case of plants which discharge less than 10 kg of cadmium a year and in which the total volume of the electroplating tanks is less than 1,5 m^3, if technical or administrative considerations make such a step absolutely necessary.

(7) At present there are no economically feasible technical methods for systematically extracting cadmium from discharges arising from the production of phosphoric acid and/or phosphatic fertilizers from phosphatic rock. No limit values have therefore been fixed for such discharges. The absence of such limit values does not release the Member States from their obligation under Directive 76/464/EEC to fix emission standards for these discharges.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table for the industrial sectors in sections 2, 3, 4, 5 and 6. In no instance may limit values expressed as maximum concentrations be greater than those expressed as maximum quantities divided by water requirements per kilogram of cadmium handled. However, because the concentration of cadmium in effluents depends on the volume of water involved, which differs for different processes and plants, the limit values, expressed in terms of the quantity of cadmium discharged in relation to the quantity of cadmium handled, given in the above table must be complied with in all cases.

3. The daily average limit values are twice the corresponding monthly average limit values given in the above table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and the quantity of cadmium handled.

   Should the quantity of cadmium handled be impossible to determine, the monitoring procedure may be based on the quantity of cadmium that may be used in the light of the production capacity on which the authorization was based.

5. A sample representative of the discharge over a period of 24 hours will be taken. The quantity of cadmium discharged over a month must be calculated on the basis of the daily quantities of cadmium discharged.

   However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 10 kg of cadmium per annum. In the case of industrial electroplating plants, a simplified monitoring procedure may only be instituted if the total volume of the electroplating tanks is less than 1,5 m^3.

ANNEX II

Quality objectives

For those Member States which apply the exception referred to in Article 6 (3) of Directive 76/464/EEC, the emission standards which Member States must establish and ensure are applied, pursuant to Article 5 of that Directive, will be fixed so that the appropriate quality objective or objectives from among those listed below is or are complied with in the area affected by discharges of cadmium. The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in paragraph 1 the objective or objectives that it deems appropriate having regard to the intended use of the area affected, while taking account of the fact that the purpose of this Directive is to eliminate all pollution.

1. The following quality objectives (1), which will be measured sufficiently close to the point of discharge, are fixed, with the object of eliminating pollution within the meaning of Directive 76/464/EEC and pursuant to Article 2 of that Directive (2) :

1.1. The total cadmium concentration in inland surface waters affected by discharges must not exceed 5 µg/litre.

1.2. The concentration of dissolved cadmium in estuary waters affected by discharges must not exceed 5 µg/litre.

1.3. The concentration of dissolved cadmium in territorial waters and in internal coastal waters other than estuary waters affected by discharges must not exceed 2,5 µg/litre.

1.4. In the case of waters used for the abstraction of drinking water, the cadmium content must conform to the requirements of Directive 75/440/EEC (3).

2. In addition to the above requirements, cadmium concentrations must be determined by the national network referred to in Article 5 and the results compared with the following concentrations (2) :

2.1. In the case of inland surface waters, a total cadmium concentration of 1 µg/litre.

2.2. In the case of estuary waters, a dissolved cadmium concentration of 1 µg/litre.

2.3. In the case of territorial and internal coastal waters, other than estuary waters, a dissolved cadmium concentration of 0,5 µg/litre.

If these concentrations are not complied with at any one of the points on the national network, the reasons must be reported to the Commission.

3. The concentration of cadmium in sediments and/or shellfish, if possible of the species Mytilus edulis, must not increase significantly with time.

4. Where several quality objectives are supplied to waters in an area, the quality of the waters must be sufficient to comply with each of those objectives.

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(1) The cadmium concentrations indicated in 1.1, 1.2 and 1.3 are the minimum requirements necessary to protect aquatic life.

(2) With the exception of quality objective 1.4, all concentrations relate to the arithmetic mean of the results obtained over one year.

(3) Directive 75/440/EEC concerns the quality required of surface water intended for the abstraction of drinking water in the Member States (OJ No L 194, 25. 7. 1975, p. 26). It provides for a mandatory cadmium value of 5 µg/litre on the basis of 95 % of the samples taken.

ANNEX III

Reference methods of measurement

1. The reference method of analysis used for determining the cadmium content of waters, sediments and shellfish is atomic absorption spectrophotometry after preservation and suitable treatment of the sample.

   The limits of detection (1) must be such that the cadmium concentration can be measured to an accuracy (1) of ± 30 % and a precision (1) of ± 30 % at the following concentrations :

   — in the case of discharges, one-tenth of the maximum permitted concentration of cadmium specified in the authorization,

   — in the case of surface water, 0,1 µg/litre or one-tenth of the cadmium concentration specified in the quality objective, whichever is the greater,

   — in the case of shellfish, 0,1 mg/kg, wet weight,

   — in the case of sediments, one-tenth of the cadmium concentration in the sample or 0,1 mg/kg, dry weight, with drying being carried out between 105 and 110 °C at constant weight, whichever value is the greater.

2. Flow measurement must be carried out to an accurancy of ± 20 %.

(1) The definitions of these terms are given in Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States (OJ No L 271, 29. 10. 1979, p. 44).

ANNEX IV

Monitoring procedure for quality objectives

1. For each authorization granted in pursuance of this Directive, the competent authority will specify the restrictions, monitoring procedure and time limits for ensuring compliance with the quality objective(s) concerned.

2. In accordance with Article 6 (3) of Directive 76/464/EEC, the Member State will, for each quality objective chosen and applied, report to the Commission, on :

   — the points of discharge and the means of dispersal,

   — the area in which the quality objective is applied,

   — the location of sampling points,

   — the frequency of sampling,

   — the methods of sampling and measurement,

   — the results obtained.

3. Samples must be sufficiently representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, taking into account, in particular, natural variations in the hydrological regime.

COUNCIL DIRECTIVE

of 9 October 1984

on limit values and quality objectives for discharges of hexachlorocyclohexane

(84/491/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [1], and in particular Articles 6 and 12 thereof,

Having regard to the proposal from the Commission [2],

Having regard to the opinion of the European Parliament [3],

Having regard to the opinion of the Economic and Social Committee [4],

Whereas, in order to protect the aquatic environment of the Community against pollution by certain dangerous substances, Article 3 of Directive 76/464/EEC introduces a system of prior authorizations laying down emission standards for discharges of the substances on List I in the Annex thereto; whereas Article 6 of the said Directive provides that limit values shall be laid down for such emission standards and also quality objectives for the aquatic environment affected by discharges of these substances;

Whereas hexachlorocyclohexane (hereinafter referred to as HCH) is an organohalogen compound and is included in List I in view of its toxicity, persistence and bioaccumulation;

Whereas the Member States are required to apply the limit values except in the cases where they may employ quality objectives;

Whereas, since the pollution caused by direct discharges of HCH into water is caused, to a large extent, by the establishments which produce, treat and, as a subordinate activity, formulate it on the same site, limit values should be set for discharges from such establishments and quality objectives laid down for the aquatic environment into which HCH is discharged by such establishments;

Whereas the impact of other direct industrial sources of HCH pollution is also important; whereas, in the case of such discharges for which it is not possible, for technical reasons, to lay down limit emission values at Community level, Member States should independently fix emission standards taking into account the best technical means available;

Whereas Member States should ensure that the measures taken pursuant to this Directive do not have the effect of increasing soil and air pollution;

Whereas a specific monitoring procedure should be laid down to enable Member States to demonstrate that the quality objectives are being complied with;

Whereas provision should be made for the monitoring by Member States of the aquatic environment affected by the aforesaid HCH discharges with a view to effective implementation of this Directive;

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[1] OJ No L 129, 18. 5. 1976, p. 23.
[2] OJ No C 215, 11. 8. 1983, p. 3.
[3] OJ No C 127, 14. 5. 1984, p. 138.
[4] OJ No C 57, 29. 2. 1984, p. 1.

Whereas it is important that the Commission report to the Council every five years on the implementation of this Directive by Member States;

Whereas since groundwater is the subject of Directive 80/68/EEC (1), it is excluded from the scope of this Directive,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive:

— pursuant to Article 6 (1) of Directive 76/464/EEC, lays down limit values for emission standards for HCH in discharges from industrial plants as defined in Article 2 (g) of this Directive,

— pursuant to Article 6 (2) of Directive 76/464/EEC, lays down quality objectives for HCH in the aquatic environment,

— pursuant to Article 6 (4) of Directive 76/464/EEC, lays down the time limits for compliance with the conditions specified in the authorizations granted by the competent authorities of Member States in respect of existing discharges,

— pursuant to Article 12 (1) of Directive 76/464/EEC, lays down the reference methods of measurement enabling the concentration of HCH in discharges and in the aquatic environment to be determined,

— pursuant to Article 6 (3) of Directive 76/464/EEC, establishes a monitoring procedure,

— requires Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State.

2. This Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC with the exception of groundwater.

Article 2

For the purposes of this Directive:

(a) *'HCH'*

means the isomers of 1, 2, 3, 4, 5, 6-hexachlorocyclohexane;

(b) *'lindane'*

means a product containing at least 99 % of the γ-isomer of 1, 2, 3, 4, 5, 6-hexachlorocyclohexane;

(c) *'extraction of lindane'*

means the separation of lindane from a mixture of hexachlorocyclohexane isomers;

(d) *'limit values'*

means the limit values specified in Annex I;

(e) *'quality objectives'*

means the requirements specified in Annex II;

(f) *'treatment of HCH'*

means any industrial process involving the production or use of HCH, or any other industrial process in which the presence of HCH is inherent;

(g) *'industrial plant'*

means any plant at which HCH or any other substance containing HCH is treated;

(h) *'existing plant'*

means an industrial plant which is operational on the date of notification of this Directive.

(i) *'new plant'* means

— an industrial plant which has become operational after the date of notification of this Directive,

— an existing industrial plant whose capacity for the production or treatment of HCH has been substantially increased after the date of notification of this Directive.

Article 3

1. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I.

2. The limit values shall normally apply at the point where waste waters containing HCH leave the industrial plant.

If waste waters containing HCH are treated outside the industrial plant at a treatment plant intended for the removal of HCH, the Member State concerned may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

3. The authorizations provided for in Article 3 of Directive 76/464/EEC must contain provisions at least as stringent as those in Annex I to this Directive, except where a Member State is complying with Article 6 (3) of Directive 76/464/EEC on the basis of Annexes II and IV to this Directive.

Authorizations shall be reviewed at least every four years.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to the provisions of Directive 76/464/EEC, Member States may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the elimination of pollution in accordance with Article 2 of the said Directive or for the prevention of distortions of competition.

(1) OJ No L 20, 26. 1. 1980, p. 43.

Whatever method it adopts, the Member State concerned shall, where for technical reasons the measures envisaged do not correspond to the best technical means available, provide the Commission, before any authorization, with evidence in support of these reasons.

The Commission shall forward this evidence to the other Member States immediately and shall send all Member States a report, as soon as possible, giving its opinion on the derogation referred to in the second subparagraph. If necessary, it shall at the same time submit appropriate proposals to the Council.

5. The reference method of analysis to be used in determining the presence of HCH is given in Annex III (1). Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III (1). The accuracy required in the measurement of effluent flow is given in Annex III (2).

6. Member States shall ensure that the measures taken pursuant to this Directive do not result in an increase in HCH pollution in other media, notably air and soil.

Article 4

The Member States concerned shall be responsible for monitoring the aquatic environment affected by industrial discharges.

In the case of discharges affecting the waters of more than one Member State, the Member States concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 5

1. The Commission shall make a comparative assessment of the implementation of this Directive by Member States on the basis of information supplied to it by them pursuant to Article 13 of Directive 76/464/EEC at its request, which it must submit case by case. The information concerned shall, in particular, comprise :

— details of authorizations laying down emission standards for discharges of HCH,

— the results of the inventory of HCH disharged into the waters referred to in Article 1 (2),

— the results of measurements made by the national network set up to determine concentrations of HCH.

2. The Commission shall forward the comparative assessment referred to in paragraph 1 to the Council every five years, and for the first time four years after notification of this Directive.

3. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of HCH in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall submit appropriate proposals to the Council with the aim of reinforcing, if necessary, the limit values and the quality objectives or of establishing additional limit values and additional quality objectives.

Article 6

1. Member States shall bring into force the measures necessary to comply with this Directive by 1 April 1986 at the latest. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field governed by this Directive.

Article 7

This Directive is addressed to the Member States.

Done at Luxembourg, 9 October 1984.

For the Council

The President

J. BRUTON

ANNEX I

LIMIT VALUES, TIME LIMITS FOR COMPLIANCE WITH THESE VALUES AND PROCEDURE FOR MONITORING DISCHARGES

1. Limit values and time limits

Industrial sector (a)	Unit of measurement	Limit values (d) to be complied with from	
		1 April 1986	1 October 1988
1. Plant for the production of HCH	grams of HCH per tonne of HCH produced (b)	3	2
	milligrams of HCH per litre discharged (c)	3	2
2. Plant for the extraction of lindane	grams of HCH per tonne of HCH treated (b)	15	4
	milligrams of HCH per litre discharged (c)	8	2
3. Plant where the production of HCH and extraction of lindane is carried out	grams of HCH per tonne of HCH produced (b)	16	5
	milligrams of HCH per litre discharged (c)	6	2

(a) The limit values in the table also include any discharges resulting from lindane formulation on the same site.

The Council will, as necessary, determine limit values and appropriate measures later for industrial sectors treating HCH which are not mentioned in this table, and in particular for industrial plants for lindane formulation producing protective agents for plants, wood and cables. Meanwhile, the Member States will independently fix emission standards for the discharges from such plants, taking into account the best technical means available.

(b) Limit values by weight (monthly average).

(c) Limit values by concentration (monthly flow-weighted average concentration of HCH).

(d) Limit values applicable to the total quantity of HCH present in all discharges of water containing HCH coming from the site of the industrial plant.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table. In no instance may limit values expressed as maximum concentrations be greater than limit values expressed by weight divided by water requirements per tonne of HCH produced or treated.

The limit values by weight given in the above table, expressed in terms of the quantity of HCH discharged in relation to the quantity of HCH produced or treated, must be complied with in all cases.

3. The daily average limit values are, when monitored in accordance with the provisions in points 4 and 5 below, twice the corresponding monthly average limit values given in the above table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with this Directive.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and the quantity of HCH produced or treated. Should the quantity of HCH produced or treated be impossible to determine, the monitoring procedure may, at most, be based on the quantity of HCH likely to be produced or treated during the period in question, taking into account the production plants in operation, and within the limits on which the authorization was based.

5. A sample representative of the discharge over a period of 24 hours will be taken. The quantity of HCH discharged over a month must be calculated on the basis of the daily quantities of HCH discharged.

   However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 3 kg of HCH per annum.

ANNEX II

QUALITY OBJECTIVES

For those Member States which apply the exception provided for in Article 6 (3) of Directive 76/464/EEC, the emission standards which Member States must establish and ensure are applied, pursuant to Article 5 of that Directive, will be fixed so that the appropriate quality objective or objectives from among those listed below is (are) complied with in the area affected by discharges of HCH. The competent authority will determine the area affected in each case and will select from among the quality objectives listed in paragraph 1 the objective or objectives that it deems appropriate having regard to the intended use of the area affected, while taking account of the fact that the purpose of this Directive is to eliminate all pollution.

1. The following quality objectives [1], which will be measured at a point sufficiently close to the point of discharge, are hereby laid down pursuant to Article 2 of Directive 76/464/EEC with the object of eliminating pollution within the meaning of that Directive [2].

1.1. The total HCH concentration in inland surface waters affected by discharges must not exceed 100 nanograms per litre.

1.2. The total concentration of HCH in estuary waters and territorial sea waters must not exceed 20 nanograms per litre.

1.3. In the case of water used for the abstraction of drinking water, the HCH content must conform to the requirements of Directive 75/440/EEC [3].

2. In addition to the above requirements, HCH concentrations in inland surface waters must be determined by the national network referred to in Article 5 of this Directive and the results compared with a total HCH concentration of 50 nanograms per litre.

   If this concentration is not complied with at any one of the points on the national network, the reasons must be reported to the Commission.

3. The total concentration of HCH in sediments and/or molluscs and/or shellfish and/or fish must not increase significantly with time.

4. Where several quality objectives are applied to waters in an area, the quality of the waters must be sufficient to comply with each of those objectives

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[1] The concentrations indicated in 1.1 and 1.2 are the minimum requirements necessary to protect aquatic life from pollution within the meaning of Article 1 (2) (e) of Directive 76/464/EEC.

[2] With the exception of quality objective 1.3, all concentrations relate to the arithmetic mean of the results obtained over one year.

[3] Directive 75/440/EEC concerns the quality required of surface water intended for the abstraction of drinking water in the Member States (OJ No L 194, 25. 7. 1975, p. 26). It provides for a mandatory 'total pesticides' value (including HCH)

ANNEX III

METHODS OF MEASUREMENT

1. The reference method of analysis for determining the concentration of the substances in question in discharges and in waters will be gas chromotography with electron capture detection after extraction by means of an appropriate solvent and purification.

   The accuracy (1) and precision (1) of the method must be ± 50 % at a concentration which represents twice the value of the limit of detection.

   The limit of detection (1) must be :

   — in the case of discharges, one-tenth of the concentration required at the point of sampling ;

   — in the case of waters subject to a quality objective :

   (i) for inland surface waters, one-tenth of the concentration indicated in the quality objective ;

   (ii) for estuary waters and territorial sea waters, one-fifth of the concentration indicated in the quality objective ;

   — in the case of sediments, 1 µg/kg, dry weight ;

   — in the case of living organisms, 1 µg/kg, wet weight.

2. Effluent flow measurements must be carried out to an accuracy of ± 20 %.

(1) The definitions of these terms are given in Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States (OJ No L 271, 29. 10. 1979, p. 44).

ANNEX IV

PROCEDURE FOR MONITORING QUALITY OBJECTIVES

1. For each authorization granted pursuant to this Directive, the competent authority will specify the detailed rules monitoring procedure and time limits for ensuring compliance with the quality objective(s) concerned.

2. In accordance with Article 6 (3) of Directive 76/464/EEC, the Member States will, for each quality objective chosen and applied, report to the Commission on :

   — the points of discharge and the means of dispersal,

   — the area in which the quality objective is applied,

   — the location of sampling points,

   — the frequency of sampling,

   — the methods of sampling and measurement,

   — the results obtained.

3. Samples must be sufficiently representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, having regard in particular to natural variations in the water regime.

(as amended by the Act of Accession of Greece of 28 May 1979 (OJ L 291, 19.11.79, p. 17); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

COUNCIL DIRECTIVE

of 18 July 1978

on the quality of fresh waters needing protection or improvement in order to support fish life

(78/659/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the protection and improvement of the environment necessitates concrete measures to protect waters against pollution, including waters capable of supporting freshwater fish;

Whereas it is necessary from the ecological and economic viewpoint to safeguard fish populations from various harmful consequences, resulting from the discharge of pollutant substances into the waters, such as, in particular, the reduction in number of fish belonging to a certain species and even in some cases the disappearance of a number of these species;

Whereas the programmes of action of the European Communities on the environment of 1973 [3] and 1977 [4] provide that quality objectives are to be jointly drawn up fixing the various requirements which an environment must meet, *inter alia* the definition of parameters for water, including waters capable of supporting freshwater fish;

Whereas differences between the provisions already in force or in preparation in the various Member States as regards the quality of waters capable of supporting the life of freshwater fish may create unequal conditions of competition and thus directly affect the functioning of the common market; whereas laws in the field should be approximated as provided for by Article 100 of the Treaty;

Whereas it is necessary to couple this approximation of laws with Community action aiming to achieve, by means of wider-ranging provisions, one of the Community's objectives in the field of environmental protection and the improvement of the quality of life; whereas certain specific provisions must be laid down in this connection; whereas, since the specific powers of action required to this end have not been provided for in the Treaty, it is necessary to invoke Article 235 thereof;

Whereas, in order to attain the objectives of the Directive, the Member States will have to designate the waters to which it will apply and will have to set limit values corresponding to certain parameters; whereas action will be taken to ensure that the waters so designated will conform to these values within five years of this designation;

Whereas provision should be made that waters capable of supporting freshwater fish will, under certain conditions, be deemed to conform to the

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[1] OJ No C 30, 7. 2. 1977, p. 37.
[2] OJ No C 77, 30. 3. 1977, p. 2.
[3] OJ No C 112, 20. 12. 1973, p. 3.
[4] OJ No C 139, 13. 6. 1977, p. 3.

relevant parametric values even if a certain percentage of samples taken does not comply with the limits specified in the Annex;

Whereas to ensure that the quality of waters capable of supporting freshwater fish is checked, a minimum number of samples should be taken and the measurements relating to parameters set out in the Annex should be carried out; whereas such sampling may be reduced or discontinued in the light of the quality of the water;

Whereas the Member States are unable to control certain natural circumstances and it is therefore necessary to provide for the possibility of derogating from this Directive in certain cases;

Whereas technical and scientific progress may make necessary the rapid adaptation of certain of the requirements laid down in the Annexes to this Directive; whereas, in order to facilitate the introduction of the measures required for this purpose, a procedure should be laid down whereby close cooperation would be established between the Member States and the Commission within a Committee on Adaptation to Technical and Scientific Progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive concerns the quality of fresh waters and applies to those waters designated by the Member States as needing protection or improvement in order to support fish life.

2. This Directive shall not apply to waters in natural or artificial fish ponds used for intensive fish-farming.

3. The aim of this Directive is to protect or improve the quality of those running or standing fresh waters which support or which, if pollution were reduced or eliminated, would become capable of supporting fish belonging to:

— indigenous species offering a natural diversity, or

— species the presence of which is judged desirable for water management purposes by the competent authorities of the Member States.

4. For the purposes of this Directive:

— salmonid waters shall mean waters which support or become capable of supporting fish belonging to species such as salmon (Salmo salar), trout (Salmo trutta), grayling (Thymallus thymallus) and whitefish (Coregonus),

— cyprinid waters shall mean waters which support or become capable of supporting fish belonging to the cyprinids (Cyprinidae), or other species such as pike (Esox lucius), perch (Perca fluviatilis) and eel (Anguilla anguilla).

Article 2

1. The physical and chemical parameters applicable to the waters designated by the Member States are listed in Annex I.

2. For the purposes of applying these parameters, waters are divided into salmonid waters and cyprinid waters.

Article 3

1. Member States shall, for the designated waters, set values for the parameters listed in Annex I, in so far as values are listed in column G or in column I. They shall comply with the comments contained in each of these two columns.

2. Member States shall not set values less stringent than those listed in column I of Annex I and shall endeavour to respect the values in column G taking into account the principle set out in Article 8.

Article 4

1. Member States shall, initially within a two year period following the notification of this Directive, designate salmonid waters and cyprinid waters.

2. Member States may subsequently make additional designations.

3. Member States may revise the designation of certain waters owing to factors unforeseen at the time of designation, taking into account the principle set out in Article 8.

Article 5

Member States shall establish programmes in order to reduce pollution and to ensure that designated waters conform within five years following designation in accordance with Article 4 to both the values set by the Member States in accordance with Article 3 and the comments contained in columns G and I of Annex I.

Article 6

1. For the purposes of implementing Article 5, the designated waters shall be deemed to conform to the provisions of this Directive if samples of such waters, taken at the minimum frequency specified in Annex I at the same sampling point and over a period of 12 months, show that they conform to both the values set by the Member States in accordance with Article 3 and to the comments contained in columns G and I of Annex I, in the case of:

— 95 % of the samples for the parameters: pH, BOD_5, non-ionized ammonia, total ammonium, nitrites, total residual chlorine, total zinc, and dissolved copper. When the sampling frequency is lower than one sample per month, both the abovementioned values and comments shall be respected for all the samples,

— the percentages listed in Annex I for the parameters: temperature and dissolved oxygen,

— the average concentration set for the parameter: suspended solids.

2. Instances in which the values set by Member States in accordance with Article 3 or the comments contained in columns G and I of Annex I are not respected shall not be taken into consideration in the calculation of the percentages provided for in paragraph 1 when they are the result of floods or other natural disasters.

Article 7

1. The competent authorities in the Member States shall carry out sampling operations, the minimum frequency of which is laid down in Annex I.

2. Where the competent authority records that the quality of designated waters is appreciably higher than that which would result from the application of the values set in accordance with Article 3 and the comments contained in columns G and I of Annex I, the frequency of the sampling may be reduced. Where there is no pollution or no risk of deterioration in the quality of the waters, the competent authority concerned may decide that no sampling is necessary.

3. If sampling shows that a value set by a Member State in accordance with Article 3 or a comment contained in either of columns G or I of Annex I is not respected, the Member State shall establish whether this is the result of chance, a natural phenomenon or pollution and shall adopt appropriate measures.

4. The exact sampling point, the distance from this point to the nearest point where pollutants are discharged and the depth at which the samples are to be taken shall be fixed by the competent authority of each Member State on the basis of local environmental conditions in particular.

5. Certain reference methods of analysis for the parameters concerned are set out in Annex I. Laboratories which employ other methods shall ensure that the results obtained are equivalent or comparable to those specified in Annex I.

Article 8

Implementation of the measures taken pursuant to this Directive may on no account lead, either directly or indirectly, to increased pollution of fresh water.

Article 9

Member States may at any time set more stringent values for designated waters than those laid down in this Directive. They may also lay down provisions relating to other parameters than those provided for in this Directive.

Article 10

When fresh waters cross or form national frontiers between Member States and when one of these States considers designating these waters, these States shall consult each other in order to determine the stretches of such waters to which the Directive might apply and the consequences to be drawn from the common quality objectives; these consequences shall be determined, after formal consultations, by each State concerned. The Commission may participate in these deliberations.

Article 11

The Member States may derogate from this Directive:

(a) in the case of certain parameters marked (0) in Annex I, because of exceptional weather or special geographical conditions;

(b) when designated waters undergo natural enrichment in certain substances, so that the values set out in Annex I are not respected.

Natural enrichment means the process whereby, without human intervention, a given body of water receives from the soil certain substances contained therein.

Article 12

Such amendments as are necessary for adapting to technical and scientific progress:

— the G values for the parameters, and

— the methods of analysis,

contained in Annex I shall be adopted in accordance with the procedure laid down in Article 14.

Article 13

1. A Committee on Adaptation to Technical and Scientific Progress (hereinafter called 'the Committee'), consisting of representatives of Member States and chaired by a Commission representative, is hereby set up for the purpose laid down in Article 12.

2. The Committee shall draw up its rules of procedure.

Article 14

1. Where the procedure laid down in this Article is to be followed, matters shall be referred to the Committee by its chairman, either on his own initiative or at the request of the representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be adopted. The Committee shall deliver its opinion on the draft within a time limit set by the chairman having regard to the urgency of the matter. It shall act by a majority of 54 votes, the votes of the Member States being weighted as provided for in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall adopt the measures envisaged where they are in accordance with the opinion of the Committee.

(b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is adopted, the Commission shall without delay submit a proposal to the Council concerning the measures to be adopted. The Council shall act by a qualified majority.

(c) If, within three months of the proposals being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 15

For the purposes of applying this Directive, Member States shall provide the Commission with information concerning:

— the waters designated in accordance with Article 4 (1) and (2), in summary form,

— the revision of the designation of certain waters in accordance with Article 4 (3),

— the provisions laid down in order to establish new parameters in accordance with Article 9,

— the application of the derogations from the values listed in column I in Annex I.

More generally, Member States shall provide the Commission, on a reasoned request from the latter, with any information necessary for the application of this Directive.

Article 16

1. Member States shall, five years following the initial designation in accordance with Article 4 (1), and at regular intervals thereafter, submit a detailed report to the Commission on designated waters and the basic features thereof.

2. After prior consent has been obtained from the Member State concerned, the Commission shall publish the information obtained.

Article 17

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive.

Article 18

This Directive is addressed to the Member States.

Done at Brussels, 18 July 1978.

For the Council

The President

M. LAHNSTEIN

ANNEX I

LIST OF PARAMETERS

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
1. Temperature (°C)	1. Temperature measured downstream of a point of thermal discharge (at the edge of the mixing zone) must not exceed the unaffected temperature by more than: 1·5 °C | 3 °C Derogations limited in geographical scope may be decided by Member States in particular conditions if the competent authority can prove that there are no harmful consequences for the balanced development of the fish population 2. Thermal discharges must not cause the temperature downstream of the point of thermal discharge (at the edge of the mixing zone) to exceed the following): 21·5 (0) | 28 (0) 10 (0) | 10 (0) The 10 °C temperature limit applies only to breeding periods of species which need cold water for reproduction and only to waters which may contain such species Temperature limits may, however, be exceeded for 2 % of the time				Thermometry	Weekly, both upstream and downstream of the point of thermal discharge	Over-sudden variations in temperature shall be avoided

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
2. Dissolved oxygen (mg/l O_2)	50 % ⩾ 9 100 % ⩾ 7	50 % ⩾ 9 When the oxygen concentration falls below 6 mg/l, Member States shall implement the provisions of Article 7 (3). The competent authority must prove that this situation will have no harmful consequences for the balanced development of the fish population	50 % ⩾ 8 100 % ⩾ 5	50 % ⩾ 7 When the oxygen concentration falls below 4 mg/l, Member States shall implement the provisions of Article 7 (3). The competent authority must prove that this situation will have no harmful consequences for the balanced development of the fish population	Winkler's method or specific electrodes (electro-chemical method)	Monthly, minimum one sample representative of low oxygen conditions of the day of sampling However, where major daily variations are suspected, a minimum of two samples in one day shall be taken	
3. pH		6 to 9 (0) (1)		6 to 9 (0) (1)	Electrometry calibration by means of two solutions with known pH values, preferably on either side of, and close to the pH being measured	Monthly	
4. Suspended solids (mg/l)	⩽ 25 (0)		⩽ 25 (0)		Filtration through a 0·45 µm filtering membrane, or centrifugation (five minutes minimum, average acceleration of 2 800 to 3 200g) drying at 105 °C and weighing		The values shown are average concentrations and do not apply to suspended solids with harmful chemical properties Floods are liable to cause particularly high concentrations

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
5. BOD_5 (mg/l O_2)	<3		<6		Determination of O_2 by the Winkler method before and after five days incubation in complete darkness at 20 ± 1°C (nitrification should not be inhibited)		
6. Total phosphorus (mg/l P)					Molecular absorption spectrophotometry		In the case of lakes of average depth between 18 and 300 m, the following formula could be applied: $L < 10\frac{\bar{Z}}{Tw}(1 + \sqrt{Tw})$ where: L = loading expressed as mg P per square metre lake surface in one year $\bar{Z}$ = mean depth of lake in metres Tw = theoretical renewal time of lake water in years In other cases limit values of 0·2 mg/l for salmonid and of 0·4 mg/l for cyprinid waters, expressed as PO_4, may be regarded as indicative in order to reduce eutrophication
7. Nitrites (mg/l NO_2)	< 0·01		< 0·03		Molecular absorption spectrophotometry		

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
8. Phenolic compounds (mg/l C_6H_5OH)		(2)		(2)	By taste		An examination by taste shall be made onyl where the presence of phenolic compounds is presumed
9. Petroleum hydrocarbons		(3)		(3)	Visual By taste	Monthly	A visual examination shall be made regularly once a month, with an examination by taste only where the presence of hydrocarbons is presumed
10. Non-ionized ammonia (mg/l NH_3)	⩽ 0·005	⩽ 0·025	⩽ 0·005	⩽ 0·025	Molecular absorption spectrophotometry using indophenol blue or Nessler's method associated with pH and temperature determination	Monthly	Values for non-ionized ammonia may be exceeded in the form of minor peaks in the daytime
	In order to diminish the risk of toxicity due to non-ionized ammonia, of oxygen consumption due to nitrification and of eutrophication, the concentrations of total ammonium should not exceed the following:						
11. Total ammonium (mg/l NH_4)	⩽ 0·04	⩽ 1 (4)	⩽ 0·2	⩽ 1 (4)			
12. Total residual chlorine (mg/l HOCl)		⩽ 0·005		⩽ 0·005	DPD-method (diethyl-*p*-phenylenediamene)	Monthly	The I-values correspond to pH = 6 Higher concentrations of total chlorine can be accepted if the pH is higher

Parameter	Salmonid waters		Cyprinid waters		Methods of analysis or inspection	Minimum sampling and measuring frequency	Observations
	G	I	G	I			
13. Total zinc (mg/l Zn)		⩽ 0·3		⩽ 1·0	Atomic absorption spectrometry	Monthly	The I-values correspond to a water hardness of 100 mg/l $CaCO_3$ For hardness levels between 10 and 500 mg/l corresponding limit values can be found in Annex II
14. Dissolved copper (mg/l Cu)	⩽ 0·04		⩽ 0·04		Atomic absorption spectrometry		The G-values correspond to a water hardness of 100 mg/l $CaCO_3$ For hardness levels between 10 and 300 mg/l corresponding limit values can be found in Annex II

(1) Artificial pH variations with respect to the unaffected values shall not exceed ± 0·5 of a pH unit within the limits falling between 6·0 and 9·0 provided that these variations do not increase the harmfulness of other substances present in the water.

(2) Phenolic compounds must not be present in such concentrations that they adversely affect fish flavour.

(3) Petroleum products must not be present in water in such quantities that they:
- form a visible film on the surface of the water or form coatings on the beds of water-courses and lakes,
- impart a detectable 'hydrocarbon' taste to fish,
- produce harmful effects in fish.

(4) In particular geographical or climatic conditions and particularly in cases of low water temperature and of reduced nitrification or where the competent authority can prove that there are no harmful consequences for the balanced development of the fish population, Member States may fix values higher than 1 mg/l.

General observation:

It should be noted that the parametric values listed in this Annex assume that the other parameters, whether mentioned in this Annex or not, are favourable. This implies, in particular, that the concentrations of other harmful substances are very low.

Where two or more harmful substances are present in mixture, joint effects (additive, synergic or antagonistic effects) may be significant.

G = guide.

I = mandatory.

(0) = derogations are possible in accordance with Article 11.

ANNEX II

PARTICULARS REGARDING TOTAL ZINC AND DISSOLVED COPPER

Total zinc

(see Annex I, No 13, 'Observations' column)

Zinc concentrations (mg/l Zn) for different water hardness values between 10 and 500 mg/l $CaCO_3$:

	Water hardness (mg/l $CaCO_3$)			
	10	50	100	500
Salmonid waters (mg/l Zn)	0·03	0·2	0·3	0·5
Cyprinid waters (mg/l Zn)	0·3	0·7	1·0	2·0

Dissolved copper

(See Annex I, No 14, 'Observations' column)

Dissolved copper concentrations (mg/l Cu) for different water hardness values between 10 and 300 mg/l $CaCO_3$:

	Water hardness (mg/l $CaCO_3$)			
	10	50	100	300
mg/l Cu	0·005 (1)	0·022	0·04	0·112

(1) The presence of fish in waters containing higher concentrations of copper may indicate a predominance of dissolved organo-cupric complexes.

COUNCIL DIRECTIVE

of 30 October 1979

on the quality required of shellfish waters

(79/923/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the protection and improvement of the environment necessitate concrete measures to protect waters, including shellfish waters, against pollution;

Whereas it is necessary to safeguard certain shellfish populations from various harmful consequences, resulting from the discharge of pollutant substances into the sea;

Whereas the programmes of action of the European Communities on the environment of 1973 (4) and 1977 (5) provide that quality objectives are to be jointly drawn up fixing the various requirements which an environment must meet, *inter alia* the definition of parameters for water, including shellfish waters;

Whereas differences between the provisions already in force or in preparation in the various Member States as regards the quality required of shellfish waters may create unequal conditions of competition and thus directly affect the functioning of the common market; whereas laws in this field should therefore be approximated as provided for by Article 100 of the Treaty;

Whereas it is necessary to couple this approximation of laws with Community action aiming to achieve, by means of wider-ranging provisions, one of the Community's objectives in the field of environmental protection and the improvement of the quality of life; whereas certain specific provisions must be laid down in this connection; whereas, since the specific powers of action required to this end have not been provided for in the Treaty, it is necessary to invoke Article 235 thereof;

Whereas, in order to attain the objectives of the Directive, the Member States will have to designate the waters to which it will apply and will have to set limit values corresponding to certain parameters; whereas the waters so designated will have to conform to these values within six years of designation;

Whereas for the purpose of checking the quality required of shellfish waters, a minimum number of samples should be taken and the measurements relating to parameters set out in the Annex should be carried out; whereas such sampling may be reduced or discontinued in the light of the results of the measurements;

Whereas certain natural circumstances are beyond the control of the Member States and it is therefore necessary to provide for the possibility of derogating from this Directive in certain cases;

Whereas technical and scientific progress may make necessary the rapid adaptation of some of the requirements laid down in the Annexes; whereas, in order to facilitate the introduction of the measures required for this purpose, a procedure should be laid down establishing close cooperation between the Member States and the Commission; whereas such cooperation should take place in the Committee on Adaptation to Technical and Scientific Progress set up by Article 13 of the Council Directive 78/659/EEC of 18 July 1978 on the quality of fresh waters needing protection or improvement in order to support fish life (6);

Whereas this Directive cannot, by itself, ensure protection of consumers of shellfish products; whereas proposals to this end should therefore be submitted by the Commission as soon as possible,

(1) OJ No C 283, 30. 11. 1976, p. 3.
(2) OJ No C 133, 6. 6. 1977, p. 48.
(3) OJ No C 114, 11. 5. 1977, p. 29.
(4) OJ No C 112, 20. 12. 1973, p. 3.
(5) OJ No C 139, 13. 6. 1977, p. 3.
(6) OJ No L 222, 14 8. 1978, p. 1

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive concerns the quality of shellfish waters and applies to those coastal and brackish waters designated by the Member States as needing protection or improvement in order to support shellfish (bivalve and gasteropod molluscs) life and growth and thus to contribute to the high quality of shellfish products directly edible by man.

Article 2

The parameters applicable to the waters designated by the Member States are listed in the Annex.

Article 3

1. Member States shall, for the designated waters, set values for the parameters listed in the Annex, in so far as values are given in column G or in column I. They shall comply with the comments contained in both columns.

2. Member States shall not set values less stringent than those given in column I of the Annex and shall endeavour to observe the values in column G, while taking into account the principle set out in Article 8.

3. For discharges of effluents falling within parameters 'organohalogenated substances' and 'metals', the emission standards laid down by the Member States pursuant to Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [1] shall be applied at the same time as the quality objectives and the other obligations arising from this Directive, in particular those relating to sampling.

Article 4

1. Member States shall, initially within a two-year period following the notification of this Directive, designate shellfish waters.

2. Member States may subsequently make additional designations.

3. Member States may revise the designation of certain waters owing in particular to factors unforeseen at the time of designation, taking into account the principle set out in Article 8.

Article 5

Member States shall establish programmes in order to reduce pollution and to ensure that designated waters conform, within six years following designation in accordance with Article 4, to both the values set by the Member States in accordance with Article 3 and the comments contained in columns G and I of the Annex.

Article 6

1. For the purposes of implementing Article 5, the designated waters shall be deemed to conform to the provisions of this Directive if samples of such waters, taken at the minimum frequency specified in the Annex, at the same sampling point and over a period of 12 months, show that they conform to both the values set by the Member States in accordance with Article 3 and the comments contained in columns G and I of the Annex, as regards:

— 100 % of the samples for the parameters 'organohalogenated substances' and 'metals';

— 95 % of the samples for the parameters 'salinity' and 'dissolved oxygen';

— 75 % of the samples for the other parameters listed in the Annex.

If, in accordance with Article 7 (2), the sampling frequency for all the parameters in the Annex except 'organohalogenated substances' and 'metals' is lower than that indicated in the Annex, the abovementioned values and comments shall be complied with in the case of all the samples.

2. Instances in which the values set by Member States in accordance with Article 3 or the comments contained in columns G and I of the Annex are not respected shall not be taken into consideration in the calculation of the percentages provided for in paragraph 1 when it is the result of a disaster.

Article 7

1. The competent authorities in the Member States shall carry out sampling operations, the minimum frequency of which is laid down in the Annex.

2. Where the competent authority records that the quality of designated waters is appreciably higher than that which would result from the application of the values set in accordance with Article 3 and the comments contained in columns G and I of the Annex, the frequency of the sampling may be reduced. Where there is no pollution and no risk of deterioration in the quality of the waters, the competent authority concerned may decide that no sampling is necessary.

3. If sampling shows that a value set in accordance with Article 3 or a comment contained in columns G or I of the Annex is not respected, the competent authority shall establish whether this is the result of

[1] OJ No L 129, 18. 5. 1976, p. 23.

chance, a natural phenomenon or pollution and shall adopt appropriate measures.

4. The exact sampling point, the distance from this point to the nearest point where pollutants are discharged and the depth at which the samples are to be taken shall be fixed by the competent authority of each Member State on the basis of local environmental conditions in particular.

5. The reference methods of analysis to be used for calculating the value of the parameters concerned are set out in the Annex. Laboratories which employ other methods shall ensure that the results obtained are equivalent or comparable to those specified in the Annex.

Article 8

Implementation of the measures taken pursuant to this Directive may on no account lead, either directly or indirectly, to increased pollution of coastal and brackish waters.

Article 9

Member States may at any time set more stringent values for designated waters than those laid down in this Directive. They may also lay down provisions relating to other parameters than those provided for in this Directive.

Article 10

Where a Member State considers designating shellfish waters in the immediate vicinity of a frontier with another Member State, these States shall consult each other in order to determine the stretches of such waters to which this Directive might apply and the consequences to be drawn from the common quality objectives; these consequences shall be determined, after formal consultations, by each State concerned. The Commission may participate in these deliberations.

Article 11

The Member States may derogate from this Directive in the event of exceptional weather or geographical conditions.

Article 12

Such amendments as are necessary for adapting to technical and scientific progress the G values for the parameters and the methods of analysis contained in the Annex shall be adopted by the Committee set up by Article 13 of Directive 78/659/EEC in accordance with the procedure laid down in Article 14 thereof.

Article 13

For the purpose of applying this Directive, Member States shall provide the Commission with information concerning:

— the waters designated in accordance with Article 4 (1) and (2), in summary form,

— the revision of the designation of certain waters in accordance with Article 4 (3),

— the provisions laid down in order to establish new parameters in accordance with Article 9.

Where a Member State applies the provisions of Article 11, it shall forthwith notify the Commission thereof, stating its reasons and the periods anticipated.

More generally, Member States shall provide the Commission, on a reasoned request from the latter, with any information necessary for the application of this Directive.

Article 14

1. Member States shall, six years following the initial designation in accordance with Article 4 (1), and at regular intervals thereafter, submit a detailed report to the Commission on designated waters and the basic features thereof.

2. The Commission shall, with the prior consent of the Member State, publish the information obtained.

Article 15

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive.

Article 16

This Directive is addressed to the Member States.

Done at Luxembourg, 30 October 1979.

For the Council

The President

M. O'KENNEDY

ANNEX

QUALITY OF SHELLFISH WATERS

	Parameter	G	I	Reference methods of analysis	Minimum sampling and measuring frequency
1.	pH pH unit		7 — 9	— Electrometry Measured *in situ* at the time of sampling	Quarterly
2.	Temperature °C	A discharge affecting shellfish waters must not cause the temperature of the waters to exceed by more than 2 °C the temperature of waters not so affected		— Thermometry Measured *in situ* at the time of sampling	Quarterly
3.	Coloration (after filtration) mg Pt/l		A discharge affecting shellfish waters must not cause the colour of the waters after filtration to deviate by more than 10 mg Pt/l from the colour of waters not so affected	— Filter through a 0·45 µm membrane Photometric method, using the platinum/cobalt scale	Quarterly
4.	Suspended solids mg/l		A discharge affecting shellfish waters must not cause the suspended solid content of the waters to exceed by more than 30 % the content of waters not so affected	— Filtration through a 0·45 µm membrane, drying at 105 °C and weighing — Centrifuging (for at least five minutes, with mean acceleration 2 800 to 3 200 *g*), drying at 105 °C and weighing	Quarterly
5.	Salinity ‰	12 to 38 ‰	— ⩽ 40 ‰ — Discharge affecting shellfish waters must not cause their salinity to exceed by more than 10 % the salinity of waters not so affected	Conductimetry	Monthly

	Parameter	G	I	Reference methods of analysis	Minimum sampling and measuring frequency
6.	Dissolved oxygen Saturation %	⩾ 80 %	— ⩾ 70 % (average value) — Should an individual measurement indicate a value lower than 70 %, measurements shall be repeated — An individual measurement may not indicate a value of less than 60 % unless there are no harmful consequences for the development of shellfish colonies	— Winkler's method — Electrochemical method	Monthly, with a minimum of one sample representative of low oxygen conditions on the day of sampling. However, where major daily variations are suspected, a minimum of two samples in one day shall be taken
7.	Petroleum hydrocarbons		Hydrocarbons must not be present in the shellfish water in such quantities as to : — produce a visible film on the surface of the water and/or a deposit on the shellfish, — have harmful effects on the shellfish	Visual examination	Quarterly
8.	Organohalogenated substances	The concentration of each substance in shellfish flesh must be so limited that it contributes, in accordance with Article 1, to the high quality of shellfish products	The concentration of each substance in the shellfish water or in shellfish flesh must not reach or exceed a level which has harmful effects on the shellfish and larvae	Gas chromatograpny after extraction with suitable solvents and purification	Half-yearly
9.	*Metals* Silver Ag Arsenic As Cadmium Cd Chromium Cr Copper Cu Mercury Hg Nickel Ni Lead Pb Zinc Zn mg/l	The concentration of each substance in shellfish flesh must be so limited that it contributes in accordance with Article 1, to the high quality of shellfish products	The concentration of each substance in the shellfish water or in the shellfish flesh must not exceed a level which gives rise to harmful effects on the shellfish and their larvae The synergic effects of these metals must be taken into consideration	Spectrometry of atomic absorption preceded, where appropriate, by concentration and/or extraction	Half-yearly

	Parameter	G	I	Reference methods of analysis	Minimum sampling and measuring frequency
10.	Faecal coliforms/100 ml	⩽ 300 in the shellfish flesh and intervalvular liquid (1)		Method of dilution with fermentation in liquid substrates in at least three tubes in three dilutions. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number). Incubation temperature 44 °C ± 0·5 °C	Quarterly
11.	Substances affecting the taste of the shellfish		Concentration lower than that liable to impair the taste of the shellfish	Examination of the shellfish by tasting where the presence of one of these substances is presumed	
12.	Saxitoxin (produced by dinoflagellates)				

Abbreviations

G = guide

I = mandatory

(1) However, pending the adoption of a Directive on the protection of consumers of shellfish products, it is essential that this value be observed in waters in which live shellfish directly edible by man

COUNCIL DIRECTIVE

of 16 June 1975

concerning the quality required of surface water intended for the abstraction of drinking water in the Member States

(75/440/EEC)

(as amended by Council Directive 79/869/EEC of 9 October 1979 concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States (OJ L 271, 29.10.79, p. 44))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament [1];

Having regard to the Opinion of the Economic and Social Committee [2];

Whereas the increasing use of water resources for the abstraction of water for human consumption necessitates a reduction in the pollution of water and its protection against subsequent deterioration;

Whereas it is necessary to protect public health and, to this end, to exercise surveillance over surface water intended for the abstraction of drinking water and over the purification treatment of such water;

Whereas any disparity between the provisions on the quality required of surface water intended for the abstraction of drinking water already applicable or in preparation in the various Member States may create unequal conditions of competition and thus directly affect the functioning of the common market; whereas it is therefore necessary to approximate laws in this field as provided for in Article 100 of the Treaty;

Whereas it seems necessary for this approximation of laws to be accompanied by Community action so that one of the aims of the Community in the sphere of protection of the environment and improvement of the quality of life can be achieved by wider regulations; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked as the powers required for this purpose have not been provided by the Treaty;

Whereas the programme of action of the European Communities on the environment [3] provides that quality objectives are to be jointly drawn up fixing the various requirements which an environment must meet *inter alia* the definition of parametric values for water, including surface water intended for the abstraction of drinking water;

Whereas the joint fixing of minimum quality requirements for surface water intended for the abstraction of drinking water precludes neither more stringent requirements in the case of such water otherwise utilized nor the requirements imposed by aquatic life;

Whereas it will be necessary to review in the light of new technical and scientific knowledge the parametric values defining the quality of surface water used for the abstraction of drinking water;

Whereas the methods currently being worked out for water sampling and for measuring the parameters defining the physical, chemical and microbiological characteristics of surface water intended for the abstraction of drinking water are to be covered by a Directive to be adopted as soon as possible,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive concerns the quality requirements which surface fresh water used or intended for use in the abstraction of drinking water, hereinafter called 'surface water', must meet after application of appropriate treatment. Ground water, brackish water and water intended to replenish

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[1] OJ No C 62, 30. 5. 1974, p. 7.
[2] OJ No C 109, 19. 9. 1974, p. 41.
[3] OJ No C 112, 20. 12. 1973, p. 3.

water-bearing beds shall not be subject to this Directive.

2. For the purposes of applying this Directive, all surface water intended for human consumption and supplied by distribution networks for public use shall be considered to be drinking water.

Article 2

For the purposes of this Directive surface water shall be divided according to limiting values into three categories, A1, A2 and A3, which correspond to the appropriate standard methods of treatment given in Annex I. These groups correspond to three different qualities of surface water, the respective physical, chemical and microbiological characteristics of which are set out in the table given in Annex II.

Article 3

1. Member States shall set, for all sampling points, or for each individual sampling point, the values applicable to surface water for all the parameters given in Annex II.

Member States may refrain from setting the values of parameters in respect of which no value is shown, in the table in Annex II, pursuant to the first subparagraph pending determination of the figures in accordance with the procedure under Article 9.

2. The values set pursuant to paragraph 1 may not be less stringent than those given in the 'I' columns of Annex II.

3. Where values appear in the 'G' columns of Annex II, whether or not there is a corresponding value in the 'I' columns of that Annex, Member States shall endeavour to respect them as guidelines, subject to Article 6.

Article 4

1. Member States shall take all necessary measures to ensure that surface water conforms to the values laid down pursuant to Article 3. Each Member State shall apply this Directive without distinction to national waters and waters crossing its frontiers.

2. In line with the objectives of this Directive, Member States shall take the necessary measures to ensure continuing improvement of the environment. To this end, they shall draw up a systematic plan of action including a timetable for the improvement of surface water and especially that falling within category A3. In this context, considerable improvements are to be achieved under the national programmes over the next 10 years.

The timetable referred to in the first subparagraph will be drawn up in the light of the need to improve the quality of the environment, and of water in particular, and the economic and technical constraints which exist or which may arise in the various regions of the Community.

The Commission will carry out a thorough examination of the plans referred to in the first subparagraph, including the timetables, and will, if necessary, submit appropriate proposals to the Council.

3. Surface water having physical, chemical and microbiological characteristics falling short of the mandatory limiting values corresponding to treatment type A3 may not be used for the abstraction of drinking water. However, such lower quality water may, in exceptional circumstances, be utilized provided suitable processes — including blending — are used to bring the quality characteristics of the water up to the level of the quality standards for drinking water. The Commission must be notified of the grounds for such exceptions, on the basis of a water resources management plan within the area concerned, as soon as possible, in the case of existing installations, and in advance, in the case of new installations. The Commission will examine these grounds in detail and, where necessary, submit appropriate proposals to the Council.

Article 5

1. For the purposes of Article 4 surface water shall be assumed to conform to the relevant parameters if samples of this water taken at regular intervals at the same sampling point and used in the abstraction of drinking water show that it complies with the parametric values for the water quality in question, in the case of:

— 95 % of the samples for parameters conforming to those specified in the 'I' columns in Annex II,

— 90 % of the samples in all other cases,

and if in the case of the 5 or 10 % of the samples which do not comply:

(a) the water does not deviate from the parametric values in question by more than 50 %, except

for temperature, pH, dissolved oxygen and microbiological parameters;

(b) there can be no resultant danger to public health;

(c) consecutive water samples taken at statistically suitable intervals do not deviate from the relevant parametric values.

2. Pending a Community policy on the matter, the frequency of sampling and the analysis of each parameter, together with the methods of measu-

[deleted]

the population served, the degree of risk engendered by the quality of the water and seasonal variations in the quality.

3. Higher values than the parametric values for the water quality in question, shall not be taken into consideration in the calculation of the percentages referred to in paragraph 1 when they are the result of floods or natural disasters or abnormal weather conditions.

4. Sampling shall mean the place at which surface water is abstracted before being sent for purification treatment.

Article 6

Member States may at any time fix more stringent values for surface water than those laid down in this Directive.

Article 7

Implementation of the measures taken pursuant to this Directive may under no circumstances lead either directly or indirectly to deterioration of the current quality of surface water.

Article 8

This Directive may be waived:

(a) in the case of floods or other natural disasters;

(b) in the case of certain parameters marked (O) in Annex II because of exceptional meteorological or geographical conditions;

(c) where surface water undergoes natural enrichment in certain substances as a result of which it would exceed the limits laid down for categories A1, A2 and A3 in the table in Annex II;

(d) in the case of surface water in shallow lakes or virtually stagnant surface water, for parameters marked with an asterisk in the table in Annex II, this derogation being applicable only to lakes with a depth not exceeding 20 m, with an exchange of water slower than one year, and without a discharge of waste water into the water body.

Natural enrichment means the process whereby, without human intervention, a given body of water receives from the soil certain substances contained therein.

In no case may the exceptions provided for in the first subparagraph disregard the requirements of public health protection.

Where a Member State waives the provisions of this Directive, it shall forthwith notify the Commission thereof, stating its reasons and the periods anticipated.

Article 9

The numerical values and the list of parameters given in the table in Annex II, defining the physical, chemical and microbiological characteristics of surface water may be revised either at the request of a Member State or on a proposal from the Commission, whenever technical and scientific knowledge regarding methods of treatment is extended or drinking water standards are modified.

Article 10

Member States shall bring into force the laws, regulations and administrative provisions needed in order to comply with this Directive within two years of its notification. They shall forthwith inform the Commission thereof.

Article 11

This Directive is addressed to the Member States.

Done at Luxembourg, 16 June 1975.

For the Council

The President

R. RYAN

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* **Ed. note:** The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))

ANNEX I

Definition of the standard methods of treatment for transforming surface water of categories A1, A2 and A3 into drinking water

Category A1

Simple physical treatment and disinfection, e.g. rapid filtration and disinfection.

Category A2

Normal physical treatment, chemical treatment and disinfection, e.g. pre-chlorination, coagulation, flocculation, decantation, filtration, disinfection (final chlorination).

Category A3

Intensive physical and chemical treatment, extended treatment and disinfection e.g. chlorination to break-point, coagulation, flocculation, decantation, filtration, adsorption (activated carbon), disinfection (ozone, final chlorination).

ANNEX II

Characteristics of surface water intended for the abstraction of drinking water

	Parameters		A1 G	A1 I	A2 G	A2 I	A3 G	A3 I
1	pH		6·5 to 8·5		5·5 to 9		5·5 to 9	
2	Coloration (after simple filtration)	mg/l Pt scale	10	20 (O)	50	100 (O)	50	200 (O)
3	Total suspended solids	mg/l SS	25					
4	Temperature	° C	22	25 (O)	22	25 (O)	22	25 (O)
5	Conductivity	$\mu s/cm^{-1}$ at 20 °C	1 000		1 000		1 000	
6	Odour	(dilution factor at 25 °C)	3		10		20	
7*	Nitrates	mg/l NO_3	25	50 (O)		50 (O)		50 (O)
8 (1)	Fluorides	mg/l F	0·7 to 1	1·5	0·7 to 1·7		0·7 to 1·7	
9	Total extractable organic chlorine	mg/l Cl						
10*	Dissolved iron	mg/l Fe	0·1	0·3	1	2	1	
11*	Manganese	mg/l Mn	0·05		0·1		1	
12	Copper	mg/l Cu	0·02	0·05 (O)	0·05		1	
13	Zinc	mg/l Zn	0·5	3	1	5	1	5
14	Boron	mg/l B	1		1		1	
15	Beryllium	mg/l Be						
16	Cobalt	mg/l Co						
17	Nickel	mg/l Ni						
18	Vanadium	mg/l V						
19	Arsenic	mg/l As	0·01	0·05		0·05	0·05	0·1
20	Cadmium	mg/l Cd	0·001	0·005	0·001	0·005	0·001	0·005
21	Total chromium	mg/l Cr		0·05		0·05		0·05
22	Lead	mg/l Pb		0·05		0·05		0·05
23	Selenium	mg/l Se		0·01		0·01		0·01
24	Mercury	mg/l Hg	0·0005	0·001	0·0005	0·001	0·0005	0·001
25	Barium	mg/l Ba		0·1		1		1
26	Cyanide	mg/l Cn		0·05		0·05		0·05

	Parameters		A1 G	A1 I	A2 G	A2 I	A3 G	A3 I
27	Sulphates	mg/l SO_4	150	250	150	250 (O)	150	250 (O)
28	Chlorides	mg/l Cl	200		200		200	
29	Surfactants (reacting with methyl blue)	mg/l (laurylsulphate)	0·2		0·2		0·5	
30* (2)	Phosphates	mg/l P_2O_5	0·4		0·7		0·7	
31	Phenols (phenol index) paranitraniline 4 aminoantipyrine	mg/l C_6H_5OH		0·001	0·001	0·005	0·01	0·1
32	Dissolved or emulsified hydrocarbons (after extraction by petroleum ether)	mg/l		0·05		0·2	0·5	1
33	Polycyclic aromatic hydrocarbons	mg/l		0·0002		0·0002		0·001
34	Total pesticides (parathion, BHC, dieldrin)	mg/l		0·001		0·0025		0·005
35*	Chemical oxygen demand (COD)	mg/l O_2					30	
36*	Dissolved oxygen saturation rate	% O_2	> 70		> 50		> 30	
37*	Biochemical oxygen demand (BOD_5) (at 20 °C without nitrification)	mg/l O_2	< 3		< 5		< 7	
38	Nitrogen by Kjeldahl method (except NO_3)	mg/l N	1		2		3	
39	Ammonia	mg/l NH_4	0·05		1	1·5	2	4 (O)
40	Substances extractable with chloroform	mg/l SEC	0·1		0·2		0·5	
41	Total organic carbon	mg/l C						
42	Residual organic carbon after flocculation and membrane filtration (5 μ) TOC	mg/l C						
43	Total coliforms 37 °C	/100 ml	50		5 000		50 000	
44	Faecal coliforms	/100 ml	20		2 000		20 000	
45	Faecal streptococci	/100 ml	20		1 000		10 000	
46	Salmonella		Not present in 5 000 ml		Not present in 1 000 ml			

I = mandatory.
G = guide.
O = exceptional climatic or geographical conditions.
* = see Article 8 (d).

(1) The values given are upper limits set in relation to the mean annual temperature (high and low).
(2) This parameter has been included to satisfy the ecological requirements of certain types of environment.

COUNCIL DIRECTIVE

of 9 October 1979

concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States

(79/869/EEC)

(as amended by Council Directive 81/855/EEC of 19 October 1981 consequent upon the accession of Greece (OJ L 319, 7.11.81, p. 16); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission [1],

Having regard to the opinion of the European Parliament [2],

Having regard to the opinion of the Economic and Social Committee [3],

Whereas the programme of action of the European Communities on the environment [4] provides for the standardization or harmonization of the measuring methods used, so as to render the results of pollution measurements in the Community comparable;

Whereas Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States [5], and in particular Article 5 (2) thereof, provides for adoption of a Community policy regarding the frequency of sampling and analysis of parameters, together with methods of measurement;

Whereas any disparity between the provisions already applicable or in preparation in the various Member States concerning methods of measurement and the frequency of sampling and analysis for each parameter to determine the quality of surface water may create unequal conditions of competition and consequently directly affect the functioning of the common market; whereas it is therefore necessary to approximate the laws in this field, under Article 100 of the Treaty;

Whereas it seems necessary for this approximation of laws to be accompanied by Community action designed to achieve through more comprehensive legislation one of the objectives of the Community in the sphere of protection of the environment and improvement of the quality of life; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked, as the powers required for this purpose have not been provided by the Treaty;

Whereas, for the analyses carried out in the Member States, it is necessary to fix common reference methods of measurement to determine the values of the parameters defining the physical, chemical and microbiological characteristics of surface water intended for the abstraction of drinking water;

Whereas, for the purpose of monitoring the required quality, it is necessary to take a regular minimum number of samples of surface water in order that the

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(1) OJ No C 208, 1. 9. 1978, p. 2.
(2) OJ No C 67, 12. 3. 1979, p. 48.
(3) OJ No C 128, 21. 5. 1979, p. 4.
(4) OJ No C 112, 20. 12. 1973, p. 1.
(5) OJ No L 194, 25. 7. 1975, p. 34.

parameters specified in Annex II to Directive 75/440/EEC may be measured;

Whereas the minimum frequency of sampling and analysis for each parameter should increase in proportion to the volume of water abstracted and the population served; whereas the frequency should increase with the degree of risk engendered by the deterioration of the quality of the water;

Whereas technical and scientific progress may necessitate the rapid adjustment of some of the requirements defined in Annex I to this Directive, in order to take account, in particular, of alterations in the levels of the parameters specified in Annex II to Directive 75/440/EEC; whereas, in order to facilitate implementation of the necessary measures, a procedure should be laid down for establishing close collaboration between the Member States and the Commission in a Committee on Adaptation to Technical and Scientific Progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive concerns the reference methods of measurement and frequencies of sampling and analysis for the parameters listed in Annex II to Directive 75/440/EEC.

Article 2

For the purposes of this Directive:

— 'reference method of measurement' means the designation of a measurement principle or a succinct description of a procedure for determining the value of the parameters listed in Annex I to this Directive,

— 'limit of detection' means the minimum value of the parameter examined which it is possible to detect,

— 'precision' means the range within which 95% of the results of measurements made on a single sample, using the same method, are located,

— 'accuracy' means the difference between the true value of the parameter examined and the average experimental value obtained.

Article 3

1. Analysis of samples of water taken shall concern those parameters set out in Annex II to Directive 75/440/EEC to which I and/or G values have been assigned.

2. Member States shall as far as possible use the reference methods of measurement referred to in Annex I to this Directive.

3. The values for the limit of detection and for the precision and accuracy of the methods of measurement used to check the parameters set out in Annex I to this Directive must be respected.

Article 4

1. The minimum annual frequencies of sampling and analysis for each parameter are set out in Annex II to this Directive. Sampling must as far as possible be spread over the year so as to give a representative picture of the quality of the water.

2. Surface water samples must be representative of the quality of the water at the sampling point as defined in Article 5 (4) of Directive 75/440/EEC.

Article 5

The containers used for samples, the agents or methods used to preserve part of a sample for the analysis of one or more parameters, the conveyance and storage of samples and the preparation of samples for analysis must not be such as to bring about any significant change in the results of the analysis.

Article 6

1. The competent authorities of the Member States shall fix frequencies of sampling and analysis for each parameter for each sampling point.

2. The frequencies of sampling and analysis shall be not less than the minimum annual frequencies given in Annex II to this Directive.

Article 7

1. Where a survey by the competent authorities of surface water intended for the abstraction of drinking water shows that the values obtained for certain parameters are considerably superior to those set by the Member States in accordance with Annex II to Directive 75/440/EEC, the Member State concerned may reduce the frequency of sampling and analysis for these parameters.

2. If there is no pollution in the cases referred to in paragraph 1 and if there is no risk of the quality of water deteriorating and if the water in question is superior in quality to the indications given in column

A1 of Annex II to Directive 75/440/EEC, the authorities concerned may decide that no regular analysis is necessary.

Article 8

1. For the purposes of applying this Directive, the Member States shall provide the Commission at its request with all relevant information on:

— the methods of analysis used,

— the frequency of analysis.

2. The Commission shall at regular intervals draw up a consolidated report based on the information so gathered.

Article 9

To take account in particular of alterations in the levels of the parameters specified in Annex II to Directive 75/440/EEC, the amendments required to adapt:

— the reference methods of measurement set out in Annex I to this Directive,

— the limit of detection, the precision and the accuracy of these methods,

— the materials recommended for the container

to technical progress, shall be adopted in accordance with the procedure set out in Article 11 of this Directive.

Article 10

1. A Committee on Adaptation to Technical and Scientific Progress (hereinafter referred to as the 'Committee'), consisting of representatives of the Member States and chaired by a Commission representative, is hereby set up for the purpose laid down in Article 9.

2. The Committee shall draw up its rules of procedure.

Article 11

1. Where the procedure laid down in this Article is to be followed, matters shall be referred to the Committee by its chairman, either on his own initiative or at the request of the representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be adopted. The Committee shall deliver its opinion on the draft within a time limit set by the chairman in the light of the urgency of the matter. It shall act by a majority of 54 votes, the votes of the Member States being weighted as provided for in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) The Commission shall adopt the measures envisaged where they are in accordance with the opinion of the Committee.

(b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is adopted, the Commission shall without delay submit a proposal to the Council concerning the measures to be adopted. The Council shall act by a qualified majority.

(c) If, within three months of the proposals being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 12

1. Directive 75/440/EEC is hereby amended as follows:

(a) Article 5 (2) shall be deleted;

(b) in Article 5 (3) the words 'those referred to in paragraph 2' shall be replaced by the words 'the parametric values for the water quality in question'.

2. Paragraph 1 shall take effect within two years of the notification of this Directive.

Article 13

The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification. They shall forthwith inform the Commission thereof.

Article 14

This Directive is addressed to the Member States.

Done at Luxembourg, 9 October 1979.

For the Council

The President

D. O'MALLEY

Ed. note: The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))

ANNEX I

Reference method of measuring the I and/or G values of the parameters in Council Directive 75/440/EEC

(A)	(B)		(C)	(D)	(E)	(F)	(G)
	Parameter		Limit of detection	Precision -	Accuracy -	Reference method of measurement	Materials recommended for the container
1	pH	pH unit	—	0·1	0·2	— Electrometry Measured *in situ* at the time of sampling without prior treatment of the sample	
2	Coloration (after simple filtration)	mg Pt/l	5	10 %	20 %	— Filtering through a glass fibre membrane Photometric method using the platinum-cobalt scale	
3	Total suspended solids	mg/l	—	5 %	10 %	— Filtering through a 0·45 μm filter membrane, drying at 105 °C and weighing — Centrifuging (for at least 5 mins with mean acceleration of 2 800 to 3 200 g), drying at 105 °C and weighing	
4	Temperature	°C	—	0·5	1	— Thermometry Measured *in situ* at the time of sampling without prior treatment of the sample	
5	Conductivity at 20 °C	μs/cm	—	5 %	10 %	— Electrometry	
6	Odour	Dilution factor at 25 °C	—	—	—	— By successive dilutions	Glass
7	Nitrates	mg/l NO_3	2	10 %	20 %	— Molecular absorption spectrophotometry	
8	Fluorides	mg/l F	0·05	10 %	20 %	— Molecular absorption spectrophotometry after distillation if necessary — Ion selective electrodes	
9	Total extractable organic chlorine	mg/l Cl					

(A)	(B)	(C)	(D)	(E)	(F)	(G)
10	Dissolved iron mg/l Fe	0·02	10 %	20 %	— Atomic absorption spectrophotometry after filtering through a filter membrane (0·45 μm) — Molecular absorption spectrophotometry after filtering through a 0·45 μm filter membrane	
11	Manganese mg/l Mn	0·01 (2)	10 %	20 %	— Atomic absorption spectrophotometry	
		0·02 (3)	10 %	20 %	— Atomic absorption spectrophotometry — Molecular absorption spectrophotometry	
12	Copper (10) mg/l Cu	0·005	10 %	20 %	— Atomic absorption spectrophotometry — Polarography	
		0·02 (4)	10 %	20 %	— Atomic absorption spectrophotometry — Molecular absorption spectrophotometry — Polarography	
13	Zinc (10) mg/l Zn	0·01 (2)	10 %	20 %	— Atomic absorption spectrophotometry	
		0·02	10 %	20 %	— Atomic absorption spectrophotometry — Molecular absorption spectrophotometry	
14	Boron (10) mg/l B	0·1	10 %	20 %	— Molecular absorption spectrophotometry — Atomic absorption spectrophotometry	Materials not containing boron in any significant quantities
15	Beryllium mg/l Be					
16	Cobalt mg/l Co					
17	Nickel mg/l Ni					
18	Vanadium mg/l V					
19	Arsenic (10) mg/l As	0·002 (2)	20 %	20 %	— Atomic absorption spectrophotometry	
		0·01 (5)			— Atomic absorption spectrophotometry — Molecular absorption spectrophotometry	

(A)	(B)		(C)	(D)	(E)	(F)	(G)
20	Cadmium [10]	mg/l cd	0·0002 0·001 [5]	30 %	30 %	— Atomic absorption spectrophotometry — Polarography	
21	Total chromium [10]	mg/l Cr	0·01	20 %	30 %	— Atomic absorption spectrophotometry — Molecular absorption spectrophotometry	
22	Lead [10]	mg/l Pb	0·01	20 %	30 %	— Atomic absorption spectrophotometry — Polarography	
23	Selenium [10]	mg/l Se	0 005			— Atomic absorption spectrophotometry	
24	Mercury [10]	mg/l Hg	0·0001 0·0002 [5]	30 %	30 %	— Flameless atomic absorption spectrophotometry (cold vaporization)	
25	Barium [10]	mg/l Ba	0·02	15 %	30 %	— Atomic absorption spectrophotometry	
26	Cyanide	mg/l CN	0·01	20 %	30 %	— Molecular absorption spectrophotometry	
27	Sulphates	mg/l SO_4	10	10 %	10 %	— Gravimetric analysis — EDTA complexiметry — Molecular absorption spectrophotometry	
28	Chlorides	mg/l Cl	10	10 %	10 %	— Titration (Mohr's method) — Molecular absorption spectrophotometry	
29	Surfactants (reacting with methylene blue)	mg/l (Lauryl Sulphate)	0·05	20 %		— Molecular absorption spectrophotometry	
30	Phosphates	mg/l P_2O_5	0·02	10 %	20 %	— Molecular absorption spectrophotometry	
31	Phenols (phenol index)	mg/l C_6H_5OH	0 0005 0 001 [6]	0·0005 30 %	0·0005 50 %	— Molecular absorption spectrophotometry 4 aminoantipyrine method — Paranitraniline method	Glass
32	Dissolved or emulsified hydrocarbons	mg/l	0 01 0·04 [3]	20 %	30 %	— Infra-red spectrometry after extraction by carbon tetrachloride — Gravimetry after extraction by petroleum ether	Glass

(A)	(B)	(C)	(D)	(E)	(F)	(G)
33	Polycyclic aromatic hydrocarbons [10] mg/l	0·00004	50 %	50 %	— Measurement of fluorescence in the UV after thin layer chromatography Comparative measurement in relation to a mixture of six control substances with the same concentration [8]	Glass or aluminium
34	Total pesticides (parathion, hexachloro-cyclohexane, dieldrin) [10] mg/l	0 0001	50 %	50 %	— Gas or liquid chromatography after extraction by suitable solvents and purification Identification of the constituents of the mixture Quantitative analysis [9]	Glass
35	Chemical oxygen demand (COD) mg/l O_2	15	20 %	20 %	— Potassium dichromate method	
36	Dissolved oxygen saturation rate %	5	10 %	10 %	— Winkler's method	Glass
					— Electrochemical method	
37	Biochemical oxygen demand (BOD_5) at 20 °C without nitrification mg/l O_2	2	1 5	2	— Determination of dissolved oxygen before and after five-day incubation at 20 °C ± 1 °C, in complete darkness Addition of a nitrification inhibitor	
38	Nitrogen by Kjeldahl method (except in NO_2 and NO_3) mg/l N	0 3	0 5	0 5	— Mineralization, distillation by Kjeldahl method and ammonium determination by means of molecular absorption spectrophotometry or titration	
39	Ammonium mg/l NH_4	0·01 [2] 0 1 [3]	0 03 [2] 10 % [3]	0 03 [2] 20 % [3]	— Molecular absorption spectrophotometry	
40	Substances extractable with chloroform mg/l	[11]	—	—	— Extraction at neutral pH value by purified chloroform, evaporation in vacuo at room temperature, weighing of residue	
41	Total organic carbon mg/l C					
42	Residual organic carbon after flocculation and membrane filtration (5 μm) mg/l C					

(A)	(B)	(C)	(D)	(E)	(F)	(G)
43	Total coliforms /100 ml	5 (2) 500 (7)			— Culture at 37 °C on an appropriate specific solid medium (such as Tergitol lactose agar, Endo agar, 0·4 % Teepol broth) with filtration (2) or without filtration (7) and colony count. Samples must be diluted or, where appropriate, concentrated in such a way as to contain between 10 and 100 colonies. If necessary, identification by gasification. — Method of dilution with fermentation in liquid substrates in at least three tubes in three dilutions. Sub-culturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number). Incubation temperature: 37 °C ± 1 °C.	Sterilized glass
		5 (2) 500 (7)				
44	Faecal coliforms /100 ml	2 (2) 200 (7)			— Culture at 44 °C on an appropriate specific solid medium (such as Tergitol lactose agar, Endo agar, 0·4 % Teepol broth) with filtration (2) or without filtration (7) and colony count. Samples must be diluted or, where appropriate, concentrated in such a way as to contain between 10 and 100 colonies. If necessary, identification by gasification. — Method of dilution with fermentation in liquid substrates in at least three tubes in three dilutions. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number). Incubation temperature 44 °C ± 0·5 °C	Sterilized glass
		2 (2) 200 (7)				
45	Faecal streptococci /100 ml	2 (2) 200 (7)			— Culture at 37 °C on an appropriate solid medium (such as sodium azide) with filtration (2) or without filtration (7) and colony count. Samples must be diluted or, where appropriate, concentrated in such a way as to contain between 10 and 100 colonies. — Method of dilution in sodium azide broth in at least three tubes with three dilutions. Count according to MPN (most probable number)	Sterilized glass
		2 (2) 200 (7)				

(A)	(B)	(C)	(D)	(E)	(F)	(G)
46	Salmonella ([12])	1/5 000 ml 1/1 000 ml			— Concentraion by filtration (on membrane or appropriate filter). — Innoculation into pre-enrichment medium. Enrichment and transfer into isolating gelese — Identification.	Sterilized glass

([1]) Surface water samples taken at the abstraction point are analysed and measured after sieving (wire mesh sieve) to remove any floating debris such as wood or plastic

([2]) For waters of Category A1, G value

([3]) For waters of Categories A2 and A3

([4]) For waters of Category A3

([5]) For waters of Categories A1, A2 and A3, I value.

([6]) For waters of Categories A2, I value and A3

([7]) For waters of Categories A2 and A3, G value

([8]) Mixture of six standard substances all of the same concentration to be taken into consideration. fluoranthene; 3, 4 benzofluoranthene; 11, 12-benzofluoranthene; 3, 4-benzopyrene; 1, 12-benzoperylene; indano /1, 2, 3 - cd/ pyrene.

([9]) Mixture of three substances all of the same concentration to be taken into consideration: parathion, hexachlorocyclohexane, dieldrin

([10]) If the samples contain so much suspended matter as to require special preliminary treatment, the accuracy values shown in column E in this Annex may as an exception be exceeded and will be regarded as a target. These samples must be treated so as to ensure that the analysis covers the largest quantity of substances to be measured.

([11]) As this method is not in current use in all the Member States, it is not certain that the limit of detection required for checking the values in Directive 75/440/EEC can be attained.

([12]) Absence in 5 000 ml (A1, G) and absence in 1 000 ml (A2, G).

ANNEX II

Minimum annual frequency of sampling and analysis for each parameter in Directive 75/440/EEC

Population served	A1 (*)			A2 (*)			A3 (*)		
	I (**)	II (**)	III (**)	I (**)	II (**)	III (**)	I (**)	II (**)	III (**)
≤ 10 000	(***)	(***)	(***)	(***)	(***)	(***)	2	1	(***) (1)
> 10 000 to ≤ 30 000	1	1	(***)	2	1	(***)	3	1	1
> 30 000 to ≤ 100 000	2	1	(***)	4	2	1	6	2	1
> 100 000	3	2	(***)	8	4	1	12	4	1

(*) Quality of surface waters, Annex II Directive 75/440/EEC.
(**) Classification of parameters according to frequency
(***) Frequency to be determined by the competent national authorities

(1) Assuming that such surface water is intended for the abstraction of drinking water, the Member States are recommended to carry out at least annual sampling of this category of water (A3, III, ≤ 10 000)

CATEGORIES

I		II		III	
Parameter		Parameter		Parameter	
1	pH	10	Dissolved iron	8	Fluorides
2	Coloration	11	Manganese	14	Boron
3	Total suspended solids	12	Copper	19	Arsenic
4	Temperature	13	Zinc	20	Cadmium
5	Conductivity	27	Sulphates	21	Total chromium
6	Odour	29	Surfactants	22	Lead
7	Nitrates	31	Phenols	23	Selenium
28	Chlorides	38	Nitrogen by Kjeldahl method	24	Mercury
30	Phosphates	43	Total coliforms	25	Barium
35	Chemical oxygen demand (COD)	44	Faecal coliforms	26	Cyanide
36	Dissolved oxygen saturation rate			32	Dissolved or emulsified hydrocarbons
37	Biochemical oxygen demand (BOD5)			33	Polycyclic aromatic hydrocarbons
39	Ammonium			34	Total pesticides
				40	Substances extractable with chloroform
				45	Faecal streptococci
				46	Salmonella

COUNCIL DIRECTIVE

of 15 July 1980

relating to the quality of water intended for human consumption

(80/778/EEC)

(as amended by Council Directive 81/858/EEC of 19 October 1981 consequent upon the accession of Greece (OJ L 319, 7.11.81, p. 19); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas, in view of the importance for public health of water for human consumption, it is necessary to lay down quality standards with which such water must comply;

Whereas a disparity between provisions already applicable or in the process of being drawn up in the various Member States relating to the quality of water for human consumption may create differences in the conditions of competition and, as a result, directly affect the operation of the common market; whereas laws in this sphere should therefore be approximated as provided for in Article 100 of the Treaty;

Whereas this approximation of laws should be accompanied by Community action designed to achieve, by more extensive rules concerning water for human consumption, one of the aims of the Community with regard to the improvement of living conditions, the harmonious development of economic activities throughout the Community and a continuous and balanced expansion; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked as the necessary powers have not been provided for by the Treaty;

Whereas the 1973 [3] and 1977 [4] programmes of action of the European Communities on the environment provide for both the setting of standards to apply to toxic chemical substances and to bacteria presenting a health hazard which are present in water intended for human consumption and the definition of physical, chemical and biological parameters corresponding to the different uses of water and, in particular, to water for human consumption;

Whereas special rules are envisaged for natural mineral waters; whereas, furthermore, it is necessary to exclude from the scope of this Directive medicinal waters and certain waters used in the food industry where such use does not constitute a hazard to public health;

Whereas by Directive 75/440/EEC [5], the Council has already laid down standards for surface water intended for the abstraction of drinking water;

Whereas the values fixed for certain parameters must be equal to or lower than a maximum admissible concentration;

Whereas, in the case of softened water intended for human consumption, the values fixed for certain parameters must be equal to or greater than a required minimum concentration;

Whereas it is desirable that he Member States should take the values adopted as a 'guide level';

Whereas, since the preparation of water for human consumption may involve the use of certain substances, rules should be drawn up to govern the use thereof in order to avoid possible harmful effects on public health due to excessive quantities of such substances;

Whereas the Member States should be authorized to make provision, under certain conditions, for derogations from this Directive, in particular to take account of certain special situations;

Whereas, in order to check the values of concentrations for the different parameters, it is necessary to provide that Member States take the steps required to ensure

(1) OJ No C 28, 9. 2. 1976, p. 27.
(2) OJ No C 131, 12. 6. 1976, p. 13.
(3) OJ No C 112, 20. 12. 1973, p. 1.
(4) OJ No C 69, 11. 6. 1970, p. 1.
(5) OJ No L 194, 25. 7. 1975, p. 34.

regular monitoring of the quality of water intended for human consumption;

Whereas the reference methods of analysis defined in the Annexes to this Directive must be speedily adapted to scientific and technical progress; whereas, in order to facilitate application of the measures required for this purpose, provision should be made for a procedure establishing close cooperation between the Member States and the Commission within a committee responsible for the adaptation to scientific and technical progress,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive concerns standards for water intended for human consumption.

Article 2

For the purposes of this Directive, water intended for human consumption shall mean all water used for that purpose, either in its original state or after treatment, regardless of origin,

— whether supplied for consumption, or

— whether

  — used in a food production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption and

  — affecting the wholesomeness of the foodstuff in its finished form.

Article 3

With regard to water referred to in the second indent of Article 2, Member States shall apply the values for the toxic and microbiological parameters lised in Tables D and E respectively of Annex I and the values for the other parameters which the competent national authorities consider are likely to affect the wholesomeness of the foodstuff in its finished form.

Article 4

1. This Directive shall not apply to:

(a) natural mineral waters recognized or defined as such by the competent national authorities;

(b) medicinal waters recognized as such by the competent national authorities.

2. Member States may not prohibit or impede the marketing of foodstuffs on grounds relating to the quality of the water used where the quality of such water meets the requirements of this Directive unless such marketing constitutes a hazard to public health.

Article 5

This Directive shall apply without prejudice to the specific provisions of other Community regulations.

Article 6

1. Member States shall send the Commission:

— appropriate information as to the industrial sectors in which the competent national authorities consider that the wholesomeness of the finished product, within the meaning of Article 2, is unaffected by the quality of the water used;

— national values for parameters other than the toxic and microbiological parameters referred to in Article 3.

2. The Commission shall examine this information and shall take any measures which may be appropriate. It shall periodically draw up a comprehensive report for the Member States.

Article 7

1. Member States shall fix values applicable to water intended for human consumption for the parameters shown in Annex I.

2. Member States may refrain from fixing, pursuant to the first paragraph, the values of parameters in respect of which no value is shown in Annex I, as long as these values have not been determined by the Council.

3. For the parameters given in Tables A, B, C, D, and E of Annex I:

— the values to be fixed by the Member States must be less than or the same as the values shown in the 'Maximum admissible concentration' column;

— in fixing the values, Member States shall take as a basis the values appearing in the 'Guide level' column.

4. For the parameters appearing in Table F of Annex I, the values to be fixed by Member States must be not lower than those given in the 'Minimum required concentration' column for softened water, of the kind referred to in the first indent of Article 2.

5. In the interpretation of the values shown in Annex I account shall be taken of the observations.

6. Member States shall take the steps necessary to ensure that water intended for human consumption at least meets the requirements specified in Annex I.

Article 8

Member States shall take all the necessary measures to ensure that any substances used in the preparation of water for human consumption do not remain in concentrations higher than the maximum admissible concentration relating to these substances in water made available to the user and, that they do not, either directly or indirectly, constitute a public health hazard.

Article 9

1. Member States may make provision for derogations from this Directive in order to take account of:

(a) situations arising from the nature and structure of the ground in the area from which the supply in question emanates.

Where a Member State decides to make such a derogation, it shall inform the Commission accordingly within two months of its decision stating the reasons for such derogation;

(b) situations arising from exceptional meteorological conditions.

Where a Member State decides to make such a derogation, it shall inform the Commission accordingly within 15 days of its decision stating the reasons for this derogation and its duration.

2. Member States shall report to the Commission only those derogations referred to in paragraph 1 which relate to a daily water supply of at least 1 000 m^3 or a population of at least 5 000.

3. In no case shall the derogations made by virtue of this Article relate to toxic or microbiological factors or constitute a public health hazard.

Article 10

1. In the event of emergencies, the competent national authorities may, for a limited period of time and up to a maximum value to be determined by them, allow the maximum admissible concentration shown in Annex I to be exceeded, provided that this does not constitute an unacceptable risk to public health and provided that the supply of water for human consumption cannot be maintained in any other way.

2. Without prejudice to the application of Directive 75/440/EEC, and in particular Article 4 (3) thereof, when, for its supply of drinking water, a Member State is obliged to resort to surface water which does not reach the concentrations required of category A3 water within the meaning of Article 2 of the aforementioned Directive and when it cannot devise suitable treatment to obtain drinking water of the quality laid down by this Directive, it may, for a limited period of time and up to a maximum permissible value which it shall determine, authorize the maximum admissible concentration shown in Annex I to be exceeded provided that this does not constitute an unacceptable risk to public health.

3. Member States which have recourse to the derogations referred to in this Article shall immediately inform the Commission thereof, stating the reasons for and probable duration of such derogations.

Article 11

Member States shall ensure that all necessary measures taken to apply the provisions taken pursuant to this Directive shall in no case have the effect of allowing, directly or indirectly, either any deterioration in the present quality of water intended for human consumption or an increase in the pollution of waters used for the production of drinking water.

Article 12

1. Member States shall take all necessary steps to ensure regular monitoring of the quality of water intended for human consumption.

2. All water intended for human consumption shall be monitored at the point where it is made available to the user in order to check whether it meets the requirements laid down in Annex I.

3. The points of sampling shall be determined by the competent national authorities.

4. For such monitoring, Member States shall conform with Annex II.

5. Member States shall as far as practicable use the reference methods of analysis set out in Annex III.

Laboratories using other methods shall ensure that the results thus obtained are equivalent to or comparable with the results obtained by the methods indicated in Annex III.

Article 13

Such changes as are necessary for adapting the reference methods of analysis set out in Annex III to scientific and technical progress shall be adopted in accordance with the procedure laid down in Article 15.

Article 14

(a) A Committee on the Adaptation to Scientific and Technical Progress, hereinafter called 'the Committee', is hereby set up; it shall consist of representatives of the Member States with a representative of the Commission as chairman.

(b) The Committee shall adopt its own rules of procedure.

Article 15

1. Where the procedure laid down in this Article is to be followed, the matter shall be referred to the Committee by its chairman, either on his own initiative or at the request of a representative of a Member State.

2. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall give its opinion on that draft within a time limit set by the chairman having regard to the urgency of the matter. Opinions shall be adopted by a majority of 54 votes, the votes of the Member States being weighted as provided in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) Where the measures envisaged are in accordance with the opinion of the Committee, the Commission shall adopt them.

(b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall without delay submit to the Council a proposal on the measures to be taken. The Council shall act by a qualified majority.

(c) If, within three months of the proposal being submitted to it, the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 16

Without prejudice to Article 4 (2), Member States may lay down more stringent provisions than those provided for in this Directive for water intended for human consumption.

Article 17

Member States may adopt special provisions regarding information — both on packaging or labels and in advertising — concerning a water's suitability for the feeding of infants. Such provisions may also concern the properties of the water which determine the use of the said information.

Member States which intend taking such measures shall inform the other Member States and the Commission of them beforehand.

Article 18

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive and its Annexes within two years following its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field governed by this Directive.

Article 19

The Member States shall take the necessary measures to ensure that the quality of water intended for human consumption complies with this Directive within five years of its notification.

Article 20

Member States may, in exceptional cases and for geographically defined population groups, submit a special request to the Commission for a longer period for complying with Annex I.

This request, for which grounds must be duly put forward, shall set out the difficulties experienced and must propose an action programme with an appropriate timetable to be undertaken for the improvement of the quality of water intended for human consumption.

The Commission shall examine these programmes, including the timetables. In the case of disagreement with the Member State concerned, the Commission shall submit appropriate proposals to the Council.

Article 21

This Directive is addressed to the Member States.

Done at Brussels, 15 July 1980.

For the Council

The President

J. SANTER

Ed. note: **The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))**

Ed. note: The deadline for compliance with this Directive has been extended for Portugal until 1 January 1989. (Act of Accession of Spain and Portugal of 12.6.85, Annex XXXVI Chap. III.2 (OJ L 302, 15.11.85, p. 9))

ANNEX I

LIST OF PARAMETERS

A. ORGANOLEPTIC PARAMETERS

	Parameters	Expression of the results (1)	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
1	Colour	mg/l Pt/Co scale	1	20	
2	Turbidity	mg/l SiO_2 Jackson units	1 0·4	10 4	— Replaced in certain circumstances by a transparency test, with a Secchi disc reading in meters: GL: 6 m MAC: 2 m
3	Odour	Dilution number	0	2 at 12 °C 3 at 25 °C	— To be related to the taste tests.
4	Taste	Dilution number	0	2 at 12 °C 3 at 25 °C	— To be related to the odour tests.

(1) If, on the basis of Directive 71/354/EEC as last amended, a Member State uses in its national legislation, adopted in accordance with this Directive, units of measurement other than these indicated in this Annex, the values thus indicated must have the same degree of precision.

B. PHYSICO-CHEMICAL PARAMETERS (in relation to the water's natural structure)

	Parameters	Expression of the results ( )	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
5	Temperature	°C	12	25	
6	Hydrogen ion concentration	pH unit	$6·5 \leq pH \leq 8·5$		— The water should not be aggressive. — The pH values do not apply to water in closed containers. — Maximum admissible value: 9·5.
7	Conductivity	$\mu S\ cm^{-1}$ at 20 °C	400		— Corresponding to the mineralization of the water. — Corresponding relativity values in ohms/cm: 2 500.

	Parameters	Expression of the results	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
8	Chlorides	Cl mg/l	25		— Approximate concentration above which effects might occur: 200 mg/l.
9	Sulphates	SO_4 mg/l	25	250	
10	Silica	SiO_2 mg/l			— See Article 8.
11	Calcium	Ca mg/l	100		
12	Magnesium	Mg mg/l	30	50	
13	Sodium	Na mg/l	20	175 (as from 1984 and with a percentile of 90) 150 (as from 1987 and with a percentile of 80) (these percentiles should be calculated over a reference period of three years)	— The values of this parameter take account of the recommendations of a WHO working party (The Hague, May 1978) on the progressive reduction of the current total daily salt intake to 6 g. — As from 1 January 1984 the Commission will submit to the Council reports on trends in the total daily intake of salt per population. — In these reports the Commission will examine to what extent the 120 mg/l MAC suggested by the WHO working party is necessary to achieve a satisfactory total salt intake level, and, if appropriate, will suggest a new salt MAC value to the Council and a deadline for compliance with that value. — Before 1 January 1984 the Commission will submit to the Council a report on whether the reference period of three years for calculating these percentiles is scientifically well founded.
14	Potassium	K mg/l	10	12	
15	Aluminium	Al mg/l	0·05	0·2	
16	Total hardness				— See Table F, page 23.
17	Dry residues	mg/l after drying at 180 °C		1 500	
18	Dissolved oxygen	% O_2 saturation			— Saturation value >75 % except for underground water.
19	Free carbon dioxide	CO_2 mg/l			— The water should not be aggressive.

C. PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNTS (1)

	Parameters	Expression of the results (1)	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
20	Nitrates	NO_3 mg/l	25	50	
21	Nitrites	NO_2 mg/l		0·1	
22	Ammonium	NH_4 mg/l	0·05	0·5	
23	Kjeldahl Nitrogen (excluding N in NO_2 and NO_3)	N mg/l		1	
24	(K Mn O_4) Oxidizability	O_2 mg/l	2	5	— Measured when heated in acid medium.
25	Total organic carbon (TOC)	C mg/l			— The reason for any increase in the usual concentration must be investigated.
26	Hydrogen sulphide	S µg/l		undetectable organoleptically	
27	Substances extractable in chloroform	mg/l dry residue	0·1		
28	Dissolved or emulsified hydrocarbons (after extraction by petroleum ether); Mineral oils	µg/l		10	
29	Phenols (phenol index)	C_6H_5OH µg/l		0·5	— Excluding natural phenols which do not react to chlorine.
30	Boron	B µg/l	1 000		
31	Surfactants (reacting with methylene blue)	µg/l (lauryl sulphate)		200	

(1) Certain of these substances may even be toxic when present in very substantial quantities.

	Parameters	Expression of the results	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
32	Other organochlorine compounds not covered by parameter No 55	µg/l	1		— Haloform concentrations must be as low as possibile.
33	Iron	Fe µg/l	50	200	
34	Manganese	Mn µg/l	20	50	
35	Copper	Cu µg/l	100 — at outlets of pumping and/or treatment works and their substations 3000 — after the water has been standing for 12 hours in the piping and at the point where the water is made available to the consumer		— Above 3 000 µg/l astringent tast discolouration + corrosion may occur.
36	Zinc	Zn µg/l	100 — at outlets of pumping and/or treatment works and their substations 5 000 — after the water has been standing for 12 hours in the piping and at the point where the water is made available to the consumer		— Above 5 000 µg/l astringent taste, opalescence and sand-like deposits may occur.
37	Phosphorus	P_2O_5 µg/l	400	5 000	

	Parameters	Expression of the results	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
38	Fluoride	F µg/l 8 — 12 °C 25 — 30 °C		 1 500 700	— MAC varies according to average temperature in geographical area concerned.
39	Cobalt	Co µg/l			
40	Suspended solids		None		
41	Residual Chlorine	Cl µg/l			— See Article 8.
42	Barium	Ba µg/l	100		
43	Silver	Ag µg/l		10	If, exceptionally, silver is used non-systematically to process the water, a MAC value of 80 µg/l may be authorized.

D. PARAMETERS CONCERNING TOXIC SUBSTANCES

	Parameters	Expression of the results	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
44	Arsenic	As µg/l		50	
45	Beryllium	Be µg/l			
46	Cadmium	Cd µg/l		5	
47	Cyanides	CN µg/l		50	
48	Chromium	Cr µg/l		50	
49	Mercury	Hg µg/l		1	
50	Nickel	Ni µg/l		50	
51	Lead	Pb µg/l		50 (in running water)	Where lead pipes are present, the lead content should not exceed 50 µg/l in a sample taken after flushing. If the sample is taken either directly or after flushing and the lead content either frequently or to an appreciable extent exceeds 100 µg/l, suitable measures must be taken to reduce the exposure to lead on the part of the consumer.

	Parameters	Expression of the results	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
52	Antimony	Sb µg/l		10	
53	Selenium	Se µg/l		10	
54	Vanadium	V µg/l			
55	Pesticides and related products	µg/l			'Pesticides and related products' means:
	— substances considered separately			0·1	— insecticides: — persistent organochlorine compounds — organophosphorous compounds — carbamates
	— total			0·5	— herbicides — fungicides — PCBs and PCTs
56	Polycyclic aromatic hydrocarbons	µg/l		0·2	— reference substances: — fluoranthene/benzo 3·4 — fluoranthene/benzo 11·12 — fluoranthene/benzo 3·4 — pyrene/benzo 1·12 — perylene/indeno (1, 2, 3 – cd) pyrene

E. MICROBIOLOGICAL PARAMETERS

	Parameters	Results: volume of the sample in ml	Guide level (GL)	Maximum admissible concentration (MAC)	
				Membrane filter method	Multiple tube method (MPN)
57	Total coliforms (1)	100	—	0	MPN < 1
58	Fecal coliforms	100	—	0	MPN < 1
59	Fecal streptococci	100	—	0	MPN < 1
60	Sulphite-reducing Clostridia	20	—	—	MPN ≤ 1

Water intended for human consumption should not contain pathogenic organisms.

If it is necessary to supplement the microbiological analysis of water intended for human consumption, the samples should be examined not only for the bacteria referred to in Table E but also for pathogens including:

— salmonella,
— pathogenic staphylococci,
— fecal bacteriophages,
— entero-viruses;

nor should such water contain:

— parasites,
— algas,
— other organisms such as animalcules.

(1) Provided a sufficient number of samples is examined (95 % consistent results).

	Parameters		Results: size of sample (in ml)	Guide level (GL)	Maximum admissible concentration (MAC)	Comments
61	Total bacteria counts for water supplied for human consumption	37 °C	1	10 (1) (2)	—	
		22 °C	1	100 (1) (2)	—	
62	Total bacteria counts for water in closed containers	37 °C	1	5	20	On their own responsibility and where parameters 57, 58, 59 and 60 are complied with, and where the pathogen organisms given on page 22 are absent, Member States may process water for their internal use the total bacteria count of which exceeds the MAC values laid down for parameter 62. MAC values should be measured within 12 hours of being put into closed containers with the sample water being kept at a constant temperature during that 12-hour period.
		22 °C	1	20	100	

(1) For disinfected water the corresponding values should be considerably lower at the point where it leaves the processing plant.
(2) If, during successive sampling, any of these values is consistently exceeded a check should be carried out.

F. MINIMUM REQUIRED CONCENTRATION FOR SOFTENED WATER INTENDED FOR HUMAN COMSUMPTION

	Parameters	Expression of the results	Minimum required concentration (softened water)	Comments
1	Total hardness	mg/l Ca	60	Calcium or equivalent cations.
2	Hydrogen ion concentration	pH		The water should not be aggressive.
3	Alkalinity	mg/l HCO_3	30	
4	Dissolved oxygen			

NB: — The provisions for hardness, hydrogen ion concentration, dissolved oxygen and calcium also apply to desalinated water.
— If, owing to its excessive natural hardness, the water is softened in acordance with Table F before being supplied for consumption, its sodium content may, in exceptional cases, be higher than the values given in the 'Maximum admissible concentration' column. However, an effort must be made to keep the sodium content at as low a level as possible and the essential requirements for the protection of public health may not be disregarded.

TABLE OF CORRESPONDENCE BETWEEN THE VARIOUS UNITS OF WATER HARDNESS MEASUREMENT

	French degree	English degree	German degree	Milligrams of Ca	Millimoles of Ca
French degree	1	0·70	0·56	4·008	0·1
English degree	1·43	1	0·80	5·73	0·143
German degree	1·79	1·25	1	7·17	0·179
Milligrams of Ca	0·25	0·175	0·140	1	0·025
Millimoles of Ca	10	7	5·6	40·08	1

ANNEX II

PATTERNS AND FREQUENCY OF STANDARD ANALYSES

A. TABLE OF STANDARD PATTERN ANALYSES (Parameters to be considered in monitoring)

	Standard analyses / Parameters to be considered	Minimum monitoring (C 1)	Current monitoring (C 2)	Periodic monitoring (C 3)	Occasional monitoring in special situations or in case of accidents (C 4)
A	ORGANOLEPTIC PARAMETERS	– odour (1) – taste (1)	– odour – taste – turbidity (appearance)	Current monitoring analyses + other parameters as in footnote 4	The competent national authorities of the Member States will determine the parameters (5) according to circumstances, taking account of all factors which might have an adverse affect on the quality of drinking water supplied to consumers.
B	PHYSICO-CHEMICAL PARAMETERS	– conductivity or other physico-chemical parameter – residual chlorine (3)	– temperature (2) – conductivity or other physico-chemical parameter – pH – residual chlorine (3)		
C	UNDESIRABLE PARAMETERS		– nitrates – nitrites – ammonia		
D	TOXIC PARAMETERS				
E	MICRO-BIOLOGICAL PARAMETERS	– total coliforms or total counts of 22° and 37° – fecal coliforms	– total coliforms – fecal coliforms – total counts of 22° and 37°		

Note: An initial analysis, to be carried out before a source is exploited, should be added. The parameters to be considered would be the current monitoring analyses plus *inter alia* various toxic or undesirable substances presumed present. The list would be drawn up by the competent national authorities.

(1) Qualitative assessment.

(2) Except for water supplied in containers.

(3) Or other disinfectants and only in the case of treatment.

(4) These parameters will be determined by the competent national authority, taking account of all factors which might affect the quality of drinking water supplied to users and which could enable the ionic balance of the constituents to be assessed.

(5) The competent national authority may use parameters other than those mentioned in Annex I to this Directive.

B. TABLE OF MINIMUM FREQUENCY OF STANDARD ANALYSES (3)

Volume of water produced or distributed in m³/day	Population concerned (assuming 200 l/day per person)	Analysis C 1	Analysis C 2	Analysis C 3	Analysis C 4
		Number of samples per year	Number of samples per year	Number of samples per year	
100	500	(1)	(1)	(1)	Frequency to be determined by the competent national authorities as the situation requires
1 000	5 000	(1)	(1)	(1)	
2 000	10 000	12	3	(1)	
10 000	50 000	60	6	1	
20 000	100 000	120	12	2	
30 000	150 000	180	18	3	
60 000	300 000	360 (2)	36	6	
100 000	500 000	360 (2)	60	10	
200 000	1 000 000	360 (2)	120 (2)	20 (2)	
1 000 000	5 000 000	360 (2)	120 (2)	20 (2)	

(1) Frequency left to the discretion of the competent national authorities. However, water intended for the food-manufacturing industries must be monitored at least once a year.

(2) The competent health authorities should endeavour to increase this frequency as far as their resources allow.

(3) (a) In the case of water which must be disinfected, microbiological analysis should be twice as frequent.
(b) Where analyses are very frequent, it is advisable to take samples at the most regular intervals possible.
(c) Where the values of the results obtained from samples taken during the preceding years are constant and significantly better than the limits laid down in Annex I, and where no factor likely to cause a deterioration in the quality of the water has been discovered, the minimum frequencies of the analyses referred to above may be reduced:
— for surface waters, by a factor of 2 with the exception of the frequencies laid down for microbiological analyses;
— for ground waters, by a factor of 4, but without prejudice to the provisions of point (a) above.

ANNEX III

REFERENCE METHODS OF ANALYSIS

A. ORGANOLEPTIC PARAMETERS

1	Colour	Photometric method calibrated on the Pt/co scale.
2	Turbidity	Silica method — Formazine test — Secchi's method.
3	Odour	Successive dilutions, tested at 12 °C or 25 °C.
4	Taste	Successive dilutions, tested at 12 °C or 25 °C.

B. PHYSICO-CHEMICAL PARAMETERS

5	Temperature	Thermometry.
6	Hydrogen ion concentration	Electrometry.
7	Conductivity	Electrometry.
8	Chlorides	Titrimetry — Mohr's method.
9	Sulphates	Gravimetry — complexometry — spectrophotometry.
10	Silica	Absorption spectrophotometry.
11	Calcium	Atomic absorption — complexometry.
12	Magnesium	Atomic absorption.
13	Sodium	Atomic absorption.
14	Potassium	Atomic absorption.
15	Aluminium	Atomic absorption — absorption spectrophotometry.
16	Total hardness	Complexometry.
17	Dry residue	Dessication at 180 °C and weighing.
18	Dissolved oxygen	Winkler's method — Specific electrode method.
19	Free carbon dioxide	Acidimetry.

C. PARAMETERS CONCERNING UNDESIRABLE SUBSTANCES

20	Nitrates	Absorption spectrophotometry — Specific electrode method.
21	Nitrites	Absorption spectrophotometry.
22	Ammonium	Absorption spectrophotometry.
23	Kjeldahl Nitrogen	Oxidation with Titrimetry or Absorption spectrophotometry.
24	Oxidizability	Boiling for 10 minutes with $KMnO_4$ in acid medium.
25	Total organic carbon (TOC)	—

26 Hydrogen sulphide	Absorption spectrophotometry.
27 Substances extractable in chloroform	Liquid/liquid extraction using purified chloroform at neutral pH, weighing the residue.
28 Hydrocarbons (dissolved or in emulsion); Mineral oils	Infra-red absorption spectrophotometry.
29 Phenols (phenol index)	Absorption spectrophotometry, paranitroaniline method and 4-aminoantipyrine method.
30 Boron	Atomic absorption — Absorption spectrophotometry.
31 Surfactants (reacting with metylene blue)	Absorption spectrophotometry with methylene blue.
32 Other organo-chlorine compounds	Gas-phase or liquid-phase chromatography after extraction by appropriate solvents and purification — Identification of the constituents of mixtures if necessary. Quantitative determination.
33 Iron	Atomic absorption — Absorption spectrophotometry.
34 Manganese	Atomic absorption — Absorption spectrophotometry.
35 Copper	Atomic absorption — Absorption spectrophotometry.
36 Zinc	Atomic absorption — Absorption spectrophotometry.
37 Phosphorus	Absorption spectrophotometry.
38 Fluoride	Absorption spectrophotometry — Specific electrode method.
39 Cobalt	—
40 Suspended solids	Method of filtration on to μ 0·45 porous membrane or centrifuging (for at least 15 minutes with an average acceleration of 2 800 to 3 200 g) dried at 105 °C and weighed.
41 Residual chlorine	Titrimetry — Absorption spectrophotometry.
42 Barium	Atomic absorption.

D. PARAMETERS CONCERNING TOXIC SUBSTANCES

43 Silver	Atomic absorption.
44 Arsenic	Absorption spectrophotometry — Atomic absorption.
45 Beryllium	—
46 Cadmium	Atomic absorption.
47 Cyanides	Absorption spectrophotometry.
48 Chromium	Atomic absorption — Absorption spectrophotometry.
49 Mercury	Atomic absorption.
50 Nickel	Atomic absorption.
51 Lead	Atomic absorption.
52 Antimony	Absorption spectrophotometry.

53 Selenium	Atomic absorption.
54 Vanadium	—
55 Pesticides and related products	See method 32.
56 Polycyclic aromatic hydrocarbons	Measurement of intensity of fluorescence ultraviolet after extraction using hexane — gas-phase chromatography or measurement in ultraviolet after thin layer chromatography — Comparative measurements against a mixture of six standard substances of the same concentration (1).

E. MICROBIOLOGICAL PARAMETERS

57 (2) Total coliforms 58 (2) Fecal coliforms	Fermentation in mutliple tubes. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number) or Membrane filtration and culture on an appropriate medium such as Tergitol lactose agar, endo agar, 0·4 % Teepol broth, subculturing and identification of the suspect colonies — Incubation temperature for total coliforms: 37 °C Incubation temperature for fecal coliforms: 44 °C
59 (2) Fecal streptococci	Sodium azide method (Litsky). Count according to MPN — Membrane filtration and culture on an appropriate medium.
60 (2) Sulphite-reducing Clostridia	A spore count, after heating the sample to 80 °C by: — seeding in a medium with glucose, sulphite and iron, counting the black-halo colonies; — membrane filtration, deposition of the inverted filter on a medium with glucose, sulphite and iron covered with agar, count of black colonies; — distribution in tubes of differential reinforced clostridial medium (DRCM), subculturing of the black tubes in a medium of litmus-treated milk, count according to MPN.
61/62 (2) Total counts	Inoculation by placing in nutritive agar.

ADDITIONAL TESTS

Salmonella	Concentration by membrane filtration. Inoculation on a pre-enriched medium. Enrichment, subculturing on isolating agar. Identification.
Pathogenic staphylococci	Membrane filtration and culture on a specific medium (e.g. Chapman's hypersaline medium). Test for pathogenic characteristics.

(1) Standard substances to be considered: fluoranthene/benzo-3,4, fluoranthene/benzo-11,12, fluoranthene/benzo-3,4, pyrene/benzo-1,12, perylene and indeno (1,2,3-cd)pyrene.

(2) Comments: The incubation period is generally 24 or 48 hours except for total counts, when it is 48 or 72 hours.

Fecal bacteriophages	Guelin's process.
Enteroviruses	Concentration by filtration, flocculation or centrifuging, and identification.
Protozoa	Concentration by filtration on a membrane, microscopic examination, test for pathogenicity.
Animalcules (worms — larvae)	Concentration by filtration on a membrane. Microscopic examination. Test for pathogenicity.

F. MINIMUM REQUIRED CONCENTRATION

Alkalinity	Acidimetry with Methyl orange

COUNCIL DIRECTIVE

of 17 December 1979

on the protection of groundwater against pollution caused by certain dangerous substances

(80/68/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof,

Having regard to the proposal from the Commission [1],

Having regard to the opinion of the European Parliament [2],

Having regard to the opinion of the Economic and Social Committee [3],

Whereas there is an urgent need for action to protect the groundwater of the Community from pollution, particularly that caused by certain toxic, persistent and bioaccumulable substances;

Whereas the 1973 programme of action of the European Communities on the environment [4], supplemented by that of 1977 [5], provides for a number of measures to protect groundwater from certain pollutants;

Whereas Article 4 of Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [6] provides for the implementation of a separate Directive on groundwater;

Whereas any disparity between the provisions on the discharge of certain dangerous substances into groundwater already applicable or in preparation in the Member States may create unequal conditions of competition and thus directly affect the functioning of the common market; whereas it is therefore necessary to approximate laws in this field, as provided for in Article 100 of the Treaty;

Whereas it is necessary for this approximation of laws to be accompanied by Community action in the sphere of environmental protection and improvement of the quality of life; whereas certain specific provisions to this effect should therefore be laid down; whereas Article 235 of the Treaty should be invoked as the requisite powers have not been provided for by the Treaty;

Whereas the following should be excluded from the scope of this Directive: domestic effluent from certain isolated dwellings and discharges containing substances in lists I or II in very small quantities and concentrations, on account of the low risk of pollution and the difficulty of controlling the discharge of such effluent; whereas discharges of matter containing radioactive substances, which will be dealt with in a specific Community instrument, should also be excluded;

(1) OJ No C 37, 14. 2. 1978, p. 3.
(2) OJ No C 296, 11. 12. 1978, p. 35.
(3) OJ No C 283, 27. 11. 1978, p. 39.
(4) OJ No C 112, 20. 12. 1973, p. 3.
(5) OJ No C 139, 13. 6. 1977, p. 3.
(6) OJ No L 129, 18. 5. 1976, p. 23.

Whereas to ensure the effective protection of groundwater in the Community it is necessary to prevent the discharge of substances in list I and limit the discharge of substances in list II;

Whereas a distinction should be drawn between direct discharges of dangerous substances into groundwater and actions likely to result in indirect discharges;

Whereas, with the exception of direct discharges of substances in list I, which are automatically prohibited, all discharges must be made subject to a system of authorization; whereas such authorizations may only be delivered after a survey of the receiving environment;

Whereas provision should be made for exceptions to the rules prohibiting discharges into groundwater of substances in list I, after a survey has been made of the receiving environment and prior authorization given, provided that the discharge is made into groundwater permanently unsuitable for any other use, particularly domestic or agricultural purposes;

Whereas artificial recharges of groundwater intended for public water supplies should be made subject to special rules;

Whereas the competent authorities of the Member States should monitor compliance with the conditions laid down in the authorizations and the effects of discharges on groundwater;

Whereas an inventory should be kept of authorization of discharges into groundwater of substances in list I and of direct discharges into groundwater of substances in list II, and an inventory of authorizations for artificial recharges for the purpose of groundwater management;

Whereas, to the extent that the Hellenic Republic is to become a member of the European Economic Community on 1 January 1981 in accordance with the Act concerning the conditions of accession of the Hellenic Republic and the adjustments to the Treaties, it appears necessary that, for that State, the period granted to Member States to bring into force the laws, regulations and administrative provisions necessary to comply with this Directive should be extended from two to four years, bearing in mind the inadequacy of that State's technical and administrative infrastructure,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. The purpose of this Directive is to prevent the pollution of groundwater by substances belonging to the families and groups of substances in lists I or II in the Annex, hereinafter referred to as 'substances in lists I or II', and as far as possible to check or eliminate the consequences of pollution which has already occurred.

2. For the purposes of this Directive:

(a) 'groundwater' means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

(b) 'direct discharge' means the introduction into groundwater of substances in lists I or II without percolation through the ground or subsoil;

(c) 'indirect discharge' means the introduction into groundwater of substances in lists I or II after percolation through the ground or subsoil;

(d) 'pollution' means the discharge by man, directly or indirectly, of substances or energy into groundwater, the results of which are such as to endanger human health or water supplies, harm living resources and the aquatic ecosystem or interfere with other legitimate uses of water.

Article 2

This Directive shall not apply to:

(a) discharges of domestic effluents from isolated dwellings not connected to a sewerage system and situated outside areas protected for the abstraction of water for human consumption;

(b) discharges which are found by the competent authority of the Member State concerned to contain substances in lists I or II in a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater;

(c) discharges of matter containing radioactive substances.

Article 3

Member States shall take the necessary steps to:

(a) prevent the introduction into groundwater of substances in list I; and

(b) limit the introduction into groundwater of substances in list II so as to avoid pollution of this water by these substances.

Article 4

1. To comply with the obligation referred to in Article 3 (a), Member States:

— shall prohibit all direct discharge of substances in list I,

— shall subject to prior investigation any disposal or tipping for the purpose of disposal of these substances which might lead to indirect discharge. In the light of that investigation, Member States shall prohibit such activity or shall grant authorization provided that all the technical precautions necessary to prevent such discharge are observed,

— shall take all appropriate measures they deem necessary to prevent any indirect discharge of substances in list I due to activities on or in the ground other than those mentioned in the second indent. They shall notify such measures to the Commission, which, in the light of this information, may submit proposals to the Council for revision of this Directive.

2. However, should prior investigation reveal that the groundwater into which the discharge of substances in list I is envisaged is permanently unsuitable for other uses, especially domestic or agricultural, the Member States may authorize the discharge of these substances provided that their presence does not impede exploitation of ground resources.

These authorizations may be granted only if all technical precautions have been taken to ensure that these substances cannot reach other aquatic systems or harm other ecosystems.

3. Member States may, after prior investigation, authorize discharges due to re-injection into the same aquifer of water used for geothermal purposes, water pumped out of mines and quarries or water pumped out for civil engineering works.

Article 5

1. To comply with the obligation referred to in Article 3 (b), Member States shall make subject to prior investigation:

— all direct discharge of substances in list II, so as to limit such discharges,

— the disposal or tipping for the purpose of disposal of these substances which might lead to indirect discharge.

In the light of that investigation, Member States may grant an authorization, provided that all the technical precautions for preventing groundwater pollution by these substances are observed.

2. Furthermore, Member States shall take the appropriate measures they deem necessary to limit all indirect discharge of substances in list II, due to activities on or in the ground other than those mentioned in the first paragraph.

Article 6

Notwithstanding Articles 4 and 5, artificial recharges for the purpose of groundwater management shall be subject to a special authorization issued by the Member States on a case-by-case basis. Such authorization shall be granted only if there is no risk of polluting the groundwater.

Article 7

The prior investigations referred to in Articles 4 and 5 shall include examination of the hydrogeological conditions of the area concerned, the possible purifying powers of the soil and subsoil and the risk of pollution and alteration of the quality of the groundwater from the discharge and shall establish whether the discharge of substances into groundwater is a satisfactory solution from the point of view of the environment.

Article 8

The authorizations referred to in Articles 4, 5 and 6 may not be issued by the competent authorities of the Member States until it has been checked that the groundwater, and in particular its quality, will undergo the requisite surveillance.

Article 9

When direct discharge is authorized in accordance with Article 4 (2) and (3) or Article 5, or when waste water disposal which inevitably causes indirect discharge is authorized in accordance with Article 5, the authorization shall specify in particular:

— the place of discharge,

— the method of discharge,

— essential precautions, particular attention being paid to the nature and concentration of the substances present in the effluents, the characteristics of the receiving environment and the proximity of water catchment areas, in particular those for drinking, thermal and mineral water,

— the maximum quantity of a substance permissible in an effluent during one or more specified periods of time and the appropriate requirements as to the concentration of these substances,

— the arrangements enabling effluents discharged into groundwater to be monitored;

— if necessary, measures for monitoring groundwater, and in particular its quality.

Article 10

When disposal or tipping for the purpose of disposal which might lead to indirect discharge is authorized in accordance with Articles 4 or 5, authorization shall specify in particular:

— the place where such disposal or tipping is done,

— the methods of disposal or tipping used,

— essential precautions, particular attention being paid to the nature and concentration of the substances present in the matter to be tipped or disposed of, the characteristics of the receiving environment and the proximity of water catchment areas, in particular those for drinking, thermal and mineral water,

— the maximum quantity permissible, during one or more specified periods of time, of the matter containing substances in lists I or II and, where possible, of those substances themselves, to be tipped or disposed of and the appropriate requirements as to the concentration of those substances,

— in the cases referred to in Article 4 (1) and Article 5 (1) the technical precautions to be implemented to prevent any discharge into groundwater of substances in list I and any pollution of such water by substances in list II,

— if necessary, the measures for monitoring the groundwater, and in particular its quality.

Article 11

The authorizations referred to in Articles 4 and 5 may be granted for a limited period only, and will be reviewed at least every four years. They may be renewed, amended or withdrawn.

Article 12

1. If the person requesting an authorization as referred to in Articles 4 or 5 states that he is unable to comply with the conditions laid down, or if this situation is evident to the competent authority in the Member State concerned, authorization shall be refused.

2. Should the conditions laid down in an authorization not be complied with, the competent authority in the Member State concerned shall take appropriate steps to ensure that these conditions are fulfilled; if necessary, it shall withdraw the authorization.

Article 13

The competent authorities of the Member States shall monitor compliance with the conditions laid down in the authorizations and the effects of discharges on groundwater.

Article 14

As regards discharges of the substances in lists I or II already occurring at the time of notification of this Directive, the Member States may stipulate a period not exceeding four years after entry into force of the provisions referred to in Article 21 (1), on expiry of which the discharges in question must comply with this Directive.

Article 15

The competent authorities of the Member States shall keep an inventory of the authorizations referred to in Article 4 of discharges of substances in list I, the authorizations referred to in Article 5 of direct discharges of substances in list II and the authorizations referred to in Article 6.

Article 16

1. For the purposes of implementing this Directive, Member States shall supply the Commission, at its request and on a case-by-case basis, with all the necessary information, and in particular with:

(a) the results of the prior investigations referred to in Articles 4 and 5;

(b) details of the authorizations granted;

(c) the results of the monitoring and inspection operations carried out;

(d) the results of the inventories provided for in Article 15.

2. Information acquired as a result of the application of this Article shall be used only for the purpose for which it was requested.

3. The Commission and the competent authorities of the Member States, their officials and other servants shall not disclose information acquired by them pursuant to this Directive and of a kind covered by the obligation of professional secrecy.

4. The provisions of paragraphs 2 and 3 shall not prevent publication of general information or surveys which do not contain information relating to particular undertakings or associations of undertakings.

Article 17

With regard to discharges into transfrontier groundwater, the competent authority of the Member State which intends to grant authorization for such discharges shall inform the other Member States concerned before an authorization is issued. At the request of one of the Member States concerned and before an authorization is issued, consultations shall be held in which the Commission may participate.

Article 18

The application of the measures taken pursuant to this Directive may on no account lead, either directly or indirectly, to pollution of the water referred to in Article 1.

Article 19

Where appropriate, one or more Member States may individually or jointly take more stringent measures than those provided for under this Directive.

Article 20

The Council, acting on a proposal from the Commission, shall, in the light of experience, revise and, if necessary, supplement lists I and II, where appropriate, by transferring certain substances from list II to list I.

Article 21

1. The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification. They shall immediately inform the Commission thereof.

However, this period shall be increased to four years for the Hellenic Republic, subject to its accession on 1 January 1981.

2. The Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

3. Once the measures referred to in paragraph 1 have been implemented by a Member State, the provisions of Directive 76/464/EEC relating to groundwater shall no longer apply in respect of that Member State.

Article 22

This Directive is addressed to the Member States.

Done at Brussels, 17 December 1979.

For the Council

The President

S. BARRETT

ANNEX

LIST I OF FAMILIES AND GROUPS OF SUBSTANCES

List I contains the individual substances which belong to the families and groups of substances enumerated below, with the exception of those which are considered inappropriate to list I on the basis of a low risk of toxicity, persistance and bioaccumulation.

Such substances which with regard to toxicity, persistance and bioaccumulation are appropriate to list II are to be classed in list II.

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment
2. Organophosphorus compounds
3. Organotin compounds
4. Substances which possess carcinogenic mutagenic or teratogenic properties in or via the aquatic environment (1)
5. Mercury and its compounds
6. Cadmium and its compounds
7. Mineral oils and hydrocarbons
8. Cyanides.

LIST II OF FAMILIES AND GROUPS OF SUBSTANCES

List II contains the individual substances and the categories of substances belonging to the families and groups of substances listed below which could have a harmful effect on groundwater.

1. The following metalloids and metals and their compounds:

1. Zinc	11. Tin
2. Copper	12. Barium
3. Nickel	13. Beryllium
4. Chrome	14. Boron
5. Lead	15. Uranium
6. Selenium	16. Vanadium
7. Arsenic	17. Cobalt
8. Antimony	18. Thallium
9. Molybdenum	19. Tellurium
10. Titanium	20. Silver.

2. Biocides and their derivatives not appearing in list I.
3. Substances which have a deleterious effect on the taste and/or odour of groundwater, and compounds liable to cause the formation of such substances in such water and to render it unfit for human consumption.
4. Toxic or persistent organic compounds of silicon, and substances which may cause the formation of such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances.
5. Inorganic compounds of phosphorus and elemental phosphorus.
6. Fluorides.
7. Ammonia and nitrites.

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(1) Where certain substances in list II are carcinogenic, mutagenic or teratogenic, they are included in category 4 of this list.

COUNCIL DECISION

of 3 March 1975

concluding the convention for the prevention of marine pollution from land-based sources

(75/437/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament [1];

Whereas the declaration of the Council of the European Communities and of the representatives of the Governments of the Member States meeting in the Council of 22 November 1973 [2] on the programme of action of the European Communities on the environment, emphasizes that it is important for the Community to take measures to combat marine pollution in general, and provides amongst other things for Community action with a view to combating marine pollution from land-based sources;

Whereas the convention for the prevention of marine pollution from land-based sources of 21 February 1974, also provides for the preparation and implementation of programmes intended either to eliminate or to reduce this type of pollution in the North East Atlantic;

Whereas it appears necessary for the Community to conclude this convention in order to attain, in the course of the operation of the common market, one of the objectives of the Community in the fields of the protection of the environment and the quality of life, and whereas no provision is made in the Treaty for the necessary powers;

Whereas the representative of the Community within the Commission established under the convention should be designated,

HAS DECIDED AS FOLLOWS:

Article 1

The convention for the prevention of marine pollution from land-based sources is hereby concluded on behalf of the Community.

The text of the convention is annexed hereto.

Article 2

The President of the Council shall be authorized to designate the persons empowered to sign the convention and to confer on them the powers they require to bind the Community.

Article 3

The Community shall be represented by the Commission in the Commission established under Article 15 of the convention.

The Commission shall in that body put forward the position of the Community in accordance with such Directives as the Council may give it.

Done at Brussels, 3 March 1975.

For the Council

The President

J. KEATING

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[1] OJ No C 127, 18. 10. 1974, p. 32.
[2] OJ No C 112, 20. 12. 1973, p. 1.

ANNEX

CONVENTION

for the prevention of marine pollution from land-based sources

THE CONTRACTING PARTIES:

RECOGNIZING that the marine environment and the fauna and flora which it supports are of vital importance to all nations;

MINDFUL that the ecological equilibrium and the legitimate uses of the sea are increasingly threatened by pollution;

CONSIDERING the recommendations of the United Nations conference on the human environment, held in Stockholm in June 1972;

RECOGNIZING that concerted action at national, regional and global levels is essential to prevent and combat marine pollution;

CONVINCED that international action to control the pollution of the sea from land-based sources can and should be taken without delay, as part of progressive and coherent measures to protect the marine environment from pollution, whatever its origin, including current efforts to combat the pollution of international waterways;

CONSIDERING that the common interests of States concerned with the same marine area should induce them to cooperate at regional or sub-regional levels;

RECALLING the convention for the prevention of marine pollution by dumping from ships and aircraft concluded in Oslo on 15 February 1972,

HAVE AGREED as follows :

Article 1

1. The Contracting Parties pledge themselves to take all possible steps to prevent pollution of the sea, by which is meant the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as hazards to human health, harm to living resources and to marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

2. The Contracting Parties shall adopt individually and jointly measures to combat marine pollution from land-based sources in accordance with the provisions of the present convention and shall harmonize their policies in this regard.

Article 2

The present convention shall apply to the maritime area within the following limits:

(a) those parts of the Atlantic and Arctic Oceans and the dependent seas which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding:

  (i) the Baltic Sea and Belts lying to the south and east of lines drawn from Hasenore Head to Gniben Point, from Korshage to Spodsbjerg and from Gilbjerg Head to Kullen and

  (ii) the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° north latitude and the meridian of 5°36′ west longitude;

(b) that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.

Article 3

For the purpose of the present convention:

(a) 'maritime area' means: the high seas, the territorial seas of Contracting Parties and waters on the landward side of the base lines from which the breadth of the territorial sea is measured and extending in the case of watercourses, unless otherwise decided under Article 16(c) of the present convention, up to the freshwater limit;

(b) 'Freshwater limit' means: the place in the watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of seawater;

(c) 'pollution from land-based sources' means: the pollution of the maritime area

(i) through watercourses,

(ii) from the coast, including introduction through underwater or other pipelines,

(iii) from man-made structures placed under the jurisdiction of a Contracting Party within the limits of the area to which the present convention applies.

Article 4

1. The Contracting Parties undertake:

(a) to eliminate, if necessary by stages, pollution of the maritime area from land-based sources by substances listed in Part I of Annex A to the present convention;

(b) to limit strictly pollution of the maritime area from land-based sources by substances listed in Part II of Annex A to the present convention.

2. In order to carry out the undertakings in paragraph 1 of this Article, the Contracting Parties, jointly or individually as appropriate, shall implement programmes and measures:

(a) for the elimination, as a matter of urgency, of pollution of the maritime area from land-based sources by substances listed in Part I of Annex A to the present convention;

(b) for the reduction or, as appropriate, elimination of pollution of the maritime area from land-based sources by substances listed in Part II of Annex A to the present convention. These substances shall be discharged only after approval has been granted by the appropriate authorities within each Contracting State. Such approval shall be periodically reviewed.

3. The programmes and measures adopted under paragraph 2 of this Article shall include, as appropriate, specific regulations or standards governing the quality of the environment, discharges into the maritime area, such discharges into watercourses as affect the maritime area, and the composition and use of substances and products. These programmes and measures shall take into account the latest technical developments.

The programmes shall contain time limits for their completion.

4. The Contracting Parties may, furthermore, jointly or individually as appropriate, implement programmes or measures to forestall, reduce or eliminate pollution of the maritime area from land-based sources by a substance not then listed in Annex A to the present convention, if scientific evidence has established that a serious hazard may be created in the maritime area by that substance and if urgent action is necessary.

Article 5

1. The Contracting Parties undertake to adopt measures to forestall and, as appropriate, eliminate pollution of the maritime area from land-based sources by radioactive substances referred to in Part III of Annex A to the present convention.

2. Without prejudice to their obligations under other treaties and conventions, in implementing this undertaking the Contracting Parties shall:

(a) take full account of the recommendations of the appropriate international organizations and agencies;

(b) take account of the monitoring procedures recommended by these international organizations and agencies;

(c) coordinate their monitoring and study of radioactive substances in accordance with Articles 10 and 11 of the present convention.

Article 6

1. With a view to preserving and enhancing the quality of the marine environment, the Contracting Parties, without prejudice to the provisions of Article 4, shall endeavour:

(a) to reduce existing pollution from land-based sources;

(b) to forestall any new pollution from land-based sources, including that which derives from new substances.

2. In implementing this undertaking, the Contracting Parties shall take account of:

(a) the nature and quantities of the pollutants under consideration;

(b) the level of existing pollution;

(c) the quality and absorptive capacity of the receiving waters of the maritime area;

(d) the need for an integrated planning policy consistent with the requirement of environmental protection.

Article 7

The Contracting Parties agree to apply the measures they adopt in such a way as to avoid increasing pollution:

— in the seas outside the area to which the present convention applies;

— in the maritime area covered by the present convention, originating otherwise than from land-based sources.

Article 8

No provision of the present convention shall be interpreted as preventing the Contracting Parties from taking more stringent measures to combat marine pollution from land-based sources.

Article 9

1. When pollution from land-based sources originating from the territory of a Contracting Party by substances not listed in Part I of Annex A to the present convention is likely to prejudice the interests of one or more of the other parties to the present convention, the Contracting Parties concerned undertake to enter into consultation, at the request of any one of them, with a view to negotiating a cooperation agreement.

2. At the request of any Contracting Party concerned, the Commission referred to in Article 15 of the present convention shall consider the question and may make recommendations with a view to reaching a satisfactory solution.

3. The special agreements specified in paragraph 1 of this Article may, among other things, define the areas to which they shall apply, the quality objectives to be achieved, and the methods for achieving these objectives including methods for the application of appropriate standards and the scientific and technical information to be collected.

4. The Contracting Parties signatory to these special agreements shall, through the medium of the Commission, inform the other Contracting Parties of their purport and of the progress made in putting them into effect.

Article 10

The Contracting Parties agree to establish complementary or joint programmes of scientific and technical research, including research into the best methods of eliminating or replacing noxious substances so as to reduce marine pollution from land-based sources, and to transmit to each other the information so obtained. In doing so they shall have regard to the work carried out, in these fields, by the appropriate international organizations and agencies.

Article 11

The Contracting Parties agree to set up progressively and to operate within the area covered by the present convention a permanent monitoring system allowing:

— the earliest possible assessment of the existing level of marine pollution;

— the assessment of the effectiveness of measures for the reduction of marine pollution from land-based sources taken under the terms of the present conventions.

For this purpose the Contracting Parties shall lay down the ways and means of pursuing individually or jointly systematic and *ad hoc* monitoring programmes. These programmes shall take into account the deployment of research vessels and other facilities in the monitoring area.

The programmes shall take into account similar programmes pursued in accordance with conventions already in force and by the appropriate international organizations and agencies.

Article 12

1. Each Contracting Party undertakes to ensure compliance with the provisions of this convention and to take in its territory appropriate measures to prevent and punish conduct in contravention of the provisions of the present convention.

2. The Contracting Parties shall inform the Commission of the legislative and administrative measures they have taken to implement the provisions of the preceding paragraph.

Article 13

The Contracting Parties undertake to assist one another as appropriate to prevent incidents which may result in pollution from land-based sources, to minimize and eliminate the consequences of such incidents, and to exchange information to that end.

Article 14

1. The provisions of the present convention may not be invoked against a Contracting Party to the

extent that the latter is prevented, as a result of pollution having its origin in the territory of a non-contracting State, from ensuring their full application.

2. However, the said Contracting Party shall endeavour to cooperate with the non-contracting State so as to make possible the full application of the present convention.

Article 15

A Commission composed of representatives of each of the Contracting Parties is hereby established. The Commission shall meet at regular intervals and at any time when due to special circumstances it is so decided in accordance with its rules of procedure.

Article 16

It shall be the duty of the Commission:

(a) to exercise overall supervision over the implementation of the present convention;

(b) to review generally the condition of the seas within the area to which the present convention applies, the effectiveness of the control measures being adopted and the need for any additional or different measures;

(c) to fix, if necessary, on the proposal of the Contracting Party or Parties bordering on the same watercourse and following a standard procedure, the limit to which the maritime area shall extend in that watercourse;

(d) to draw up, in accordance with Article 4 of the present convention, programmes and measures for the elimination or reduction of pollution from land-based sources;

(e) to make recommendations in accordance with the provisions of Article 9;

(f) to receive and review information and distribute it to the Contracting Parties in accordance with the provisions of Articles 11, 12 and 17 of the present convention;

(g) to make, in accordance with Article 18, recommendations regarding any amendment to the lists of substances included in Annex A to the present convention;

(h) to discharge such other functions, as may be appropriate, under the terms of the present convention.

Article 17

The Contracting Parties, in accordance with a standard procedure, shall transmit to the Commission:

(a) the results of monitoring pursuant to Article 11;

(b) the most detailed information available on the substances listed in the Annexes to the present convention and liable to find their way into the maritime area.

The Contracting Parties shall endeavour to improve progressively techniques for gathering such information which can contribute to the revision of the pollution reduction programmes drawn up in accordance with Article 4 of the present convention.

Article 18

1. The Commission shall draw up its own Rules of Procedure which shall be adopted by unanimous vote.

2. The Commission shall draw up its own Financial Regulations which shall be adopted by unanimous vote.

3. The Commission shall adopt, by unanimous vote, programmes and measures for the reduction or elimination of pollution from land-based sources as provided for in Article 4, programmes for scientific research and monitoring as provided for in Articles 10 and 11, and decisions under Article 16(c).

The programmes and measures shall commence for and be applied by all Contracting Parties 200 days after their adoption, unless the Commission specifies another date.

Should unanimity not be attainable, the Commission may nonetheless adopt a programme or measures by a three-quarters majority vote of its members. The programmes or measures shall commence for those Contracting Parties which voted for them 200 days after their adoption, unless the Commission specifies another date, and for any other Contracting Party after it has explicitly accepted the programme or measures, which it may do at any time.

4. The Commission may adopt recommendations for amendments to Annex A to the present convention by a three-quarters majority vote of its members and shall submit them for the approval of the Governments of the Contracting Parties. Any Government of a Contracting Party that is unable to approve an amendment shall notify the depositary Government in writing within a period of 200 days after the adoption of the recommendation of amendment in the Commission. Should no such notification be received, the amendment shall enter into force for all Contracting Parties 230 days after the vote in the Commission. The depositary Government shall notify the Contracting Parties as soon as possible of the receipt of any notification.

Article 19

Within the areas of its competence, the European Economic Community is entitled to a number of votes equal to the number of its Member States which are Contracting Parties to the present convention.

The European Economic Community shall not exercise its right to vote in cases where its Member States exercise theirs and conversely.

Article 20

The depositary Government shall convene the first meeting of the Commission as soon as possible after the coming into force of the present convention.

Article 21

Any dispute between Contracting Parties relating to the interpretation or application of the present convention, which cannot be settled otherwise by the parties concerned, for instance by means of inquiry or conciliation within the Commission, shall, at the request of any of those parties, be submitted to arbitration under the conditions laid down in Annex B to the present convention.

Article 22

The present convention shall be open for signature at Paris, from 4 June 1974 to 30 June 1975, by the States invited to the diplomatic conference on the convention for the prevention of marine pollution from land-based sources, held at Paris, and by the European Economic Community.

Article 23

The present convention shall be subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Government of the French Republic.

Article 24

1. After 30 June 1975, the present convention shall be open for accession by States referred to in Article 22 and by the European Economic Community.

2. The present convention shall also be open for accession from the same date by any other Contracting Party to the convention for the prevention of marine pollution by dumping from ships and aircraft, opened for signature at Oslo on 15th February 1972.

3. From the date of its entry into force, the present convention shall be open for accession by any State not referred to in Article 22, located upstream on watercourses crossing the territory of one or more Contracting Parties to the present convention and reaching the maritime area defined in Article 2.

4. The Contracting Parties may unanimously invite other States to accede to the present convention In that case the maritime area in Article 2 may, if necessary, be amended in accordance with Article 27 of the present convention.

5. The instruments of accession shall be deposited with the Government of the French Republic.

Article 25

1. The present convention shall come into force on the thirtieth day following the date of deposit of the seventh instrument of ratification, acceptance, approval or accession.

2. For each Party ratifying, accepting or approving the present convention or acceding to it after the deposit of the seventh instrument of ratification, acceptance, approval or accession, the present convention shall enter into force on the thirtieth day after the date of deposit by that party of its instrument of ratification, acceptance, approval or accession.

Article 26

At any time after the expiry of two years from the date of coming into force of the present convention in relation to any Contracting Party such party may withdraw from the convention by notice in writing to the depositary Government. Such notice shall take effect one year after the date on which it is received.

Article 27

1. The depositary Government shall, at the request of the Commission on a decision taken by a two-thirds majority of its members, call a conference for the purpose of revising or amending the present convention.

2. Upon accession by a State as provided for in paragraphs 2, 3 and 4 of Article 24, the maritime area in Article 2 may be amended upon a proposal by the Commission adopted by a unanimous vote. These amendments shall enter into force after unanimous approval by the Contracting Parties.

Article 28

The depositary Government shall inform the Contracting Parties and those referred to in Article 22:

(a) of signatures to the present convention, of the deposits of instruments of ratification, acceptance, approval or accession, and of notices of withdrawal in accordance with Articles 22, 23, 24 and 26;

(b) of the date on which the present convention comes into force in accordance with Article 25;

(c) of the receipt of notifications of approval or objection, and of the entry into force of amendments to the present convention and its Annexes, in accordance with Articles 18 and 27.

Article 29

The original of the present convention of which the French and English texts shall be equally authentic, shall be deposited with the Government of the French Republic which shall send certified copies thereof to the Contracting Parties and the States referred to in Article 22 and shall deposit a certified copy with the Secretary General of the United Nations for registration and publication in accordance with Article 102 of the United Nations Charter.

IN WITNESS WHEREOF, the undersigned, duly authorized by their respective Governments, have signed this convention.

Done at Paris, 4 June 1974.

ANNEX A

The allocation of substances to Parts I, II and III below takes account of the following criteria:

(a) persistence;

(b) toxicity or other noxious properties;

(c) tendency to bio-accumulation.

These criteria are not necessarily of equal importance for a particular substance or group of substances, and other factors, such as the location and quantities of the discharge, may need to be considered.

PART I

The following substances are included in this part:

(i) because they are not readily degradable or rendered harmless by natural processes; and

(ii) because they may either:
  (a) give rise to dangerous accumulation of harmful material in the food chain, or
  (b) endanger the welfare of living organisms causing undesirable changes in the marine eco-systems, or
  (c) interfere seriously with the harvesting of sea foods or with other legitimate uses of the sea; and

(iii) because it is considered that pollution by these substances necessitates urgent action:

1. organohalogen compounds and substances which may form such compounds in the marine environment, excluding those which are biologically harmless, or which are rapidly converted in the sea into substances which are biologically harmless;

2. mercury and mercury compounds;

3. cadmium and cadmium compounds;

4. persistent synthetic materials which may float, remain in suspension or sink, and which may seriously interfere with any legitimate use of the sea;

5. persistent oils and hydrocarbons of petroleum origin.

PART II

The following substances are included in this part because, although exhibiting similar characteristics to the substances in Part I and requiring strict control, they seem less noxious or are more readily rendered harmless by natural processes:

1. organic compounds of phosphorus, silicon, and tin and substances which may form such compounds in the marine environment, excluding those which are biologically harmless, or which are rapidly converted in the sea into substances which are biologically harmless.

2. elemental phosphorus.

3. non-persistent oils and hydrocarbons of petroleum origin.

4. the following elements and their compounds:
— arsenic,
— chromium,
— copper,
— lead,
— nickel,
— zinc.

5. substances which have been agreed by the Commission as having a deleterious effect on the taste and/or smell of products derived from the marine environment for human consumption.

PART III

The following substances are included in this part because, although they display characteristics similar to those of substances listed in Part I and should be subject to stringent controls with the aim of preventing and, as appropriate, eliminating the pollution which they cause, they are already the subject of research, recommendations and, in some cases, measures under the auspices of several international organizations and institutions; those substances are subject to the provisions of Article 5:
— radioactive substances, including wastes.

ANNEX B

Article 1

Unless the parties to the dispute decide otherwise, the arbitration procedure shall be in accordance with the provisions of this Annex.

Article 2

1. At the request addressed by one Contracting Party to another Contracting Party in accordance with Article 21 of the convention, an arbitral tribunal shall be constituted: The request for arbitration shall state the subject matter of the application including in particular the Articles of the convention, the interpretation or application of which is in dispute.

2. The claimant shall inform the Commission that he has requested the setting up of an arbitral tribunal, stating the name of the other party to the dispute and the Articles of the convention the interpretation or application of which is in his opinion in dispute. The Commission shall forward the information thus received to all Contracting Parties to the convention.

Article 3

The arbitral tribunal shall consist of three members: each of the parties to the dispute shall appoint an arbitrator; the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

Article 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of either party, designate him within a further two months' period.

2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the Secretary-General of the United Nations who shall designate the chairman of the arbitral tribunal within a further two months' period. Upon designation, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. After such period, he shall inform the Secretary-General of the United Nations who shall make this appointment within a further two months' period.

Article 5

1. The arbitral tribunal shall decide according to the rules of international law and, in particular, those of this convention.

2. Any arbitral tribunal constituted under the provisions of this Annex shall draw up its own rules of procedure.

Article 6

1. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority voting of its members.

2. The tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the parties, recommend essential interim measures of protection.

3. If two or more arbitral tribunals constituted under the provisions of this Annex are seized of requests with identical or similar subjects, they may inform themselves of the procedures for establishing the facts and take them into account as far as possible.

4. The parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.

5. The absence or default of a party to the dispute shall not constitue an impediment to the proceedings.

Article 7

1. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the parties to the dispute.

2. Any dispute which may arise between the parties concerning the interpretation or execution of the award may be submitted by either party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.

Article 8

The European Economic Community, like any Contracting Party to the present convention, has the right to appear as applicant or respondent before the arbitral tribunal.

COUNCIL DECISION

of 3 March 1975

concerning Community participation in the Interim Commission established on the basis of resolution No III of the convention for the prevention of marine pollution from land-based sources

(75/438/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament [1];

Whereas in resolution No III annexed to the Final Act of the convention for the prevention of marine pollution from land-based sources of 21 February 1974, it is recommended that an Interim Commission be established, comprising representatives of the signatories of the convention;

Whereas by Decision No 75/437/EEC [2] this convention has been concluded on behalf of the Community;

Whereas the representative of the Community within the Interim Commission should therefore be designated,

HAS DECIDED AS FOLLOWS:

Sole Article

Pending the entry into force of the convention for the prevention of marine pollution from land-based sources, the Commission shall be authorized to represent the Community in the working group entitled 'Interim Commission' established on the basis of resolution No III annexed to the Final Act of the convention.

Done at Brussels, 3 March 1975.

For the Council

The President

J. KEATING

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[1] OJ No C 127, 18. 10. 1974, p. 32.

[2] See page 5 of this Official Journal.

COUNCIL DECISION

of 20 December 1985

concerning the adoption, on behalf of the Community, of programmes and measures relating to mercury and cadmium discharges under the convention for the prevention of marine pollution from land-based sources

(85/613/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the recommendation from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Whereas on 3 March 1975 the Community approved the Convention for the prevention of marine pollution from land-based sources (3);

Whereas the Community has also become a Contracting Party to that Convention;

Whereas the Paris Commission, which administers the Convention, has negotiated programmes and measures concerning mercury and cadmium discharges and the Community has been requested to approve them in writing by 31 December 1985;

Whereas the provisions of these programmes and measures are in line with those of the Community Directives on the subject, namely Directives 76/464/EEC (4), 83/513/EEC (5), and 84/156/EEC (6);

Whereas it is therefore desirable that the Community approve the said programmes and measures;

Whereas the Treaty has not provided the necessary powers to this end, other than those of Article 235,

HAS DECIDED AS FOLLOWS:

Sole Article

1. The Council hereby approves on behalf of the Community the programmes and measures relating to mercury and cadmium discharges within the framework of the Convention for the prevention of marine pollution from land-based sources.

The texts of the said programmes and measures are attached to this Decision.

2. The President of the Council is hereby authorized to appoint the person or persons empowered to notify this approval to the Paris Commission before 31 December 1985.

Done at Brussels, 20 December 1985.

For the Council

The President

R. KRIEPS

(1) OJ No C 286, 9. 11. 1985, p. 4.
(2) OJ No C 352, 31. 12. 1985.
(3) OJ No L 194, 25. 7. 1975, p. 5.
(4) OJ No L 129, 18. 5. 1976, p. 23.
(5) OJ No L 291, 24. 10. 1983, p. 1.
(6) OJ No L 74, 17. 3. 1984, p. 49.

ANNEX

PARCOM DECISION 85/1

PROGRAMMES AND MEASURES

of 5 June 1985

on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry

THE COMMISSION ESTABLISHED BY THE CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES, SIGNED AT PARIS ON 4 JUNE 1974,

having regard to the provisions of the Convention, and in particular to Article 18 (3) thereof,

HAS ADOPTED THE FOLLOWING PROGRAMMES AND MEASURES:

Article 1

1. Every discharge of mercury by industrial sectors other than the chlor-alkali electrolysis industry into the maritime area as defined in Article 3a of the Convention, or into watercourses that affect the maritime area, shall require prior authorization by the competent authority of the Contracting Party concerned. Such authorizations shall lay down emission standards for the discharge and shall be reviewed periodically.

2. The emission standards must not exceed the limit values as set out in paragraph 3 below, except where a Contracting Party applies quality objectives in conformity with Annexes II and IV.

3. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I. The limit values shall normally apply at the point where waste waters containing mercury leave the industrial plant.

When waste waters containing mercury are treated outside the industrial plant at a treatment plant intended for the removal of mercury, the Contracting Party concerned may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to the provisions of the Convention, the Contracting Parties may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the prevention and elimination of pollution.

Whatever method it adopts, where for technical reasons the intended measures do not correspond to the best technical means available, the Contracting Party shall provide the Commission with evidence in support of these reasons before any authorization. The Commission shall, at its next meeting, examine the information provided.

5. For the purposes of these programmes and measures, 'new plant' means:

— an industrial plant which has become operational after the date of adoption of these programmes and measures,

— an existing industrial plant whose mercury-handling capacity has been substantially increased since the date of adoption of these programmes and measures.

6. The reference method of analysis to be used in determining the presence of mercury is given in Annex III, paragraph 1. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III, paragraph 1. The accuracy required in the measurement of effluent flow is given in Annex III, paragraph 2.

Article 2

1. The Contracting Parties shall draw up specific programmes for mercury discharges by multiple sources which are not industrial plants and for which the emission standards referred to in Article 1 cannot be applied in practice.

2. The purposes of these specific programmes shall be to avoid or eliminate pollution. They shall include the most appropriate measures and techniques for the replacement, retention and recycling of mercury.

3. The specific programmes shall be in operation as soon as possible and in any case not later than 1 July 1989 and shall be communicated to the Commission.

Article 3

The Contracting Parties concerned shall monitor, within the area covered by the Convention, the aquatic environment affected by discharges. In the case of discharges affecting the waters of more than one Contracting Party, the Contracting Parties concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 4

1. The Commission shall at four-yearly intervals make a comparative assessment of the implementation of these programmes and measures by Contracting Parties on the basis of information supplied to it by them pursuant to Article 17 of the Convention. The information concerned shall, in particular, comprise:

— details of authorizations laying down emission standards for discharges of mercury,

— the results of information collected or inventories drawn up concerning mercury discharged into the maritime area, and into watercourses that affect the maritime area, referred to in Article 1, paragraph 1,

— information laid down in Annex IV, paragraph 2 for those Contracting Parties applying the quality objectives,

— the results of the monitoring of the aquatic environment carried out in accordance with Article 3. Where appropriate, these should be submitted within the framework of the Joint Monitoring Programme.

2. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of mercury in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall consider appropriate proposals with the aim of reinforcing, if necessary, the limit values and the quality objectives, or of establishing additional limit values and additional quality objectives.

Article 5

1. The Contracting Parties shall implement these programmes and measures by 1 January 1986.

2. Contracting Parties shall communicate to the Commission the text of the provisions of internal law which they adopt in the field governed by these programmes and measures.

ANNEX I

Limit values, time limits by which they must be complied with, and the procedure for monitoring discharges

1. The limit values and the time limits for the industrial sectors concerned are set out together in the table below:

Industrial sector (1)	Limit value which must be complied with as from:		Unit of Measurement
	1 July 1986	1 July 1989	
1. Chemical industries using mercury catalysts:			
a) in the production of vinyl chloride	0,1	0,05	mg/l effluent
	0,2	0,1	g/t vinyl chloride production capacity
b) in other processes	0,1	0,05	mg/l effluent
	10	5	g/kg mercury processed
2. Manufacture of mercury catalysts used in the production of vinyl chloride	0,1	0,05	mg/l effluent
	1,4	0,7	g/kg mercury processed
3. Manufacture of organic and non-organic mercury compounds (except for products referred to in paragraph 2)	0,1	0,05	mg/l effluent
	0,1	0,05	g/kg mercury processed
4. Manufacture of primary batteries containing mercury	0,1	0,05	mg/l effluent
	0,05	0,03	g/kg mercury processed
5. Non-ferrous metal industry (2)			
5.1. Mercury recovery plants	0,1	0,05	mg/l effluent
5.2. Extraction and refining of non-ferrous metals	0,1	0,05	mg/l effluent
6. Plants for the treatment of toxic wastes containing mercury	0,1	0,05	mg/l effluent

(1) Limit values for industrial sectors other than the chlor-alkali electrolysis industry which are not mentioned in this table, such as the paper and steel industries or coal-fired power stations will, if necessary, be fixed by the Commission at a later stage. Meanwhile, the Contracting Parties shall fix emission standards for mercury discharges autonomously in accordance with Article 4 (2) of the Convention. Such standards shall take into account the best technical means available and must not be less stringent than the most nearly comparable limit value in this Annex.

(2) On the basis of experience gained in the implementation of these programmes and measures, and pursuant to Article 4 (2), the Commission shall in due course consider proposals for fixing more restrictive limit values.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table for the industrial sectors 1 to 4. In no instance may limit values expressed as maximum concentrations be greater than those expressed as maximum quantities divided by water requirements per kilogram of mercury handled or per tonne of installed vinyl chloride production capacity.

   However, because the concentration of mercury in effluents depends on the volume of water involved, which differs for different processes and plants, the limit values, expressed in terms of the quantity of mercury discharged in relation to the quantity of mercury handled or to the installed vinyl chloride production capacity, given in the above table, must be complied with in all cases.

3. The daily average limit values are twice the corresponding monthly average limit values given in the table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and, where appropriate, the quantity of mercury handled.

   Should the quantity of mercury handled be impossible to determine, the monitoring procedure may be based on the quantity of mercury that may be used in the light of the production capacity on which the authorization was based.

5. A sample representative of the discharge over a period of 24 hours shall be taken. The quantity of mercury discharged over a month must be calculated on the basis of the daily quantities of mercury discharged.

   However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 7,5 kilograms of mercury per annum.

Notes

The limit values given in the table correspond to a monthly average concentration or to a maximum monthly load.

The amounts of mercury discharged are expressed as a function of the amount of mercury used or handled by the industrial plant over the same period or as a function of the installed vinyl chloride production capacity.

ANNEX II

Quality objectives

For those Contracting Parties applying quality objectives, emission standards shall be fixed so that the appropriate quality objective or objectives from among those listed below is or are complied with in the area affected by discharges of mercury. The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in paragraph 1 below the objective or objectives that it deems appropriate, having regard to the intended use of the area affected, taking account of the fact that the purpose of these programmes and measures is to prevent and eliminate all pollution.

1. In order to prevent and eliminate pollution as defined in Article 1 of the Convention and pursuant to Article 4 of the said Convention, the following quality objectives are set:

1.1 The concentration of mercury in a representative sample of fish flesh chosen as an indicator must not exceed 0,3 mg/kg wet fish.

1.2 The concentration of mercury in solution in estuary waters up to the freshwater limit affected by discharges must not exceed 0,5 µg/l as the arithmetic mean of the results obtained over a year.

1.3 The concentration of mercury in solution in the following waters (1) must not exceed 0,3 µg/l as the arithmetic mean of the results obtained over a year:

(i) territorial waters;

(ii) waters, other than estuary waters, on the landward side of the base line from which the breadth of the territorial sea is measured and extending in the case of watercourses up to the freshwater limit.

2. The concentration of mercury in sediments or in shellfish (mollusca and crustacea) must not increase significantly with time.

3. Where several quality objectives are applied to waters in an area, the quality of the waters must be sufficient to meet each of them.

4. The numerical values of the quality objectives specified in paragraphs 1 (2) and 1 (3) may, as an exception and where this is necessary for technical reasons, be multiplied by 1,5 until 1 July 1989.

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(1) A quality objective for the high seas is not fixed, on the understanding that the quality objective for territorial waters and other waters will protect the high seas from pollution.

ANNEX III

Reference method of measurement

1. The reference method of analysis used for determining the mercury content of waters, the flesh of fish, sediments and shellfish (mollusca and crustacea) is flameless atomic absorption spectrophotometry after suitbable pre-treatment of the sample which takes account in particular of pre-oxidation of the mercury and of successive reduction of the mercury ions Hg(II).

The limits of detection must be such that the mercury concentration can be measured to an accuracy of + / − 30 % and a precision of + / − 30 % at the following concentrations:

— in the case of discharges, one-tenth of the maximum permitted concentration of mercury specified in the authorization,

— in the case of surface water, one-tenth of the mercury concentration specified in the quality objective,

— in the case of the flesh of fish and shellfish (mollusca and crustacea), one-tenth of the mercury concentration specified in the quality objective,

— in the case of sediments, one tenth of the mercury concentration in the sample or 0,05 mg/kg dry weight whichever value is the greater.

2. Flow measurement must be carried out to an accuracy of + / − 20 %.

ANNEX IV

Monitoring procedure for quality objectives

1. For each authorization, the competent authority shall specify the restrictions, monitoring procedure and time limits for ensuring compliance with the quality objective or objectives concerned.

2. The Contracting Parties shall, for each quality objective chosen, and applied, report to the Commission on:

   — the points of discharge and the means of dispersal,

   — the area in which the quality objective is applied,

   — the location of sampling points,

   — the frequency of sampling,

   — the methods of sampling and of measurement,

   — the results obtained.

3. Samples must be properly representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, taking into account, in particular, natural variations in the hydrological regime. The salt-water fish analysis must be carried out on a sufficiently representative number of samples and species.

4. With regard to the quality objective in paragraph 1.1 of Annex II, the competent authority shall choose the species of fish to be adopted as indicators for analysis. For salt waters the species chosen from among those inhabiting coastal waters and caught locally may include cod *(Gadus morhua)*, whiting *(Merlangius merlangus)*, plaice *(Pleuronectes platessa)*, mackerel *(Scomber scombrus)*, haddock *(Melanogrammus aeglefinus)* and flounder *(Platichthys flesus)*.

PARCOM DECISION 85/2

PROGRAMMES AND MEASURES

of 5 June 1985

on limit values and quality objectives for cadmium discharges

THE COMMISSION ESTABLISHED BY THE CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES, SIGNED AT PARIS ON 4 JUNE 1974,

Having regard to the provisions of the Convention, and in particular to Article 18 (3) thereof,

HAS ADOPTED THE FOLLOWING PROGRAMMES AND MEASURES:

Article 1

1. Every discharge of cadmium into the maritime area as defined in Article 3a of the Convention, or into watercourses that affect the maritime area, shall require prior authorization by the competent authority of the Contracting Party concerned. Such authorizations shall lay down emission standards for the discharge and shall be reviewed periodically.

2. The emission standards must not exceed the limit values as set out in paragraph 3 below, except where a Contracting Party applies quality objectives in conformity with Annexes II and IV.

3. The limit values, the time limits by which they must be complied with and the monitoring procedure for discharges are laid down in Annex I. The limit values shall normally apply at the point where waste waters containing cadmium leave the industrial plant.

When waste waters containing cadmium are treated outside the industrial plant at a treatment plant intended for the removal of cadmium, the Contracting Party concerned may permit the limit values to be applied at the point where the waste waters leave the treatment plant.

4. Without prejudice to their obligations arising from paragraphs 1, 2 and 3 and to the provisions of the Convention, the Contracting Parties may grant authorizations for new plants only if those plants apply the standards corresponding to the best technical means available when that is necessary for the prevention and elimination of pollution.

Whatever method it adopts, where for technical reasons the intended measures do not correspond to the best technical means available, the Contracting Party shall provide the Commission with evidence in support of these reasons before any authorization. The Commission shall, at its next meeting, examine the information provided.

5. 'New plant' means:

— an industrial plant which has become operational after the date of adoption of these programmes and measures,

— an existing industrial plant whose cadmium-processing capacity has been substantially increased after the date of adoption of these programmes and measures.

6. The reference method of analysis to be used in determining the presence of cadmium is given in Annex III, paragraph 1. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as those laid down in Annex III, paragraph 1. The accuracy required in the measurement of effluent flow is given in Annex III, paragraph 2.

Article 2

The Contracting Parties concerned shall monitor, within the area covered by the Convention, the aquatic environment affected by discharges. In the case of discharges affecting the waters of more than one Contracting Party, the Contracting Parties concerned shall cooperate with a view to harmonizing monitoring procedures.

Article 3

1. The Commission shall, at five-yearly intervals, make a comparative assessment of the implementation of these programmes and measures by Contracting Parties on the basis of information supplied to it by them pursuant to Article 17 of the Convention. The information concerned shall, in particular, comprise:

— details of authorizations laying down emission standards for discharges of cadmium,

— the results of information collected or inventories drawn up concerning cadmium discharged into the

maritime area, and into watercourses that affect the maritime area, referred to in Article 1 paragraph 1,

— information laid down in Annex IV, paragraph 2 for those Contracting Parties applying the quality objectives,

— the results of the monitoring of the aquatic environment carried out in accordance with Article 2. Where appropriate, these should be submitted within the framework of the Joint Monitoring Programme.

2. In the event of a change in scientific knowledge relating principally to the toxicity, persistence and accumulation of cadmium in living organisms and sediments, or in the event of an improvement in the best technical means available, the Commission shall consider appropriate proposals with the aim of reinforcing, if necessary, the limit values and the quality objectives, or of establishing additional limit values and additional quality objectives.

Article 4

1. The Contracting Parties shall implement these programmes and measures by 1 January 1986.

2. Contracting Parties shall communicate to the Commission the text of the provisions of internal law which they adopt in the field governed by these programmes and measures.

ANNEX I

Limit values, time limits by which they must be complied with, and the procedure for monitoring discharges

1. The limit values and the time limits for the industrial sectors concerned are set out together in the table below:

Industrial sector (1)	Limit values which must be complied with as from:		Unit of measurement
	1 January 1986	1 January 1989 (2)	
1. Zinc mining, lead and zinc refining, cadmium metal and non-ferrous metal industry	0,3 (3)	0,2 (3)	mg/l effluent
2. Manufacture of cadmium compounds	0,5 (3)	0,2 (3)	mg/l effluent
	0,5 (4)	(5)	g/kg cadmium handled
3. Manufacture of pigments	0,5 (3)	0,2 (3)	mg/l effluent
	0,3 (4)	(5)	g/kg cadmium handled
4. Manufacture of stabilizers	0,5 (3)	0,2 (3)	mg/l effluent
	0,5 (4)	(5)	g/kg cadmium handled
5. Manufacture of primary and secondary batteries	0,5 (3)	0,2 (3)	mg/l effluent
	1,5 (4)	(5)	g/kg cadmium handled
6. Electroplating (6)	0,5 (3)	0,2 (3)	mg/l effluent
	0,3 (4)	(5)	g/kg cadmium handled
7. Manufacture of phosphoric acid and/or phosphatic fertilizer from phosphatic rock (7)	—	—	

(1) Limit values for industrial sectors not mentioned in this table will, if necessary, be fixed by the Commission at a later stage. In the meantime the Contracting Parties will fix standards for cadmium discharges autonomously in accordance with Article 4 (2) of the Convention. Such standards must take into account the best technical means available and must not be less stringent than the most nearly comparable limit value in this Annex.

(2) On the basis of experience gained in the implementation of these programmes and measures, and pursuant to Article 3 (2), the Commission shall in due course consider proposals for fixing more restrictive limit values.

(3) Monthly flow-weighted average concentration of total cadmium.

(4) Monthly average.

(5) It is impossible for the moment to fix limit values expressed as load. If need be, these values will be fixed by the Commission in accordance with Article 3 (2) of these programmes and measures. If the Commission does not fix any limit values, the values expressed as load given in the column neaded '1 January 1986' will be kept.

(6) Contracting Parties may suspend application of the limit values until 1 January 1989 in the case of plants which discharge less than 10 kg of cadmium a year and in which the total volume of the electroplating tanks is less than 1,5 m^3, if technical or administrative considerations make such a step absolutely necessary.

(7) At present there are no economically feasible technical methods for systematically extracting cadmium from discharges arising from the production of phosphoric acid and/or phosphatic fertilizers from phosphatic rock. No limit values have therefore been fixed for such discharges. The absence of such limit values does not release the Contracting Parties from the obligation under Article 1, paragraph 1 of these programmes and measures to fix emission standards for these discharges. Limit values will, as necessary, be fixed by the Commission at a later stage.

2. Limit values expressed as concentrations which in principle must not be exceeded are given in the above table for the industrial sectors 2, 3, 4, 5 and 6. In no instance may limit values expressed as maximum concentrations be greater than those expressed as maximum quantities divided by water requirements per kilogram of cadmium handled. However, because the concentration of cadmium in effluents depends on the volume of water involved, which differs for different processes and plants, the limit values, expressed in terms of the quantity of cadmium discharged in relation to the quantity of mercury handled, given in the above table, must be complied with in all cases.

3. The daily average limit values are twice the corresponding monthly average limit values given in the above table.

4. A monitoring procedure must be instituted to check whether the discharges comply with the emission standards which have been fixed in accordance with the limit values laid down in this Annex.

   This procedure must provide for the taking and analysis of samples and for measurement of the flow of the discharge and the quantity of cadmium handled.

   Should the quantity of cadmium handled be impossible to determine, the monitoring procedure may be based on the quantity of cadmium that may be used in the light of the production capacity on which the authorization was based.

5. A sample representative of the discharge over a period of 24 hours shall be taken. The quantity of cadmium discharged over a month must be calculated on the basis of the daily quantities of cadmium discharged.

   However, a simplified monitoring procedure may be instituted in the case of industrial plants which do not discharge more than 10 kilograms of cadmium per annum. In the case of industrial electroplating plants, a simplifid monitoring procedure may only be instituted if the total volume of the electroplating tanks is less than 1,5 m^3.

ANNEX II

Quality objectives

For those Contracting Parties applying quality objectives, emission standards shall be fixed so that the appropriate quality objective or objectives from among those listed below is or are complied with in the area affected by discharges of cadmium. The competent authority shall determine the area affected in each case and shall select from among the quality objectives listed in paragraph I below the objective or objectives that it deems appropriate, having regard to the intended use of the area affected, while taking account of the fact that the purpose of these programmes and measures is to prevent and eliminate all pollution.

1. The following quality objectives, which will be measured sufficiently close to the point discharge, are fixed (1), with the object of preventing and eliminating pollution within the meaning of Articles 1 and 4 of the Convention.

1.1 The concentration of cadmium in solution in estuary waters up to the freshwater limit affected by discharges must not exceed 5 µg/litre.

1.2 The concentration of cadmium in solution must not exceed 2,5 µg/litre in waters affected by discharges (2) as follows:

(i) territorial waters;

(ii) waters, other than estuary waters, on the landward side of the base line from which the breadth of the territorial sea is measured and extending in the case of watercourses up to the freshwater limit.

2. In addition to the above requirements, the results of the monitoring carried out in accordance with Article 2 must be compared with the following concentrations (1):

2.1 In the case of estuary waters up to the freshwater limit, a concentration of cadmium in solution of 1 µg/litre.

2.2 A concentration of cadmium in solution of 0,5 µg/litre in the case of water as follows:

(i) territorial waters;

(ii) waters, other than estuary waters, on the landward side of the base lines from which the breadth of the territorial sea is measured and extending in the case of watercourses up to the freshwater limit.

2.3 If these concentrations are not complied with at any one of the points on the national network, the reasons must be reported to the Commission.

3. The concentration of cadmium in sediments and/or shellfish (mollusca and crustacea), if possible of the species *Mytilus edulis*, must not increase significantly with time.

4. Where several quality objectives are applied to waters in an area, the quality of the waters must be sufficient to comply with each of those objectives.

(1) All concentrations relate to the arithmetic mean of the results obtained over one year.

(2) A quality objective for the high seas is not fixed on the understanding that the quality objective for territorial waters and other waters will protect the high seas from pollution.

ANNEX III

Reference method of measurement

1. The reference method of analysis used for determining the cadmium content of waters, sediments and shellfish (mollusca and crustacea) is atomic absorption spectrophotometry after preservation and suitable treatment of the sample.

   The limits of detection must be such that the cadmium concentration can be measured to an accuracy of ± 30 % and a precision of ± 30 % at the following concentrations:

   — in the case of discharges, one-tenth of the maximum permitted concentration of cadmium specified in the authorization,

   — in the case of surface water, 0,1 µg/litre or one-tenth of the cadmium concentration specified in the quality objective, whichever is the greater,

   — in the case of shellfish (mollusca and crustacea), 0,1 mg/kg wet weight,

   — in the case of sediments, one-tenth of the cadmium concentration in the sample or 0,1 mg/kg dry weight, with drying being carried out between 105 and 110 °C at constant weight, whichever value is the greater.

2. Flow measurement must be carried out to an accuracy of ± 20 %.

ANNEX IV

Monitoring procedure for quality objectives

1. For each authorization the competent authority shall specify the restrictions, monitoring procedure and time limits for ensuring compliance with the quality objective(s) concerned.

2. The Contracting Parties shall, for each quality objective chosen and applied, report to the Commission: on:

   — the points of discharge and the means of dispersal,

   — the area in which the quality objective is applied,

   — the location of sampling points,

   — the frequency of sampling,

   — the methods of sampling and measurement,

   — the results obtained.

3. Samples must be sufficiently representative of the quality of the aquatic environment in the area affected by the discharges, and the frequency of sampling must be sufficient to show any changes in the aquatic environment, taking into account, in particular, natural variations in the hydrological regime.

COUNCIL DECISION

of 25 July 1977

concluding the Convention for the protection of the Mediterranean Sea against pollution and the Protocol for the prevention of the pollution of the Mediterranean Sea by dumping from ships and aircraft

(77/585/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Whereas Article 24 of the Convention for the protection of the Mediterranean Sea against pollution provides that the Convention and the Protocols relating thereto shall be open for signature by the European Economic Community;

Having regard to the declaration of the Council of the European Communities and of the representatives of the Governments of the Member States meeting in the Council of 22 November 1973 on the programme of action of the European Communities on the environment (2);

Whereas that programme lays stress *inter alia* on the fact that marine pollution affects the whole Community, both because of the essential role played by the sea in the preservation and development of species and on account of the importance of sea transport for the harmonious economic development of the Community;

Whereas, furthermore, the action programme referred to above and Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (3) provide that certain measures are to be implemented by the Community in order to reduce the various types of marine pollution;

Whereas the Convention on the protection of the Mediterranean Sea against pollution provides in particular that suitable measures should be adopted to prevent and reduce pollution caused by dumping from ships and aircraft, pollution resulting from the exploration and exploitation of the continental shelf, the seabed and its subsoil and pollution from land-based sources;

Whereas Article 23 of the Convention provides that no party may become a Contracting Party thereto unless it becomes at the same time a Contracting Party to at least one of the Protocols and that no party may become a Contracting Party to a Protocol unless it is, or becomes at the same time, a Contracting Party to the Convention;

(1) OJ No C 259, 4. 11. 1976, p. 42.
(2) OJ No C 112, 20. 12. 1973, p. 1.
(3) OJ No L 129, 18. 5. 1976, p. 23.

Whereas it appears necessary for the Community to conclude this Convention and the Protocol on the prevention of the pollution of the Mediterranean Sea by dumping from ships and aircraft in order to attain, in the course of the operation of the common market, one of the objectives of the Community in the field of the protection of the environment and of the quality of life; whereas, moreover no provision is made in the Treaty for the powers necessary to this end;

Whereas the Convention and the said Protocol were signed on behalf of the Community on 13 September 1976,

HAS DECIDED AS FOLLOWS:

Article 1

The Convention for the protection of the Mediterranean Sea against pollution and the Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft are hereby concluded on behalf of the European Economic Community.

The texts of the Convention and the Protocol are annexed to this Decision.

Article 2

The President of the Council of the European Communities shall on behalf of the European Economic Community deposit the act concluding the Convention provided for in Article 25 thereof [1].

Done at Brussels, 25 July 1977.

For the Council
The President
H. SIMONET

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[1] The date of the entry into force of the Convention and the Protocol will be published by the General Secretariat of the Council in the *Official Journal of the European Communities*.

Ed. note: The Convention entered into force in the European Community on 15 April 1978.

CONVENTION

for the protection of the Mediterranean Sea Against pollution

THE CONTRACTING PARTIES,

CONSCIOUS of the economic, social, health and cultural value of the marine environment of the Mediterranean Sea area,

FULLY AWARE of their responsibility to preserve this common heritage for the benefit and enjoyment of present and future generations,

RECOGNIZING the threat posed by pollution to the marine environment, its ecological equilibrium, resources and legitimate uses,

MINDFUL of the special hydrographic and ecological characteristics of the Mediterranean Sea area and its particular vulnerability to pollution,

NOTING that existing international conventions on the subject do not cover, in spite of the progress achieved, all aspects and sources of marine pollution and do not entirely meet the special requirements of the Mediterranean Sea, area,

REALIZING fully the need for close cooperation among the States and international organizations concerned in a coordinated and comprehensive regional approach for the protection and enhancement of the marine environment in the Mediterranean Sea area,

HAVE AGREED AS FOLLOWS:

Article 1

Geographical coverage

1. For the purposes of this Convention, the Mediterranean Sea area shall mean the maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the west by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar, and to the east by the southern limits of the Straits of the Dardanelles between the Mehmetcik and Kumkale lighthouses.

2. Except as may be otherwise provided in any Protocol to this Convention, the Mediterranean Sea area shall not include internal waters of the Contracting Parties.

Article 2

Definitions

For the purposes of this Convention:

(a) 'Pollution' means the introduction by man, directly or indirectly, of substances or energy into the marine environment resulting in such deleterious effects as harm to living recources, hazards to human health, hindrance to marine activities including fishing, impairment of quality for use of sea water and reduction of amenities.

(b) 'Organization' means the body designated as responsible for carrying out secretariat functions pursuant to Article 13 of this Convention.

Article 3

General provisions

1. The Contracting Parties may enter into bilateral or multilateral agreements, including regional or sub-regional agreements, for the protection of the marine environment of the Mediterranean Sea against pollution, provided that such agreements are consistent with this Convention and conform to international law. Copies of such agreements between

Contracting Parties to this Convention shall be communicated to the Organization.

2. Nothing in this Convention shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea convened pursuant to resolution 2750 C (XXV) of the General Assembly of the United Nations, nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction.

Article 4

General undertakings

1. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party, to prevent, abate and combat pollution of the Mediterranean Sea area and to protect and enhance the marine environment in that area.

2. The Contracting Parties shall cooperate in the formulation and adoption of Protocols, in addition to the protocols opened for signature at the same time as this Convention, prescribing agreed measures, procedures and standards for the implementation of this Convention.

3. The Contracting Parties further pledge themselves to promote, within the international bodies considered to be competent by the Contracting Parties, measures concerning the protection of the marine environment in the Mediterranean Sea area from all types and sources of pollution.

Article 5

Pollution caused by dumping from ships and aircraft

The Contracting Parties shall take all appropriate measures to prevent and abate pollution of the Mediterranean Sea area caused by dumping from ships and aircraft.

Article 6

Pollution from ships

The Contracting Parties shall take all measures in conformity with international law to prevent, abate and combat pollution of the Mediterranean Sea area caused by discharges from ships and to ensure the effective implementation in that area of the rules which are generally recognized at the international level relating to the control of this type of pollution.

Article 7

Pollution resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil

The Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea area resulting from exploration and exploitation of the continental shelf and the seabed and its subsoil.

Article 8

Pollution from land-based sources

The Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories.

Article 9

Cooperation in dealing with pollution emergencies

1. The Contracting Parties shall cooperate in taking the necessary measures for dealing with pollution emergencies in the Mediterranean Sea area, whatever the causes of such emergencies, and reducing or eliminating damage resulting therefrom.

2. Any Contracting Party which becomes aware of any pollution emergency in the Mediterranean Sea area shall without delay notify the Organization and, either through the Organization or directly, any Contracting Party likely to be affected by such emergency.

Article 10

Monitoring

1. The Contracting Parties shall endeavour to establish, in close cooperation with the international bodies which they consider competent, complementary or joint programmes, including, as appropriate, programmes at the bilateral or multilateral levels, for pollution monitoring in the Mediterranean Sea area and shall endeavour to establish a pollution monitoring system for that area.

2. For this purpose, the Contracting Parties shall designate the competent authorities responsible for pollution monitoring within areas under their national jurisdiction and shall participate as far as practicable in international arrangements for pollution monitoring in areas beyond national jurisdiction.

3. The Contracting Parties undertake to cooperate in the formulation, adoption and implementation of such Annexes to this Convention as may be required to prescribe common procedures and standards for pollution monitoring.

Article 11

Scientific and technological cooperation

1. The Contracting Parties undertake as far as possible to cooperate directly, or when appropriate through competent regional or other international organizations, in the fields of science and technology and to exchange data as well as other scientific information for the purpose of this Convention.

2. The Contracting Parties undertake as far as possible to develop and coordinate their national research programmes relating to all types of marine pollution in the Mediterranean Sea area and to cooperate in the establishment and implementation of regional and other international research programmes for the purposes of this Convention.

3. The Contracting Parties undertake to cooperate in the provision of technical and other possible assistance in fields relating to marine pollution, with priority to be given to the special needs of developing countries in the Mediterranean region.

Article 12

Liability and compensation

The Contracting Parties undertake to cooperate as soon as possible in the formulation and adoption of appropriate procedures for the determination of liability and compensation for damage resulting from the pollution of the marine environment deriving from violations of the provisions of this Convention and applicable Protocols.

Article 13

Institutional arrangements

The Contracting Parties designate the United Nations Environment Programme as responsible for carrying out the following secretariat functions:

(i) to convene and prepare the meetings of Contracting Parties and conferences provided for in Articles 14, 15 and 16;

(ii) to transmit to the Contracting Parties notifications, reports and other information received in accordance with Articles 3, 9 and 20;

(iii) to consider inquiries by, and information from, the Contracting Parties, and to consult with them on questions relating to this Convention and the Protocols and Annexes thereto;

(iv) to perform the functions assigned to it by the Protocols to this Convention;

(v) to perform such other functions as may be assigned to it by the Contracting Parties;

(vi) to ensure the necessary coordination with other international bodies which the Contracting Parties consider competent, and in particular, to enter into such administrative arrangements as may be required for the effective discharge of the secretariat functions.

Article 14

Meetings of the Contracting Parties

1. The Contracting Parties shall hold ordinary meetings once every two years and extraordinary meetings at any other time deemed necessary, upon the request of the Organization or at the request of

any Contracting Party, provided that such requests are supported by at least two Contracting Parties.

2. It shall be the function of the meetings of the Contracting Parties to keep under review the implementation of this Convention and the Protocols and, in particular:

(i) to review generally the inventories carried out by Contracting Parties and competent international organizations on the state of marine pollution and its effects in the Mediterranean Sea area;

(ii) to consider reports submitted by the Contracting Parties under Article 20;

(iii) to adopt, review and amend as required the Annexes to this Convention and to the Protocols, in accordance with the procedure established in Article 17;

(iv) to make recommendations regarding the adoption of any Additional Protocols or any amendments to this Convention or the Protocols in accordance with the provisions of Articles 15 and 16;

(v) to establish working groups as required to consider any matters related to this Convention and the Protocols and Annexes;

(vi) to consider and undertake any additional action that may be required for the achievement of the purposes of this Convention and the Protocols.

Article 15

Adoption of Additional Protocols

1. The Contracting Parties, at a diplomatic conference, may adopt Additional Protocols to this Convention pursuant to paragraph 2 of Article 4.

2. A diplomatic conference for the purpose of adopting Additional Protocols shall be convened by the Organization at the request of two thirds of the Contracting Parties.

3. Pending the entry into force of this Convention the Organization may, after consulting with the signatories to this Convention, convene a diplomatic conference for the purpose of adopting Additional Protocols.

Article 16

Amendment of the Convention or Protocols

1. Any Contracting Party to this Convention may propose amendments to the Convention. Amendments shall be adopted by a diplomatic conference which shall be convened by the Organization at the request of two thirds of the Contracting Parties.

2. Any Contracting Party to this Convention may propose amendments to any Protocol. Such amendments shall be adopted by a diplomatic conference which shall be convened by the Organization at the request of two thirds of the Contracting Parties to the Protocol concerned.

3. Amendments to this Convention shall be adopted by a three-fourths majority vote of the Contracting Parties to the Convention which are represented at the diplomatic conference and shall be submitted by the Depositary for acceptance by all Contracting Parties to the Convention. Amendments to any Protocol shall be adopted by a three-fourths majority vote of the Contracting Parties to such Protocol which are represented at the diplomatic conference and shall be submitted by the Depositary for acceptance by all Contracting Parties to such Protocol.

4. Acceptance of amendments shall be notified to the Depositary in writing. Amendments adopted in accordance with paragraph 3 of this Article shall enter into force between Contracting Parties having accepted such amendments on the 30th day following the receipt by the Depositary of notification of their acceptance by at least three-fourths of the Contracting Parties to this Convention or to the Protocol concerned, as the case may be.

5. After the entry into force of an amendment to this Convention or to a Protocol, any new Contracting Party to this Convention or such Protocol shall become a Contracting Party to the instrument as amended.

Article 17

Annexes and amendments to Annexes

1. Annexes to this Convention or to any Protocol shall form an integral part of the Convention or such Protocol, as the case may be.

2. Except as may be otherwise provided in any Protocol, the following procedure shall apply to the adoption and entry into force of any amendments to Annexes to this Convention or to any Protocol, with the exception of amendments to the Annex on Arbitration:

(i) any Contracting Party may propose amendments to the Annexes to this Convention or to any Protocols and the meetings referred to in Article 14;

(ii) such amendments shall be adopted by a three-fourths majority vote of the Contracting Parties to the instrument in question;

(iii) the Depositary shall without delay communicate the amendments so adopted to all Contracting Parties;

(iv) any Contracting Party that is unable to approve an amendment to the Annexes to this Convention or to any Protocol shall so notify in writing the Depositary within a period determined by the Contracting Parties concerned when adopting the amendment;

(v) the Depositary shall without delay notify all Contracting Parties of any notification received pursuant to the preceding subparagraph;

(vi) on expiry of the period referred to in subparagraph (iv) above, the amendment to the Annex shall become effective for all Contracting Parties to this Convention or to the Protocol concerned which have not submitted a notification in accordance with the provisions of that subparagraph.

3. The adoption and entry into force of a new Annex to this Convention or to any Protocol shall be subject to the same procedure as for the adoption and entry into force of an amendment to an Annex in accordance with the provisions of paragraph 2 of this Article, provided that, if any amendment to the Convention or the Protocol concerned is involved, the new Annex shall not enter into force until such time as the amendment to the Convention or the Protocol concerned enters into force.

4. Amendments to the Annex on Arbitration shall be considered to be amendments to this Convention and shall be proposed and adopted in accordance with the procedures set out in Article 16 above.

Article 18

Rules of procedure and financial rules

1. The Contracting Parties shall adopt rules of procedure for their meetings and conferences envisaged in Articles 14, 15 and 16 above.

2. The Contracting Parties shall adopt financial rules, prepared in consultation with the Organization, to determine, in particular, their financial participation.

Article 19

Special exercise of voting right

Within the areas of their competence, the European Economic Community and any regional economic grouping referred to in Article 24 of this Convention shall exercise their right to vote with a number of votes equal to the number of their Member States which are Contracting Parties to this Convention and to one or more Protocols; the European Economic Community and any grouping as referred to above shall not exercise their right to vote in cases where the Member States concerned exercise theirs, and conversely.

Article 20

Reports

The Contracting Parties shall transmit to the Organization reports on the measures adopted in the implementation of this Convention and of Protocols to which they are Parties, in such form and at such intervals as the meetings of Contracting Parties may determine.

Article 21

Compliance control

The Contracting Parties undertake to cooperate in the development of procedures enabling them to control the application of this Convention and the Protocols.

Article 22

Settlement of disputes

1. In case of a dispute between Contracting Parties as to the interpretation or application of this Convention or the Protocols, they shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.

2. If the Parties concerned cannot settle their dispute through the means mentioned in the preceding paragraph, the dispute shall upon common

agreement be submitted to arbitration under the conditions laid down in Annex A to this Convention.

3. Nevertheless, the Contracting Parties may at any time declare that they recognize as compulsory *ipso facto* and without special agreement, in relation to any other Party accepting the same obligation, the application of the arbitration procedure in conformity with the provisions of Annex A. Such declaration shall be notified in writing to the Depositary, who shall communicate it to the other Parties.

Article 23

Relationship between the Convention and Protocols

1. No one may become a Contracting Party to this Convention unless it becomes at the same time a Contracting Party to at least one of the Protocols. No one may become a Contracting Party to a Protocol unless it is, or becomes at the same time, a Contracting Party to this Convention.

2. Any Protocol to this Convention shall be binding only on the Contracting Parties to the Protocol in question.

3. Decisions concerning any Protocol pursuant to Articles 14, 16 and 17 of this Convention shall be taken only by the Parties to the Protocol concerned.

Article 24

Signature

This Convention, the Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft and the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency shall be open for signature in Barcelona on 16 February 1976 and in Madrid from 17 February 1976 to 16 February 1977 by any State invited as a participant in the Conference of Plenipotentiaries of the Coastal States of the Mediterranean Region on the Protection of the Mediterranean Sea, held in Barcelona from 2 to 16 February 1976, and by any State entitled to sign any Protocol in accordance with the provisions of such Protocol. They shall also be open until the same date for signature by the European Economic Community and by any similar regional economic grouping at least one member of which is a coastal State of the Mediterranean Sea area and which exercise competences in fields covered by this Convention, as well as by any Protocol affecting them.

Article 25

Ratification, acceptance or approval

This Convention and any Protocol thereto shall be subject to ratification, acceptance, or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.

Article 26

Accession

1. As from 17 February 1977, the present Convention, the Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft, and the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency shall be open for accession by the States, by the European Economic Community and by any grouping as referred to in Article 24.

2. After the entry into force of the Convention and of any Protocol, any State not referred to in Article 24 may accede to this Convention and to any Protocol, subject to prior approval by three-fourths of the Contracting Parties to the Protocol concerned.

3. Instruments of accession shall be deposited with the Depositary.

Article 27

Entry into force

1. This Convention shall enter into force on the same date as the Protocol first entering into force.

2. The Convention shall also enter into force with regard to the States, the European Economic Community and any regional economic grouping referred to in Article 24 if they have complied with the formal requirements for becoming Contracting Parties to any other Protocol not yet entered into force.

3. Any Protocol to this Convention, except as otherwise provided in such Protocol, shall enter into force on the 30th day following the date of deposit of at least six instruments of ratification, acceptance, or approval of, or accession to such Protocol by the Parties referred to in Article 24.

4. Thereafter, this Convention and any Protocol shall enter into force with respect to any State, the European Economic Community and any regional economic grouping referred to in Article 24 on the 30th day following the date of deposit of the instruments of ratification, acceptance, approval or accession.

Article 28

Withdrawal

1. At any time after three years from the date of entry into force of this Convention, any Contracting Party may withdraw from this Convention by giving written notification of withdrawal.

2. Except as may be otherwise provided in any Protocol to this Convention, any Contracting Party may, at any time after three years from the date of entry into force of such Protocol, withdraw from such Protocol by giving written notification of withdrawal.

3. Withdrawal shall take effect 90 days after the date on which notification of withdrawal is received by the Depositary.

4. Any Contracting Party which withdraws from this Convention shall be considered as also having withdrawn from any Protocol to which it was a Party.

5. Any Contracting Party which, upon its withdrawal from a Protocol, is no longer a Party to any Protocol to this Convention, shall be considered as also having withdrawn from this Convention.

Article 29

Responsibilities of the Depositary

1. The Depositary shall inform the Contracting Parties, any other Party referred to in Article 24, and the Organization:

(i) of the signature of this Convention and of any Protocol thereto, and of the deposit of instruments of ratification, acceptance, approval or accession in accordance with Articles 24, 25 and 26;

(ii) of the date on which the Convention and any Protocol will come into force in accordance with the provisions of Article 27;

(iii) of notifications of withdrawal made in accordance with Article 28;

(iv) of the amendments adopted with respect to the Convention and to any Protocol, their acceptance by the Contracting Parties and the date of entry into force of those amendments in accordance with the provisions of Article 16;

(v) of the adoption of new Annexes and of the amendment of any Annex in accordance with Article 17;

(vi) of declarations recognizing as compulsory the application of the arbitration procedure mentioned in paragraph 3 of Article 22.

2. The original of this Convention and of any Protocol thereto shall be deposited with the Depositary, the Government of Spain, which shall send certified copies thereof to the Contracting Parties, to the Organization, and to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the United Nations Charter.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Convention.

Done at Barcelona on 16 February 1976 in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.

ANNEX A

ARBITRATION

Article 1

Unless the Parties to the dispute otherwise agree, the arbitration procedure shall be conducted in accordance with the provisions of this Annex.

Article 2

1. At the request addressed by one Contracting Party to another Contracting Party in accordance with the provisions of paragraph 2 or paragraph 3 of Article 22 of the Convention, an arbitral tribunal shall be constituted. The request for arbitration shall state the subject matter of the application including, in particular, the articles of the Convention or the Protocols, the interpretation or application of which is in dispute.

2. The claimant party shall inform the Organization that it has requested the setting up of an arbitral tribunal, stating the name of the other Party to the dispute and articles of the Convention or the Protocols the interpretation or application of which is in its opinion in dispute. The Organization shall forward the information thus received to all Contracting Parties to the Convention.

Article 3

The arbitral tribunal shall consist of three members: each of the Parties to the dispute shall appoint an arbitrator; the two arbitrators so appointed shall designate by common agreement the third arbitrator who shall be the chairman of the tribunal. The latter shall not be a national of one of the Parties to the dispute, nor have his usual place of residence in the territory of one of these Parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

Article 4

1. If the chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the United Nations shall, at the request of the most diligent Party, designate him within a further two months' period.

2. If one of the Parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other Party may inform the Secretary-General of the United Nations who shall designate the chairman of the arbitral tribunal within a further two months' period. Upon designation, the chairman of the arbitral tribunal shall request the Party which has not appointed an arbitrator to do so within two months. After such period, he shall in form the Secretary-General of the United Nations, who shall make this appointment within a further two months' period.

Article 5

1. The arbitral tribunal shall decide according to the rules of international law and, in particular, those of this Convention and the Protocols concerned.

2. Any arbitral tribunal constituted under the provisions of this Annex shall draw up its own rules of procedure.

Article 6

1. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority vote of its members.

2. The tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the Parties, recommend essential interim measures of protection.

3. If two or more arbitral tribunals constituted under the provisions of this Annex are seized of requests with identical or similar subjects, they may inform themselves of the procedures for establishing the facts and take them into account as far as possible.

4. The Parties to the dispute shall provide all facilities necessary for the effective conduct of the proceedings.

5. The absence or default of a Party to the dispute shall not constitute an impediment to the proceedings.

Article 7

1. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the Parties to the dispute.

2. Any dispute which may arise between the Parties concerning the interpretation or execution of the award may be submitted by the most diligent Party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.

Article 8

The European Economic Community and any regional economic grouping referred to in Article 24 of the Convention, like any Contracting Party to the Convention, are empowered to appear as complainants or as respondents before the arbitral tribunal.

PROTOCOL

for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft

THE CONTRACTING PARTIES TO THE PRESENT PROTOCOL,

BEING PARTIES to the Convention for the protection of the Mediterranean Sea against pollution,

RECOGNIZING the danger posed to the marine environment by pollution caused by the dumping or wastes or other matter from ships and aircraft,

CONSIDERING that the coastal States of the Mediterranean Sea have a common interest in protecting the marine environment from this danger,

BEARING IN MIND the Convention on the prevention of marine pollution by dumping of wastes and other matter, adopted in London in 1972,

HAVE AGREED AS FOLLOWS:

Article 1

The Contracting Parties to this Protocol (hereinafter referred to as 'the Parties') shall take all appropriate measures to prevent and abate pollution of the Mediterranean Sea area caused by dumping from ships and aircraft.

Article 2

The area to which this Protocol applies shall be the Mediterranean Sea area as defined in Article 1 of the Convention for the protection of the Mediterranean Sea against pollution (hereinafter referred to as 'the Convention').

Article 3

For the purposes of this Protocol:

1. 'ships and aircraft' means waterborne or airborne craft of any type whatsoever. This expression includes air-cushioned craft and floating craft, whether self-propelled or not, and platforms and other man-made structures at sea and their equipment.

2. 'Wastes or other matter' means material and substances of any kind, form or description.

3. 'Dumping' means:

   (a) any deliberate disposal at sea of wastes or other matter from ships or aircraft;

   (b) any deliberate disposal at sea of ships or aircraft.

4. 'Dumping' does not include:

   (a) the disposal at sea of wastes or other matter incidental to, or derived from, the normal operations of vessels, or aircraft and their equipment, other than wastes or other matter transported by or to vessels or aircraft, operating for the purpose of disposal of such matter, or derived from the treatment of such wastes or other matter on such vessels or aircraft;

   (b) placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of this Protocol.

5. 'Organization' means the body referred to in Article 13 of the Convention.

Article 4

The dumping into the Mediterranean Sea area of wastes or other matter listed in Annex I to this Protocol is prohibited.

Article 5

The dumping into the Mediterranean Sea area of all wastes or other matter listed in Annex II to this Protocol requires, in each case, a prior special permit from the competent national authorities.

Article 6

The dumping into the Mediterranean Sea area of all other wastes or other matter requires a prior general permit from the competent national authorities.

Article 7

The permits referred to in Articles 5 and 6 above shall be issued only after careful consideration of all the factors set forth in Annex III to this Protocol. The Organization shall receive records of such permits.

Article 8

The provisions of Articles 4, 5 and 6 shall not apply in case of *force majeure* due to stress of weather or any other cause when human life or the safety of a ship or aircraft is threatened. Such dumpings shall immediately be reported to the Organization and either through the Organization or directly, to any Party or Parties likely to be affected, together with full details of the circumstances and of the nature and quantities of the wastes or other matter dumped.

Article 9

If a Party in a critical situation of an exceptional nature considers that wastes or other matter listed in Annex I to this Protocol cannot be disposed of on land without unacceptable danger or damage, above all for the safety of human life, the Party concerned shall fortwith consult the Organization. The Organization, after consulting the Parties to this Protocol, shall recommend methods of storage or the most satisfactory means of destruction or disposal under the prevailing circumstances. The Party shall inform the Organization of the steps adopted in pursuance of these recommendations. The Parties pledge themselves to assist one another in such situations.

Article 10

1. Each Party shall designate one or more competent authorities to:

(a) issue the special permits provided for in Article 5;

(b) issue the general permits provided for in Article 6;

(c) keep records of the nature and quantities of the wastes or other matter permitted to be dumped and of the location, date and method of dumping.

2. The competent authorities of each Party shall issue the permits provided for in Articles 5 and 6 in respect of the wastes or other matter intended for dumping:

(a) loaded in its territory;

(b) loaded by a ship or aircraft registered in its territory or flying its flag, when the loading occurs in the territory of a State not Party to this Protocol.

Article 11

1. Each Party shall apply the measures required to implement this Protocol to all:

(a) ships and aircraft registered in its territory or flying its flag;

(b) ships and aircraft loading in its territory wastes or other matter which are to be dumped;

(c) ships and aircraft believed to be engaged in dumping in areas under its jurisdiction in this matter.

2. This Protocol shall not apply to any ships or aircraft owned or operated by a State Party to this Protocol and used for the time being only on Government noncommercial service. However, each Party shall ensure by the adoption of appropriate measures not impairing the operations or operational capabilities of such ships or aircraft owned or operated by it, that such ships and aircraft act in a manner consistent, so far as is reasonable and practicable, with this Protocol.

Article 12

Each Party undertakes to issue instructions to its maritime inspection ships and aircraft and to other appropriate services to report to its authorities any incidents or conditions in the Mediterranean Sea area which give rise to suspicions that dumping in contravention of the provisions of this Protocol has occurred or is about to occur. That Party shall, if it considers it appropriate, report accordingly to any other Party concerned.

Article 13

Nothing in this Protocol shall affect the right of each Party to adopt other measures, in accordance with international law, to prevent pollution due to dumping.

Article 14

1. Ordinary meetings of the Parties to this Protocol shall be held in conjunction with ordinary meetings of the Contracting Parties to the Convention held pursuant to Article 14 of the Convention. The Parties to this Protocol may also hold extraordinary meetings in conformity with Article 14 of the Convention.

2. It shall be the function of the meetings of the Parties to this Protocol:

(a) to keep under review the implementation of this Protocol, and to consider the efficacy of the measures adopted and the need for any other measures, in particular in the form of Annexes;

(b) to study and consider the records of the permits issued in accordance with Articles 5, 6 and 7 and of the dumping which has taken place;

(c) to review and amend as required any Annex to this Protocol;

(d) to discharge such other functions as may be appropriate for the implementation of this Protocol.

3. The adoption of amendments to the Annexes to this Protocol pursuant to Article 17 of the Convention shall require a three-fourths majority vote of the Parties.

Article 15

1. The provisions of the Convention relating to any Protocol shall apply with respect to the present Protocol.

2. The rules of procedure and the financial rules adopted pursuant to Article 18 of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Protocol.

Done at Barcelona on 16 February 1976 in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.

ANNEX I

A. The following substances and materials are listed for the purpose of Article 4 of the Protocol.

1. Organohalogen compounds and compounds which may form such substances in the marine environment, excluding those which are non-toxic or which are rapidly converted in the sea into substances which are biologically harmless, provided that they do not make edible marine organisms unpalatable.

2. Organosilicon compounds and compounds which may form such substances in the marine environment, excluding those which are non-toxic or which are rapidly converted in the sea into substances which are biologically harmless, provided that they do not make edible marine organisms unpalatable.

3. Mercury and mercury compounds.

4. Cadmium and cadmium compounds.

5. Persistent plastic and other persistent synthetic materials which may materially interfere with fishing or navigation, reduce amenities, or interfere with other legitimate uses of the sea.

6. Crude oil and hydrocarbons which may be derived from petroleum, and any mixtures containing any of these, taken on board for the purpose of dumping.

7. High-, medium- and low-level radioactive wastes or other high-, medium- and low-level radioactive matter to be defined by the International Atomic Energy Agency.

8. Acid and alkaline compounds of such composition and in such quantity that they may seriously impair the quality of sea water. The composition and quantity to be taken into consideration shall be determined by the Parties in accordance with the procedure laid down in Article 14 (3) of this Protocol.

9. Materials in whatever form (e.g. solids, liquids, semi-liquids, gases, or in a living state) produced for biological and chemical warfare, other than those rapidly rendered harmless by physical, chemical or biological processes in the sea, provided that they do not:

   (i) make edible marine organisms unpalatable; or

   (ii) endanger human or animal health.

B. This Annex does not apply to wastes or other materials, such as sewage sludge and dredge spoils, containing the substances referred to in paragraphs 1 to 6 above as trace contaminants. The dumping of such wastes shall be subject to the provisions of Annexes II and III as appropriate.

ANNEX II

The following wastes and other matter, the dumping of which requires special care, are listed for the purposes of Article 5.

1. (i) arsenic, lead, copper, zinc, beryllium, chromium, nickel, vanadium, selenium, antimony and their compounds;

   (ii) cyanides and fluorides;

   (iii) pesticides and their by-products not covered in Annex I;

   (iv) synthetic organic chemicals, other than those referred to in Annex I, likely to produce harmful effects on marine organisms or to make edible marine organisms unpalatable;

2. (i) acid and alkaline compounds the composition and quantity of which have not yet been determined in accordance with the procedure referred to in Annex I A (8);

   (ii) acid and alkaline compounds not covered by Annex I, excluding compounds to be dumped in quantities below thresholds which shall be determined by the Parties in accordance with the procedure laid down in Article 14 (3) of this Protocol.

3. Containers, scrap metal and other bulky wastes liable to sink to the sea bottom which may present a serious obstacle to fishing or navigation.

4. Substances which, though of a non-toxic nature may become harmful owing to the quantities in which they are dumped, or which are liable to reduce amenities seriously or to endanger human life or marine organisms or to interfere with navigation.

5. Radioactive waste or other radioactive matter which will not be included in Annex I. In the issue of permits for the dumping of this matter, the Parties should take full account of the recommendations of the competent international body in this field, at present the International Atomic Energy Agency.

ANNEX III

The factors to be considered in establishing criteria governing the issue of permits for the dumping of matter at sea taking into account Article 7 include:

A. **Characteristics and composition of the matter**

1. Total amount and average compositions of matter dumped (e.g. per year).

2. Form (e.g. solid, sludge, liquid or gaseous).

3. Properties: physical (e.g. solubility and density), chemical and biochemical (e.g. oxygen demand, nutrients) and biological (e.g. presence of viruses, bacteria, yeasts, parasites).

4. Toxicity.

5. Persistence: physical, chemical and biological.

6. Accumulation and biotransformation in biological materials or sediments.

7. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other dissolved organic and inorganic materials.

8. Probability of production of taints or other changes reducing marketability of resources (fish, shellfish, etc.).

B. **Characteristics of dumping site and method of deposit**

1. Location (e.g. coordinates of the dumping area, depth and distance from the coast), location in relation to other areas (e.g. amenity areas, spawning, nursery and fishing areas and exploitable resources).

2. Rate of disposal per specific period (e.g. quantity per day, per week, per month).

3. Methods of packaging and containment, if any.

4. Initial dilution achieved by proposed method of release, particularly the speed of the ship.

5. Dispersal characteristics (e.g. effects of currents, tides and wind on horizontal transport and vertical mixing).

6. Water characteristics (e.g. temperature, pH, salinity, stratification, oxygen indices of pollution — dissolved oxygen (DO), chemical oxygen demand (COD), biochemical oxygen demand (BOD), nitrogen present in organic and mineral form, including ammonia, suspended matter, other nutrients and productivity).

7. Bottom characteristics (e.g. topography, geochemical and geological characteristics and biological productivity).

8. Existence and effects of other dumpings which have been made in the dumping area (e.g. heavy metal background reading and organic carbon content).

9. When issuing a permit for dumping, the Contracting Parties shall endeavour to determine whether an adequate scientific basis exists for assessing the consequences of such dumping in the area concerned, in accordance with the foregoing provisions and taking into account seasonal variations.

C. General considerations and conditions

1. Possible effects on amenities (e.g. presence of floating or stranded material, turbidity, objectionable odour, discoloration and foaming).

2. Possible effects on marine life, fish and shellfish culture, fish stocks and fisheries, seaweed harvesting and culture.

3. Possible effects on other uses of the sea (e.g. impairment of water quality for industrial use, underwater corrosion of structures, interference with ship operations from floating materials, interference with fishing or navigation through deposit of waste or solid objects on the sea floor and protection of areas of special importance for scientific or conservation purposes).

4. The practical availability of alternative land-based methods of treatment, disposal or elimination or of treatment to render the matter less harmful for sea dumping.

COUNCIL DECISION

of 19 May 1981

on the conclusion of the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency

(81/420/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Whereas, at its meeting in Copenhagen on 7 and 8 April 1978, the European Council decided that the Community should make the prevention and control of marine pollution, particularly by hydrocarbons, one of its main objectives, and asked the Council, acting on a proposal from the Commission, and the Member States to introduce appropriate measures without delay within the Community and to adopt a common stand in the international bodies concerned, particularly as regards research and the implementation of effective pollution control measures ;

Whereas the programmes of action of the European Communities on the environment [2] emphasize how important it is for the Community to combat marine pollution in general, provide for *inter alia* Community action to combat pollution caused by transport and shipping and specify that the protection of sea-water with a view to preserving vital ecological balances is a priority task;

Whereas the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution of 16 February 1976 provides *inter alia* that the necessary measures are to be taken to ensure cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency;

Whereas Article 24 of the Barcelona Convention states that the Convention and its Protocols shall be open for signing by the European Economic Community; whereas the latter has already concluded the Convention for the protection of the Mediterranean Sea against pollution and the Protocol for the prevention of the pollution of the Mediterranean Sea by dumping from ships and aircraft;

Whereas the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency provides for the Parties to cooperate in drawing up emergency plans, promoting methods of controlling marine pollution by hydrocarbons, disseminating information on the organization of resources and on new methods to prevent and control pollution and developing relevant research programmes;

Whereas it is necessary that the Community accede to the Protocol in accordance with Article 26 of the Barcelona Convention if the common market machinery is to be used to achieve one of the Community's objectives in the protection of the environment and the quality of life; whereas the Treaty makes no provision for powers to take such action;

Whereas it is necessary for the Community to accede to the said Protocol, in order to take part in the information exchange and common research and thus achieve the above objective, alongside Member States and without prejudice to the role hitherto played by them within the framework of the Barcelona Convention; whereas future Community acts are not hereby prejudiced;

Whereas the said Protocol provides for exchange of information, common research and cooperation at sea, which of their nature do not constitute common rules which might be affected by agreements which the Member States might wish to conclude within this area;

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[1] OJ No C 28, 9. 2. 1981, p. 55.

[2] OJ No C 112, 20. 12. 1973, p. 1 and OJ No C 139, 13. 6. 1977, p. 1.

HAS DECIDED AS FOLLOWS:

Article 1

The Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency is hereby approved on behalf of the European Economic Community.

The text of the Protocol is annexed to this Decision.

Article 2

The President of the Council shall deposit the instruments of accession as provided for in Article 26 of the Barcelona Convention.

Done at Brussels, 19 May 1981.

For the Council

The President

D. F. van der MEI

PROTOCOL

concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency

THE CONTRACTING PARTIES TO THE PRESENT PROTOCOL,

BEING PARTIES to the Convention for the Protection of the Mediterranean Sea against Pollution,

RECOGNIZING that grave pollution of the sea by oil and other harmful substances in the Mediterranean Sea area involves a danger for the coastal States and the marine ecosystem,

CONSIDERING that the cooperation of all the coastal States of the Mediterranean is called for to combat this pollution,

BEARING IN MIND the International Convention for the Prevention of Pollution from Ships, 1973, the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, as well as the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, 1973,

FURTHER TAKING INTO ACCOUNT the International Convention on Civil Liability for Oil Pollution Damage, 1969,

HAVE AGREED AS FOLLOWS:

Article 1

The Contracting Parties to this Protocol (hereinafter referred to as 'the Parties') shall cooperate in taking the necessary measures in cases of grave and imminent danger to the marine environment, the coast or related interests of one or more of the Parties due to the presence of massive quantities of oil or other harmful substances resulting from accidental causes or an accumulation of small discharges which are polluting or threatening to pollute the sea within the area defined in Article 1 of the Convention for the Protection of the Mediterranean Sea against Pollution (hereinafter referred to as 'the Convention').

Article 2

For the purpose of this Protocol, the term 'related interests' means the interests of a coastal State directly affected or threatened and concerning, among others:

(a) activities in coastal waters, in ports or estuaries, including fishing activities;

(b) the historical and tourist appeal of the area in question, including water sports and recreation;

(c) the health of the coastal population;

(d) the preservation of living resources.

Article 3

The Parties shall endeavour to maintain and promote, either individually or through bilateral or multilateral cooperation, their contingency plans and means for combating pollution of the sea by oil and other harmful substances. These means shall include, in particular, equipment, ships, aircraft and manpower prepared for operations in cases of emergency.

Article 4

The Parties shall develop and apply, either individually or through bilateral or multilateral cooperation, monitoring activities covering the Mediterranean Sea area in order to have as precise information as possible on the situations referred to in Article 1 of this Protocol.

Article 5

In the case of release or loss overboard of harmful substances in packages, freight containers, portable tanks or road and rail tank wagons, the Parties shall cooperate as far as practicable in the salvage and recovery of such substances so as to reduce the danger of pollution of the marine environment.

Article 6

1. Each Party undertakes to disseminate to the other Parties information concerning:

(a) the competent national organization or authorities responsible for combating pollution of the sea by oil and other harmful substances;

(b) the competent national authorities responsible for receiving reports of pollution of the sea by oil and other harmful substances and for dealing with matters concerning measures of assistance between Parties;

(c) new ways in which pollution of the sea by oil and other harmful substances may be avoided, new measures of combating pollution and the development of related research programmes.

2. Parties which have agreed to exchange information directly between themselves shall nevertheless communicate such information to the regional centre. The latter shall communicate this information to the other Parties and, on a basis of reciprocity, to coastal States of the Mediterranean Sea area which are not Parties to this Protocol.

Article 7

The Parties undertake to coordinate the utilization of the means of communication at their disposal in order to ensure, with the necessary speed and reliability, the reception, transmission and dissemination of all reports and urgent information which relate to the occurrences and situations referred to in Article 1. The regional centre shall have the necessary means of communication to enable it to participate in this coordinated effort and, in particular, to fulfil the functions assigned to it by paragraph 2 of Article 10.

Article 8

1. Each Party shall issue instructions to the masters of ships flying its flag and to the pilots of aircraft registered in its territory requiring them to report by the most rapid and adequate channels in the circumstances, and in accordance with Annex I to this Protocol, either to a Party or to the regional centre:

(a) all accidents causing or likely to cause pollution of the sea by oil or other harmful substances;

(b) the presence, characteristics and extent of spillages of oil or other harmful substances observed at sea which are likely to present a serious and imminent threat to the marine environment or to the coast or related interests of one or more of the Parties.

2. The information collected in accordance with paragraph 1 shall be communicated to the other Parties likely to be affected by the pollution:

(a) by the Party which has received the information, either directly or preferably, through the regional centre; or

(b) by the regional centre.

In case of direct communication between Parties, the regional centre shall be informed of the measures taken by these Parties.

3. In consequence of the application of the provisions of paragraph 2, the Parties are not bound by the obligation laid down in Article 9, paragraph 2, of the Convention.

Article 9

1. Any Party faced with a situation of the kind defined in Article 1 of this Protocol shall:

(a) make the necessary assessments of the nature and extent of the casualty or emergency or, as the case may be, of the type and approximate quantity of oil or other harmful substances and the direction and speed of drift of the spillage:

(b) take every practicable, measure to avoid or reduce the effects of pollution;

(c) immediately inform all other Parties, either directly or through the regional centre, of these assessments and of any action which it has taken or which it intends to take to combat the pollution;

(d) continue to observe the situation for as long as possible and report thereon in accordance with Article 8.

2. Where action is taken to combat pollution originating from a ship, all possible measures shall be taken to safeguard the persons present on board and, to the extent possible, the ship itself. Any Party which

takes such action shall inform the Inter-Governmental Maritime Consultative Organization.

Article 10

1. Any Party requiring assistance for combating pollution by oil or other harmful substances polluting or threatening to pollute its coasts may call for assistance from other Parties, either directly or through the regional centre referred to in Article 6, starting with the Parties which appear likely to be affected by the pollution. This assistance may comprise, in particular, expert advice and the supply to, or placing at the disposal of, the Party concerned of products, equipment and nautical facilities. Parties so requested shall use their best endeavours to render this assistance.

2. Where the Parties engaged in an operation to combat pollution cannot agree on the organization of the operation, the regional centre may, with their approval, coordinate the activity of the facilities put into operation by these Parties.

Article 11

The application of the relevant provisions of Articles 6, 7, 8, 9 and 10 of this Protocol relating to the regional centre shall be extended, as appropriate, to sub-regional centres in the event of their establishment, taking into account their objectives and functions and their relationship with the said regional centre.

Article 12

1. Ordinary meetings of the Parties to this Protocol shall be held in conjunction with ordinary meetings of the Contracting Parties to the Convention, held pursuant to Article 14 of the Convention. The Parties to this Protocol may also hold extraordinary meetings as provided in Article 14 of the Convention.

2. It shall be the function of the meetings of the Parties to this Protocol, in particular:

(a) to keep under review the implementation of this Protocol, and to consider the efficacy of the measures adopted and the need for any other measures, in particular in the form of Annexes;

(b) to review and amend as required any Annex to this Protocol;

(c) To discharge such other functions as may be appropriate for implementation of this Protocol.

Article 13

1. The provisions of the Convention relating to any Protocol shall apply with respect to the present Protocol.

2. The rules of procedure and the financial rules adopted pursuant to Article 18 of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Protocol.

Done at Barcelona on 16 February 1976 in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.

ANNEX

Contents of the report to be made pursuant to Article 8 to this Protocol

1. Each report shall, as far as possible, contain, in general:
   (a) the identification of the source of pollution (identity of the ship, where appropriate);
   (b) the geographic position, time and date of the occurrence of the incident or of the observation;
   (c) the wind and sea conditions prevailing in the area;
   (d) where the pollution originates from a ship, relevant details respecting the conditions of the ship.

2. Each report shall contain, whenever possible, in particular:
   (a) a clear indication or description of the harmful substances involved, including the correct technical names of such substances (trade names should not be used in place of the correct technical names);
   (b) a statement or estimate of the quantities, concentrations and likely conditions of harmful substances discharged or likely to be discharged into the sea;
   (c) where relevant, a description of the packaging and identifying marks; and
   (d) the name of the consignor, consignee or manufacturer.

3. Each report shall clearly indicate, whenever possible, whether the harmful substances discharged or likely to be discharged is oil or a noxious liquid, solid or gaseous substance and whether such substance was or is carried in bulk or contained in packaged form, freight containers, portable tanks, or road and rail tank wagons.

4. Each report shall be supplemented, as necessary, by any relevant information requested by a recipient of the report or deemed appropriate by the person sending the report.

5. Any of the persons referred to in Article 8, paragraph 1, of this Protocol shall:
   (a) supplement, as far as possible, the initial report, as necessary, with information concerning further developments; and
   (b) comply as fully as possible with requests from affected States for additional information.

COUNCIL DECISION

of 28 February 1983

concluding the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources

(83/101/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Whereas having regard to the declaration of the Council of the European Communities and of the representatives of the Governments of the Member States meeting in the Council of 22 November 1973 on the programme of action of the European Communities on the environment (3);

Whereas that programme lays stress *inter alia* on the fact that marine pollution affects the whole Community, both because of the essential role played by the sea in the preservation and development of species and on account of the importance of sea transport for the harmonious economic development of the Community;

Whereas, furthermore, that programme and Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (4) provide that certain measures are to be implemented by the Community in order to reduce the various types of marine pollution ;

Whereas the Convention on the protection of the Mediterranean Sea against pollution provides, in particular, that suitable measures should be adopted to prevent and reduce pollution caused by dumping from ships and aircraft, pollution resulting from the exploration and exploitation of the continental shelf, the sea-bed and its sub-soil and pollution from land-based sources;

Whereas, in adopting Decision 77/585/EEC (5), the Council approved the Convention for the protection of the Mediterranean Sea against pollution, and the Protocol for the prevention of the pollution of the Mediterranean Sea by dumping from ships and aircraft ;

Whereas the Community took part in the negotiations concerning the conclusion of the Convention Protocol for the protection of the Mediterranean Sea against pollution from land-based sources ;

Whereas on 17 May 1980 the Community signed the said Protocol ;

Whereas, in order to attain, in the course of the operation of the common market, one of the objectives of the Community in the field of the protection of the

(1) OJ No C 4, 8. 1. 1982, p. 3.
(2) OJ No C 334, 20. 12. 1982, p. 136.
(3) OJ No C 112, 20. 12. 1973, p. 1.
(4) OJ No L 129, 18. 5. 1976, p. 23.
(5) OJ No L 240, 19. 9. 1977, p. 1.

environment and of the quality of life, it appears necessary to approve the said Protocol ;

Whereas, since the specific powers of action required to adopt this Decision have not been provided for in the Treaty, it is necessary to invoke Article 235 thereof,

HAS DECIDED AS FOLLOWS :

Article 1

The Protocol for the protection of the Mediterranean Sea against pollution from land-based sources is hereby approved on behalf of the European Economic Community.

The text of the Protocol is attached to this Decision.

Article 2

The President of the Council shall deposit the Acts as provided for in Article 16 (4) of the Protocol referred to in Article 1 hereof.

Done at Brussels, 28 February 1983.

For the Council

The President

F. ZIMMERMANN

PROTOCOL

for the protection of the Mediterranean Sea against pollution from land-based sources

THE CONTRACTING PARTIES TO THE PRESENT PROTOCOL,

BEING PARTIES to the Convention for the protection of the Mediterranean Sea against pollution, adopted at Barcelona on 16 February 1976,

DESIROUS of implementing paragraph 2 of Article 4 and Articles 8 and 15 of the said Convention,

NOTING the rapid increase of human activities in the Mediterranean Sea area, particularly in the fields of industrialization and urbanization, as well as the seasonal increase in the coastal population due to tourism,

RECOGNIZING the danger posed to the marine environment and to human health by pollution from land-based sources and the serious problems resulting therefrom in many coastal waters and river estuaries of the Mediterranean Sea, primarily due to the release of untreated, insufficiently treated or inadequately disposed domestic or industrial discharges,

RECOGNIZING the differences in levels of development between the coastal States, and taking account of the economic and social imperatives of the developing countries,

DETERMINED to take in close cooperation the necessary measures to protect the Mediterranean Sea against pollution from land-based sources,

HAVE AGREED AS FOLLOWS:

Article 1

The Contracting Parties to this Protocol (hereinafter referred to as 'the Parties') shall take all appropriate measures to prevent, abate, combat and control pollution of the Mediterranean Sea area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories.

Article 2

For the purposes of this Protocol:

(a) 'the Convention' means the Convention for the protection of the Mediterranean Sea against pollution, adopted at Barcelona on 16 February 1976;

(b) 'Organization' means the body referred to in Article 13 of the Convention;

(c) 'freshwater limit' means the place in watercourses where, at low tides and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of sea-water.

Article 3

The area to which this Protocol applies (hereinafter referred to as the 'Protocol area') shall be:

(a) the Mediterranean Sea area as defined in Article 1 of the Convention;

(b) waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit;

(c) saltwater marshes communicating with the sea.

Article 4

1. This Protocol shall apply:

(a) to polluting discharges reaching the Protocol area from land-based sources within the territories of the Parties, in particular:

— directly, from outfalls discharging into the sea or through coastal disposal,

— indirectly, through rivers, canals or other watercourses, including underground watercourses, or through run-off;

(b) to pollution from land-based sources transported by the atmosphere, under conditions to be defined in an Additional Annex to this Protocol and accepted by the Parties in conformity with the provisions of Article 17 of the Convention.

2. This Protocol shall also apply to polluting discharges from fixed man-made offshore structures which are under the jurisdiction of a Party and which

serve purposes other than exploration and exploitation of mineral resources of the continental shelf and the sea-bed and its sub-soil.

Article 5

1. The Parties undertake to eliminate pollution of the Protocol area from land based sources by substances listed in Annex I to this Protocol.

2. To this end they shall elaborate and implement, jointly or individually, as appropriate, the necessary programmes and measures.

3. These programmes and measures shall include, in particular, common emission standards and standards for use.

4. The standards and the timetables for the implementation of the programmes and measures aimed at eliminating pollution from land-based sources shall be fixed by the Parties and periodically reviewed, if necessary every two years, for each of the substances listed in Annex I, in accordance with the provisions of Article 15 of this Protocol.

Article 6

1. The Parties shall strictly limit pollution from land-based sources in the Protocol area by substances or sources listed in Annex II to this Protocol.

2. To this end they shall elaborate and implement, jointly or individually, as appropriate, suitable programmes and measures.

3. Discharges shall be strictly subject to the issue, by the competent national authorities, of an authorization taking due account of the provisions of Annex III to this Protocol.

Article 7

1. The Parties shall progressively formulate and adopt, in cooperation with the competent international organizations, common guidelines and, as appropriate, standards or criteria dealing in particular with:

(a) the length, depth and position of pipelines for coastal outfalls, taking into account, in particular, the methods used for pre-treatment of effluents ;

(b) special requirements for effluents necessitating separate treatment ;

(c) the quality of sea-water used for specific purposes that is necessary for the protection of human health, living resources and ecosystems;

(d) the control and progressive replacement of products, installations and industrial and other processes causing significant pollution of the marine environment;

(e) specific requirements concerning the quantities of the substances listed in Annexes I and II discharged, their concentration in effluents and methods of discharging them.

2. Without prejudice to the provisions of Article 5 of this Protocol, such common guidelines, standards or criteria shall take into account local ecological, geographical and physical characteristics, the economic capacity of the Parties and their need for development, the level of existing pollution and the real absorbtive capacity of the marine environment.

3. The programmes and measures referred to in Articles 5 and 6 shall be adopted by taking into account, for their progressive implementation, the capacity to adapt and reconvert existing installations, the economic capacity of the Parties and their need for development.

Article 8

Within the framework of the provisions of, and the monitoring programmes provided for in, Article 10 of the Convention, and if necessary in cooperation with the competent international organizations, the Parties shall carry out, at the earliest possible dates monitoring activities in order:

(a) systematically to assess, as far as possible, the levels of pollution along their coasts, in particular with regard to the substances or sources listed in Annexes I and II, and periodically to provide information in this respect;

(b) to evaluate the effects of measures taken under this Protocol to reduce pollution of the marine environment.

Article 9

In conformity with Article 11 of the Convention, the Parties shall cooperate as far as possible in scientific and technological fields related to pollution from land-based sources, particularly research on inputs, pathways and effects of pollutants and on the development of new methods for their treatment, reduction or elimination. To this end the Parties shall, in particular, endeavour to :

(a) exchange scientific and technical information;

(b) coordinate their research programmes.

Article 10

1. The Parties shall, directly or with the assistance of competent regional or other international organizations or bilaterally, cooperate with a view to formulating and, as far as possible, implementing programmes of assistance to developing countries, particularly in the fields of science, education and technology, with a view to preventing pollution from land-based sources and its harmful effects in the marine environment.

2. Technical assistance would include, in particular, the training of scientific and technical personnel, as well as the acquisition, utilization and production by those countries of appropriate equipment on advantageous terms to be agreed upon among the Parties concerned.

Article 11

1. If discharges from a watercourse which flows through the territories of two or more Parties or forms a boundary between them are likely to cause pollution of the marine environment of the Protocol area, the Parties in question, respecting the provisions of this Protocol in so far as each of them is concerned, are called upon to cooperate with a view to ensuring its full application.

2. A Party shall not be responsible for any pollution originating on the territory of a non-contracting State. However, the said Party shall endeavour to cooperate with the said State so as to make possible full application of the Protocol.

Article 12

1. Taking into account paragraph 1 of Article 22 of the Convention, when land-based pollution originating from the territory of one Party is likely to prejudice directly the interests of one or more of the other Parties, the Parties concerned shall, at the request of one or more of them, undertake to enter into consultation with a view to seeking a satisfactory solution.

2. At the request of any Party concerned, the matter shall be placed on the agenda of the next meeting of the Parties held in accordance with Article 14 of this Protocol; the meeting may make recommendations with a view to reaching a satisfactory solution.

Article 13

1. The Parties shall inform one another through the Organization of measures taken of results achieved and, if the case arises, of difficulties encountered in the application of this Protocol. Procedures for the collection and submission of such information shall be determined at the meetings of the Parties.

2. Such information shall include *inter alia:*

(a) statistical data on the authorizations granted in accordance with Article 6 of this Protocol;

(b) data resulting from monitoring as provided for in Article 8 of this Protocol;

(c) quantities of pollutants discharged from their territories;

(d) measures taken in accordance with Articles 5 and 6 of this Protocol.

Article 14

1. Ordinary meetings of the Parties shall take place in conjunction with ordinary meetings of the Contracting Parties to the Convention held pursuant to Article 14 of the Convention. The Parties may also hold extraordinary meetings in accordance with Article 14 of the Convention.

2. The functions of the meetings of the Parties to this Protocol shall be *inter alia:*

(a) to keep under review the implementation of this Protocol and to consider the efficacy of the measures adopted and the advisability of any other measures, in particular in the form of Annexes;

(b) to revise and amend any Annex to this Protocol, as appropriate;

(c) to formulate and adopt programmes and measures in accordance with Articles 5, 6 and 15 of this Protocol;

(d) to adopt, in accordance with Article 7 of this Protocol, common guidelines, standards or criteria, in any form decided upon by the Parties;

(e) to make recommendations in accordance with paragraph 2 of Article 12 of this Protocol;

(f) to consider the information submitted by the Parties under Article 13 of this Protocol;

(g) to discharge such other functions as may be appropriate for the application of this Protocol.

Article 15

1. The meeting of the Parties shall adopt, by a two-thirds majority, the programmes and measures for

the abatement or the elimination of pollution from land-based sources which are provided for in Articles 5 and 6 of this Protocol.

2. The Parties which are not able to accept a programme or measures shall inform the meeting of the Parties of the action they intend to take as regards the programme or measures concerned, it being understood that these Parties may, at any time, give their consent to the programme or measures that have been adopted.

Article 16

1. The provisions of the Convention relating to any Protocol shall apply with respect to this Protocol.

2. The rules of procedure and the financial rules adopted pursuant to Article 18 of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.

3. This Protocol shall be open for signature, at Athens from 17 May to 16 June 1980, and at Madrid from 17 June 1980 to 16 May 1981, by any State invited to the Conference of plenipotentiaries of the coastal States of the Mediterranean region for the protection of the Mediterranean Sea against pollution from land-based sources, held at Athens from 12 May to 17 May 1980. It shall also be open until the same dates for signature by the European Economic Community and by any similar regional economic grouping of which at least one member is a coastal State of the Mediterranean Sea area and which exercises competence in fields covered by this Protocol.

4. This Protocol shall be subject to ratification, acceptance or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of Depositary.

5. As from 17 May 1981, this Protocol shall be open for accession by the States referred to in paragraph 3 above, by the European Economic Community and by any grouping referred to in that paragraph.

6. This Protocol shall enter into force on the 30th day following the deposit of at least six instruments of ratification, acceptance or approval of, or accession to, the Protocol by the Parties referred to in paragraph 3 of this Article.

In witness whereof the undersigned, being duly authorized by their respective Governments, have signed this Protocol.

Done at Athens on this seventeenth day of May one thousand nine hundred and eighty in a single copy in the Arabic, English, French and Spanish languages, the four texts being, equally authoritative.

ANNEX I

A. The following substances, families and groups of substances are listed, not in order of priority, for the purposes of Article 5 of the Protocol. They have been selected mainly on the basis of their

— toxicity,

— persistence,

— bioaccumulation.

1. Organohalogen compounds and substances which may form such compounds in the marine environment (1);
2. Organophosphorus compounds and substances which may form such compounds in the marine environment (1);
3. Organotin compounds and substances which may form such compounds in the marine environment (1);
4. Mercury and mercury compounds;
5. Cadmium and cadmium compounds;
6. Used lubricating oils;
7. Persistent synthetic materials which may float, sink or remain in suspension and which may interfere with any legitimate use of the sea;
8. Substances having proven carcinogenic, teratogenic or mutagenic properties in or through the marine environment;
9. Radioactive substances, including their wastes, when their discharges do not comply with the principles of radiation protection as defined by the competent international organizations, taking into account the protection of the marine environment.

B. The present Annex does not apply to discharges which contain the substances listed in Section A below the limits defined jointly by the Parties.

(1) With the exception of those which are biologically harmless or which are rapidly converted into biologically harmless substances.

ANNEX II

A. The following substances, families and groups of substances, or sources of pollution, listed not in order of priority for the purpose of Article 6 of the Protocol, have been selected mainly on the basis of criteria used for Annex I, while taking into account the fact that they are generally less noxious or are more readily rendered harmless by natural processes and therefore generally affect more limited coastal areas.

1. The following elements and their compounds:

1. zinc	6. selenium	11. tin	16. vanadium
2. copper	7. arsenic	12. barium	17. cobalt
3. nickel	8. antimony	13. beryllium	18. thallium
4. chromium	9. molybdenum	14. boron	19. tellurium
5. lead	10. titanium	15. uranium	20. silver

2. Biocides and their derivatives not covered in Annex I;
3. Organosilicon compounds and substances which may form such compounds in the marine environment excluding those which are biologically harmless or are rapidly converted into biologically harmless substances;
4. Crude oils and hydrocarbons of all origins;
5. Cyanides and fluorides;
6. Non-biodegradable detergents and other surface-active substances;
7. Inorganic compounds of phosphorus and elemental phosphorus;
8. Pathogenic micro-organisms;
9. Thermal discharges;
10. Substances which have a deleterious effect on the taste and/or smell of products for human consumption derived from the aquatic environment, and compounds liable to give rise to such substances in the marine environment;
11. Substances which have, directly or indirectly, an adverse effect on the oxygen content of the marine environment, especially those which may cause eutrophication.
12. Acid or alkaline compounds of such composition and in such quantity that they may impair the quality of sea-water;
13. Substances which, though of non-toxic nature, may become harmful to the marine environment or may interfere with any legitimate use of the sea owing to the quantities in which they are discharged.

B. The control and strict limitation of the discharge of substances referred to in Section A above should be implemented in accordance with Annex III.

ANNEX III

With a view to the issue of an authorization for the discharge of wastes containing substances referred to in Annex II or in Section B of Annex I of this Protocol, particular account will be taken, as the case may be, of the following factors:

A. *Characteristics and composition of the waste*

1. Type and size of waste source (e.g. industrial process);
2. Type of waste (origin, average composition);
3. Form of waste (solid, liquid, sludge, slurry);
4. Total amount (volume discharged, e.g. per year);
5. Discharge pattern (continuous, intermittent, seasonally variable, etc);
6. Concentrations with respect to major constituents, substances listed in Annex I, substances listed in Annex II, and other substances as appropriate;
7. Physical, chemical and biochemical properties of the waste.

B. *Characteristics of waste constituents with respect to their harmfulness*

1. Persistence (physical, chemical, biological) in the marine environment;
2. Toxicity and other harmful effects;
3. Accumulation in biological materials or sediments;
4. Biochemical transformation rendering harmful compounds;
5. Adverse effects on the oxygen content and balance;
6. Susceptibility to physical, chemical and biochemical changes and interaction in the aquatic environment with other sea-water constituents which may produce harmful biological or other effects on any of the uses listed in Section E below.

C. *Characteristics of discharge site and receiving marine environment*

1. Hydrographic, meteorological, geological and topographical characteristics of the coastal area.
2. Location and type of the discharge (outfall, canal, outlet, etc.) and its relation to other areas (such as amenity areas, spawning, nursery, and fishing areas, shellfish grounds) and other discharges.
3. Initial dilution acheived at the point of discharge into the receiving marine environment.
4. Dispersion characteristics such as effects of currents, tides and wind on horizontal transport and vertical mixing.
5. Receiving water characteristics with respect to physical, chemical, biological and ecological conditions in the discharge area.
6. Capacity of the receiving marine environment to receive waste discharges without undesirable effects.

D. *Availability of waste technologies*

The methods of waste reduction and discharge for industrial effluents as well as domestic sewage should be selected taking into account the availability and feasibility of:

(a) alternative treatment processes;

(b) re-use or elimination methods;

(c) on-land disposal alternatives ; and

(d) appropriate low-waste technologies.

E. *Potential impairment of marine ecosystems and sea-water uses*

1. Effects on human health through pollution impact on:

   (a) edible marine organisms;

(b) bathing waters;

(c) aesthetics.

2. Effects on marine ecosystems, in particular living resources endangered species and critical habitats.

3. Effects on other legitimate uses of the sea.

COUNCIL DECISION

of 1 March 1984

on the conclusion of the Protocol concerning Mediterranean specially protected areas

(84/132/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament (1),

Whereas the action programmes of the European Communities on the environment (2) stress the need to protect and to purify the sea, in order for it to continue to play its part in the preservation and development of species, and to maintain the vital ecological balance;

Whereas the second action programme of the European Communities on the environment underlines the urgent need for international solutions to the problem of the development and ecological management of coastal regions;

Whereas the third action programme of the European Communities on the environment (3), of which the Council and the representatives of the Governments of the Member States approved the main principles on 7 February 1983, makes particular reference to the need for a rational policy for the protection and management of natural resources;

Whereas cooperation with the developing countries, and in particular with the Community's Mediterranean partners, for the purposes of protecting the environment is one of the objectives of the second action programme of the European Communities on the environment;

Whereas Article 4 of the Convention on the protection of the Mediterranean Sea against pollution, approved by the Community by Decision 77/585/EEC (4), empowers the contracting parties to adopt Additional Protocols prescribing measures, procedures and standards for the implementation of the said Convention; whereas, pursuant to this Article, the Mediterranean States represented at a conference of plenipotentiaries held in Geneva on 2 and 3 April 1982 signed a Protocol concerning Mediterranean specially protected areas;

Whereas the Community has also approved, by Decision 75/585/EEC, the Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircraft, and, by Decision 81/420/EEC (5), the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency and, by Decision 83/101/EEC (6), the Protocol concerning the protection of the Mediterranean Sea from land-based sources of pollution;

(1) OJ No C 322, 28. 11. 1983, p. 278.
(2) OJ No C 112, 20. 12. 1973, p. 1 and OJ No C 139, 13. 6. 1977, p. 1.
(3) OJ No C 46, 17. 2. 1983, p. 1.
(4) OJ No L 240, 19. 9. 1977, p. 1.
(5) OJ No L 162, 19. 6. 1981, p. 4.
(6) OJ No L 67, 12. 3. 1983, p. 1.

Whereas the Protocol concerning Mediterranean specially protected areas provides for the possible adoption of measures concerning trade, imports and exports of the fauna and flora protected by it and could, therefore, affect the common commercial policy and the free movement of goods between Member States;

Whereas some provisions of the said Protocol could affect Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [1], Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds [2], Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters [3] and Council Regulation (EEC) No 348/81 of 20 January 1981 on common rules for imports of cetacean products [4];

Whereas the said Protocol sets out to safeguard the common natural resources of the region, to preserve the diversity of the indigenous species and to protect certain natural habitats by setting up a number of specially protected areas;

Whereas most of the signatories to the Convention on the protection of the Mediterranean Sea against pollution and to the annexed Protocols enjoy, within the framework of the Community's overall approach to the Mediterranean, a special relationship with the Community, particularly as regards cooperation; whereas the Protocol concerning Mediterranean specially protected areas lays down detailed rules for such cooperation in the sectors which it covers;

Whereas the Community signed the said Protocol on 30 March 1983;

Whereas the Community will participate in the implementation of the said Protocol by exercising its competence as resulting from the existing common rules as well as those acquired as a result of future acts adopted by the Council, and by using the results of Community actions (research — exchange of information) in the fields concerned;

Whereas it appears necessary that the Community should approve the said Protocol in order to attain, in the course of the operation of the common market, one of the objectives set by the Community in the field of the protection of the environment and of the quality of life; whereas, since the Treaty does not provide the specific powers of action required for adopting this Decision, recourse should be had to Article 235 thereof,

HAS DECIDED AS FOLLOWS:

Article 1

The Protocol concerning Mediterranean specially protected areas is hereby approved on behalf of the European Economic Community.

The text of the Protocol is attached to this Decision.

Article 2

The President of the Council shall deposit the acts as provided for in Article 18 of the Protocol referred to in Article 1.

Done at Brussels, 1 March 1984.

For the Council

The President

H. BOUCHARDEAU

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[1] OJ No L 129, 18. 5. 1973, p. 23.
[2] OJ No L 103, 25. 4. 1979, p. 1.
[3] OJ No L 281, 10. 11. 1979, p. 47.
[4] OJ No L 39, 12. 2. 1981, p. 1.

PROTOCOL

concerning Mediterranean specially protected areas

THE CONTRACTING PARTIES TO THIS PROTOCOL,

BEING PARTIES TO THE CONVENTION for the protection of the Mediterranean Sea against pollution, adopted at Barcelona on 16 February 1976,

CONSCIOUS of the danger threatening the environment of the Mediterranean Sea area as a whole, in view of the increasing human activities in the region,

TAKING INTO ACCOUNT the special hydrographic and ecological characteristics of the Mediterranean Sea area,

STRESSING the importance of protecting and, as appropriate, improving the state of the natural resources and natural sites of the Mediterranean Sea, as well as of their cultural heritage in the region, among other means by the establishment of specially protected areas including marine areas and their environment,

DESIROUS of establishing close cooperation among themselves in order to achieve that objective,

HAVE AGREED AS FOLLOWS:

Article 1

1. The Contracting Parties to this Protocol (hereinafter referred to as 'the Parties') shall take all appropriate measures with a view to protecting those marine areas which are important for the safeguard of the natural resources and natural sites of the Mediterranean Sea area, as well as for the safeguard of their cultural heritage in the region.

2. Nothing in this Protocol shall prejudice the codification and development of the law of the sea by the United Nations Conference on the Law of the Sea convened pursuant to resolution 2750 C (XXV) of the General Assembly of the United Nations, nor the present or future claims and legal views of any State concerning the law of the sea and the nature and extent of coastal and flag State jurisdiction.

Article 2

For the purposes of the designation of specially protected areas (hereinafter referred to as 'protected areas'), the area to which this Protocol applies shall be the Mediterranean Sea area as defined in Article 1 of the Convention for the protection of the Mediterranean Sea against pollution (hereinafter referred to as 'the Convention'); it being understood that, for the purposes of the present Protocol, it shall be limited to the territorial waters of the Parties and may include waters on the landward side of the baseline from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit. It may also include wetlands or coastal areas designated by each of the Parties

Article 3

1. The Parties shall, to the extent possible, establish protected areas and shall endeavour to undertake the action necessary in order to protect those areas and, as appropriate, restore them, as rapidly as possible.

2. Such areas shall be established in order to safeguard in particular:

(a) — sites of biological and ecological value,
— the genetic diversity, as well as satisfactory population levels, of species, and their breeding grounds and habitats,
— representative types of ecosystems, as well as ecological processes;

(b) sites of particular importance because of their scientific, aesthetic, historical, archaeological, cultural or educational interest.

Article 4

The Parties to this Protocol shall, at their first meeting, formulate and adopt, if necessary in cooperation with the competent international organizations, common guidelines and, if needed, standards or criteria dealing in particular with:

(a) the selection of protected areas;

(b) the establishment of protected areas;

(c) the management of protected areas;

(d) the notification of information on protected areas.

Article 5

The Parties may strengthen the protection of a protected area by establishing, within the area to which this Protocol applies, one or more buffer areas in which activities are less severely restricted while remaining compatible with the purposes of the protected area.

Article 6

1. If a Party intends to establish a protected area contiguous to the frontier or to the limits of the zone of national jurisdiction of another Party, the competent authorities of the two Parties shall endeavour to consult each other with a view to reaching agreement on the measures to be taken and shall, among other things, examine the possibility of the establishment by the other Party of a corresponding protected area or the adoption by it of any other appropriate measure.

2. If a Party intends to establish a protected area contiguous to the frontier or to the limits of the zone of national jurisdiction of a State which is not a party to this Protocol, the Party shall endeavour to work together with the competent authorities of that State with a view to holding the consultations referred to in paragraph 1.

3. If contiguous protected areas are established by two Parties, or by one Party and by a State which is not a party to this Protocol, special agreements may provide for the means whereby the consultation or the collaboration contemplated in paragraphs 1 and 2 respectively may take place.

4. If a State which is not a party to this Protocol intends to establish a protected area contiguous to the frontier or to the limits of the zone of national jurisdiction of a Party to this Protocol, the latter shall endeavour to work together with that State with a view to holding consultations, and possibly concluding a special agreement as referred to in paragraph 3.

Article 7

The Parties, having regard to the objectives pursued and taking into account the characteristics of each protected area, shall, in conformity with the rules of international law, progressively take the measures required, which may include:

(a) the organization of a planning and management system;

(b) the prohibition of the dumping or discharge of wastes or other matter which may impair the protected area;

(c) the regulation of the passage of ships and any stopping or anchoring;

(d) the regulation of fishing and hunting and of the capture of animals and harvesting of plants;

(e) the prohibition of the destruction of plant life or animals and of the introduction of exotic species;

(f) the regulation of any act likely to harm or disturb the fauna or flora, including the introduction of indigenous zoological or botanical species;

(g) the regulation of any activity involving the exploration or exploitation of the sea-bed or its subsoil or a modification of the sea-bed profile;

(h) the regulation of any activity involving a modification of the profile of the soil or the exploitation of the subsoil of the land part of a marine protected area;

(i) the regulation of any archaeological activity and of the removal of any object which may be considered as an archaeological object;

(j) the regulation of trade in and import and export of animals, parts of animals, plants, parts of plants and archaeological objects which originate in protected areas and are subject to measures of protection;

(k) any other measure aimed at safeguarding ecological and biological processes in protected areas.

Article 8

1. The Parties shall give appropriate publicity to the establishment of protected areas, as well as of the areas provided for in Article 5, and to their markings and the regulations applying thereto.

2. The information referred to in paragraph 1 shall be notified to the Organization designated in Article 13 of the Convention (hereinafter referred to as 'the Organization') which shall compile and keep up to date a directory of protected areas in the area to which this Protocol applies. The Parties shall supply the Organization with all the information necessary for that purpose.

Article 9

1. The Parties shall, in promulgating protective measures, take into account the traditional activities of their local populations. To the fullest extent possible, no exemption which is allowed for this reason shall be such as:

(a) to endanger either the maintenance of ecosystems protected under the terms of the present Protocol or the biological processes contributing to the maintenance of those ecosystems;

(b) to cause either the extinction of or any substantial reduction in, the number of individuals making up the species or animal and plant populations within the protected ecosystems, or any ecologically connected species or populations, particularly migratory species and rare, endangered or endemic species.

2. Parties which allow exemptions with regard to protective measures or do not apply such measures strictly shall inform the Organization accordingly.

Article 10

The Parties shall encourage and develop scientific and technical research on their protected areas and on the ecosystems and archaeological heritage of those areas.

Article 11

The Parties shall endeavour to inform the public as widely as possible of the significance and interest of the protected areas and of the scientific knowledge which may be gained from them from the point of view of both nature conservation and archaeology. Such information should have an appropriate place in education programmes concerning the environment and history. The Parties should also endeavour to promote the participation of their public and their nature conservation organizations in appropriate measures which are necessary for the protection of the areas concerned.

Article 12

The Parties shall, to the extent possible, establish a cooperation programme to coordinate the establishment, planning, management and conservation of protected areas, with a view to creating a network of protected areas in the Mediterranean region, taking fully into account existing networks, especially that of biosphere reserves of Unesco. There shall be regular exchanges of information concerning the characteristics of the protected areas, the experiences acquired and the problems encountered.

Article 13

The Parties shall, in accordance with the procedures set forth in Article 14, exchange scientific and technical information concerning current or planned research and the results expected. They shall, to the fullest extent possible, coordinate their research. They shall, moreover, endeavour to define jointly or to standardize the scientific methods to be applied in the selection, management and monitoring of protected areas.

Article 14

1. In applying the principles of cooperation set forth in Articles 12 and 13, the Parties shall forward to the Organization :

(a) comparable information for monitoring the biological development of the Mediterranean environment ;

(b) reports, publications and information of a scientific, administrative and legal nature, in particular :

— on the measures taken by the Parties in pursuance of this Protocol for the protection of the protected areas,

— on the species present in the protected areas,

— on any threats to those areas, especially those which may come from sources of pollution outside their control.

2. The Parties shall designate persons responsible for protected areas. Those persons shall meet at least once every two years to discuss matters of joint interest and especially to propose recommendations concerning scientific, administrative and legal information as well as the standardization and processing of data.

Article 15

1. The Parties shall, directly or with the assistance of competent regional or other international organizations or bilaterally, cooperate, on the entry into force of this Protocol, in formulating and implementing programmes of mutual assistance and of assistance to those developing countries which express a need for it in the selection, establishment and management of protected areas.

2. The programmes contemplated in paragraph 1 should relate, in particular, to the training of scientific and technical personnel, scientific research, and the acquisition, utilization and production by those countries of appropriate equipment on advantageous terms to be agreed among the Parties concerned.

Article 16

Changes in the delimitation or legal status of a protected area or the suppression of all or part of such an area may not take place except under a similar procedure to that followed for its establishment.

Article 17

1. The ordinary meetings of the Parties to this Protocol shall be held in conjunction with the ordinary meetings of the Contracting Parties to the Convention held pursuant to Article 14 of the Convention. The Parties may also hold extraordinary meetings in conformity with that Article.

2. It shall be the function of the meetings of the Parties to this Protocol, in particular :

(a) to keep under review the implementation of this Protocol ;

(b) to consider the efficacy of the measures adopted, having regard in particular to the area to which the Protocol applies, and to examine the need for other measures, in particular in the form of annexes, or for envisaging, if necessary, an alteration to that area, in conformity with the provisions of Article 16 of the Convention ;

(c) to adopt, review and amend as required any Annex to this Protocol ;

(d) to monitor the establishment and development of the network of protected areas provided by Article 12, and to adopt guidelines to facilitate the establishment and development of that system and to increase cooperation among the Parties ;

(e) to consider the recommendations made by the meetings of the persons responsible for the protected areas, as provided by Article 14 (2) ;

(f) to consider reports transmitted by the Parties to the Organization under Article 20 of the Convention and any other information which the Parties may transmit to the Organization or to the meeting of the Parties.

Article 18

1. The provisions of the Convention relating to any protocol shall apply with respect to this Protocol.

2. The rules of procedure and the financial rules adopted pursuant to Article 18 (2) of the Convention shall apply with respect to this Protocol, unless the Parties to this Protocol agree otherwise.

3. This Protocol shall be open for signature, at Geneva on 3 and 4 April 1982, and at Madrid from 5 April 1982 to 2 April 1983 by any Contracting Party to the Convention and any State invited to the Conference of plenipotentiaries on the Protocol concerning Mediterranean specially protected areas, held at Geneva on 2 and 3 April 1982. It shall also be open for signature from 5 April 1982 to 2 April 1983 by any regional economic grouping of which at least one member is a coastal State of the Mediterranean Sea area and which exercises competence in fields covered by this Protocol.

4. This Protocol shall be subject to ratification, acceptance or approval. Instruments of ratification, acceptance or approval shall be deposited with the Government of Spain, which will assume the functions of depositary.

5. As from 3 April 1983, this Protocol shall be open for accession by the Contracting Parties to the Convention and by any State or grouping referred to in paragraph 3.

6. This Protocol shall enter into force on the 30th day following the deposit of at least six instruments of ratification, acceptance or approval of, or accession to, the Protocol.

In witness whereof, the undersigned, being duly authorized, have signed this Protocol.

Done at Geneva on this third day of April one thousand nine hundred and eighty two in a single copy in the Arabic, English, French and Spanish languages, the four texts being equally authoritative.

COUNCIL DECISION
of 25 July 1977
Concluding the Convention for the protection of the Rhine against chemical pollution and an Additional Agreement to the Agreement, signed in Berne on 29 April 1963, concerning the International Commission for the Protection of the Rhine against Pollution
(77/586/EEC)

(as amended by Council Decision 82/460/EEC of 24 June 1982 on a supplement to Annex IV to the Convention on the protection of the Rhine against chemical pollution (OJ L 210, 19.7.82, p. 8); and by Council Decision 85/336/EEC of 27 June 1985 concerning a supplement in respect of cadmium to Annex IV to the Convention for the protection of the Rhine against chemical pollution (OJ L 175, 5.7.85, p. 36))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the declaration of the Council of the European Communities and of the representatives of the Governments of the Member States meeting in the Council of 22 November 1973 on the European Communities action programme on the environment [2],

Whereas, in particular, this programme emphasizes that the entire Community is concerned to prevent and reduce freshwater pollution;

Whereas Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community [3] provides that certain measures are to be implemented by the Community in order to reduce the various types of pollution, in particular that of inland surface waters and territorial seas;

Whereas the Convention on the protection of the Rhine against chemical pollution, signed in Bonn on 3 December 1976, provides in particular that suitable measures should be adopted to prevent and reduce pollution of inland surface waters and sea water; whereas some of the measures concern substances to which the abovementioned Directive applies;

Whereas Community participation in the implementation of the Convention in question requires that the Community become party to the Agreement concerning the International Commission for the Protection of the Rhine against Pollution signed in Berne on 29 April 1963;

Whereas that Agreement was amended accordingly by an Additional Agreement signed in Bonn on 3 December 1976;

Whereas it appears necessary for the Community to conclude this Convention and Additional Agreement in order to attain, in the course of the operation of the common market, one of the objectives of the Community as regards the protection of the environment and of the quality of life; whereas, moreover, provision is not made in the Treaty for the powers necessary to this end;

Whereas the Convention and the Additional Agreement have been signed on behalf of the Community,

HAS DECIDED AS FOLLOWS:

Article 1

The Convention for the protection of the Rhine against chemical pollution and the Additional Agreement to the Agreement, signed in Berne on 29 April 1963, concerning the International Commission for the Protection of the Rhine against Pollution are hereby concluded on behalf of the European Economic Community.

The texts of the Convention and the Additional Agreement are annexed to this Decision.

Article 2

The President of the Council of the European Communities shall, on behalf of the European

[1] OJ No C 293, 13. 12. 1976, p. 63.
[2] OJ No C 112, 20. 12. 1973, p. 1.
[3] OJ No L 129, 18. 5. 1976, p. 23.

Economic Community, deposit the instrument of conclusion provided for in Article 17 of the Convention and Article 4 of the Additional Agreement (1).

Article 3

The Community shall be represented by the Commission in the International Commission for the Protection of the Rhine against Pollution.

The Commission shall in that body put forward the position of the Community in accordance with such directives as the Council may give it.

Done at Brussels, 25 July 1977.

For the Council

The President

H. SIMONET

(1) The date of the entry into force of the Convention and the Additional Agreement will be published by the General Secretariat of the Council in the *Official Journal of the European Communities.*

TRANSLATION
(Only the Dutch, French and German texts are authentic)

CONVENTION

for the protection of the Rhine against chemical pollution

THE GOVERNMENT OF THE FEDERAL REPUBLIC OF GERMANY,

THE GOVERNMENT OF THE FRENCH REPUBLIC,

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG,

THE GOVERNMENT OF THE KINGDOM OF THE NETHERLANDS,

THE GOVERNMENT OF THE SWISS CONFEDERATION,

AND THE EUROPEAN ECONOMIC COMMUNITY,

Having regard to the Agreement of 29 April 1963 and the Additional Agreement of 3 December 1976 concerning the International Commission for the Protection of the Rhine against Pollution,

Whereas chemical pollution of the Rhine threatens its flora and fauna, and also has undesirable effects on sea water;

Aware of the dangers that may result therefrom for certain uses of the waters of the Rhine;

Desirous of improving the quality of Rhine water for these uses;

Whereas the Rhine is used for other purposes such as navigation and as the receiving medium for waste waters;

Convinced that international action for the protection of the Rhine against chemical pollution must be assessed in conjunction with other efforts to protect the Rhine, particularly efforts to conclude agreements against pollution by chlorides and thermal pollution, and that such action is one of the continuous and coherent measures to protect fresh water and sea water from pollution;

Whereas the European Economic Community has taken measures to protect the aquatic environment, particularly within the framework of the Council Directive of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community;

Having regard to the results of the Ministerial Conferences of 25 and 26 October 1972 in the Hague, 4 and 5 December 1973 in Bonn and 1 April 1976 in Paris on the Protection of the Rhine against Pollution,

HAVE AGREED AS FOLLOWS:

Article 1

1. The Contracting Parties shall, in accordance with the following provisions, take the appropriate measures, with a view to improving the quality of the waters of the Rhine, to:

(a) eliminate pollution of the surface waters of the Rhine basin by dangerous substances in the families and groups of substances appearing in Annex I (hereinafter referred to as 'Annex I substances'). The purpose of the measures is to effect the gradual elimination of discharges of these substances, taking into account the findings of investigations carried out by experts separately for each one of them and the available technical means;

(b) reduce the pollution of the Rhine by the dangerous substances in the families and groups of substances appearing in Annex II (hereinafter referred to as 'Annex II substances').

2. The measures referred to in paragraph 1 above shall take into reasonable account the fact that Rhine water is used for:

(a) the production of drinking water for human consumption;

(b) consumption by domestic and wild animals;

(c) the conservation and development of the national species of flora and fauna and the preservation of the self-purifying capacity of water;

(d) fishing;

(e) recreational purposes, bearing in mind hygienic and aesthetic requirements;

(f) the direct or indirect supply of fresh water to agricultural lands;

(g) the production of water for industrial purposes, and the need to preserve an acceptable quality of sea water.

3. The provisions of this Convention shall constitute only an initial step towards the achievement of the objectives set out in paragraph 1.

4. Annex A to this Convention shall determine what the Contracting Parties mean by the word 'Rhine' for the purposes of applying the said Convention.

Article 2

1. The Governments which are Parties to this Convention shall, pursuant to Annex III (1), establish for their own use a national inventory of discharges into the surface waters of the Rhine basin which may contain substances listed in Annex I, which are subject to emission standards.

2. Pursuant to Annex III (2), the Governments shall communicate to the International Commission for the Protection of the Rhine against Pollution (hereinafter referred to as the 'International Commission') the contents of their inventories, which shall be regularly updated at intervals not exceeding three years.

3. The proposals of the International Commission provided for in Article 6 (3) may, if necessary, include an inventory of various substances falling under Annex II.

Article 3

1. Any discharge into the surface waters of the Rhine basin likely to contain a substance referred to in Annex I shall be subject to prior authorization from the responsible authorities of the Government concerned.

2. For discharges of these substances into the surface waters of the Rhine basin and, when necessary for the purpose of applying this Convention, for discharges of these substances into sewers, the authorization shall fix emission standards which may not exceed the limit values laid down in accordance with Article 5.

3. In the case of existing discharges of these substances, the authorization shall fix a time limit within which the conditions laid down in the authorization must be met. This time limit must not exceed the period laid down in accordance with Article 5 (3).

4. The authorization may only be granted for a limited period of time. It may be renewed in the light of any alterations in the limit values referred to in Article 5.

Article 4

1. The emission standards laid down in the authorizations issued pursuant to Article 3 shall establish:

(a) the maximum permissible concentration of a substance in discharges. In cases where there is dilution, the limit value provided for in Article 5 (2) (a) shall be divided by the dilution factor;

(b) the maximum permissible quantity of a substance in discharges during one or more specific periods. If necessary this quantity may also be expressed as a unit of weight of the pollutant per unit of the characteristic element of the polluting activity (e.g. unit of weight per unit of raw material or product unit).

2. If the discharger states that he is unable to conform to the emission standards or if the responsible authorities of the Government concerned establish this, authorization shall be refused.

3. If the emission standards are not observed, the responsible authorities of the Government concerned shall take all necessary measures to ensure that the conditions for the authorization are met and, if necessary, that the discharge is prohibited.

Article 5

1. The International Commission shall propose the limit values provided for in Article 3 (2) and if necessary their application to discharges into sewers. These limit values shall be laid down in conformity with the procedure provided for in Article 14. Upon adoption, they shall be included in Annex IV.

2. These limit values are fixed in terms of:

(a) the maximum permissible concentration of a substance in discharges and,

(b) where appropriate, the maximum permissible quantity of such a substance expressed as a unit of weight of the pollutant per unit of the characteristic element of the polluting activity (e.g. unit of weight per unit of raw material or product unit).

Where appropriate, the limit values applicable to industrial effluent shall be laid down individually by sector and by type of product.

The limit values applicable to Annex I substances shall be laid down mainly on the basis of:

— toxicity,

— persistence,

— bioaccumulation,

taking into account the best available technical means.

3. The International Commission shall propose to the Contracting Parties the time limits referred to in Article 3 (3), making due allowance for the specific characteristics of the industrial sectors involved and, as appropriate, the types of product. These time limits shall be determined in accordance with the procedure laid down in Article 14.

4. The International Commission shall use the results obtained at international measuring points to determine the extent to which the level of Annex I substances in the Rhine varies following the application of the above provisions.

5. As regards the quality of Rhine water, the International Commission may if necessary propose other measures for reducing the pollution of the Rhine taking into account, *inter alia*, the toxicity, persistence and bioaccumulation of the substance under consideration. These proposals shall be adopted in accordance with the procedure laid down in Article 14.

Article 6

1. The discharge of any Annex II substance likely to affect the quality of Rhine water must be regulated by the national authorities with a view to limiting it strictly.

2. The Governments which are Parties to this Convention shall strive to establish, within a period of two years from the entry into force of this Convention, national programmes for the reduction of the pollution of the Rhine by Annex II substances for the implementation of which they shall apply, in particular, the means provided for in paragraphs 1, 4, 5, 6 and 7 of this Article.

3. Before drawing up their national programmes, the Contracting Parties shall confer within the International Commission. To this end, the International Commission shall regularly compare the draft national programmes in order to ensure that their aims and means coincide; it shall submit proposals for achieving, *inter alia*, common goals in reducing pollution of the Rhine. These proposals shall be adopted by applying the procedure laid down in Article 14 of this Convention.

Comparison of draft national programmes should not entail delays in the implementation, at either national or regional level, of measures for reducing the pollution of the Rhine.

4. Any discharge which may contain an Annex II substance shall require prior authorization, laying down emission standards, from the responsible authorities of the Government concerned. These standards shall be fixed in accordance with the quality objectives provided for in paragraph 5.

5. The programmes referred to in paragraph 2 above shall include quality objectives for Rhine water.

6. The programmes may also contain specific provision concerning the composition and use of substances or groups of substances and products;

they shall take into account the latest economically feasible technical advances.

7. The programmes shall lay down deadlines for their implementation.

8. Summaries of the programmes and the results of their implementation shall be communicated to the International Commission.

Article 7

1. The Contracting Parties shall take all legislative and administrative measures to ensure that the storage and deposit of Annex I and II substances is so carried out as to entail no danger of pollution to the Rhine.

2. If necessary, the International Commission shall propose to the Contracting Parties appropriate measures for protecting underground water in order to prevent pollution of the Rhine by Annex I and II substances.

Article 8

1. The Contracting Parties shall ensure that discharges are monitored in accordance with this Convention.

2. They shall inform the International Commission annually of the experience gained.

Article 9

Implementation of the measures taken pursuant to this Convention shall in no case result in a direct or indirect increase in the pollution of the Rhine.

Article 10

1. With a view to monitoring levels in the Rhine of Annex I and II substances, each Government concerned shall take responsibility at the agreed measuring stations on the Rhine for installing and operating measuring systems and apparatus for determining the concentrations of such substances.

2. Every Government involved shall regularly inform the International Commission of the results of its monitoring, at least once a year.

3. The International Commission shall draft an annual report summarizing the monitoring results and enabling the progress of the quality of Rhine water to be observed.

Article 11

If a Government which is a Party to this Convention detects a sudden considerable increase in Annex I or II substances, or learns of an accident which could seriously threaten the quality of Rhine water, it shall inform the International Commission and the Contracting Parties which could be affected without delay and in accordance with a procedure to be worked out by the International Commission.

Article 12

1. The Contracting Parties shall regularly inform the International Commission of the experience gained in the course of implementing this Convention.

2. The International Commission shall also make recommendations, as appropriate, designed gradually to improve the implementation of this Convention.

Article 13

The International Commission shall work out draft recommendations for achieving comparable results by the use of appropriate measuring and analysis methods.

Article 14

1. Annexes I to IV inclusive, which shall form an integral part of this Convention, may be amended or added to for the purposes of adapting them to technical or scientific advances or of more effectively combating the chemical pollution of the Rhine.

2. To this end, the International Commission shall recommend the amendments or additions which it considers appropriate.

3. The amended or supplemented texts shall enter into force following unanimous acceptance by the Contracting Parties.

Article 15

Any dispute between the Contracting Parties concerning the interpretation or implementation of this Convention which cannot be settled by negotiation shall be submitted to arbitration unless the parties to the dispute decide otherwise and at the request of one of them, in accordance with the provisions of Annex B which shall form an integral part of this Convention.

Article 16

For the purposes of applying this Convention, the European Economic Community and its Member States shall act in their respective areas of competence.

Article 17

1. Each Signatory Party shall notify the Government of the Swiss Confederation of the completion of their procedures for bringing this Convention into force.

2. Subject to notification by each Contracting Party that the required procedures for the entry into force of the Additional Agreement to the Agreement concerning the International Commission for the Protection of the Rhine against Pollution have been completed, this Convention shall enter into force on the first day of the second month following receipt of the last notification provided for in the preceeding paragraph.

Article 18

Three years after its entry into force, this Convention may be denounced at any time by any of the Contracting Parties by means of a declaration transmitted to the Government of the Swiss Confederation. The denunciation shall become effective for the denouncing Party six months after the receipt by the Government of the Swiss Confederation of the declaration.

Article 19

The Government of the Swiss Confederation will inform the Contracting Parties of the date of receipt of any notification or declaration received in accordance with Articles 14, 17 and 18.

Article 20

1. If the Agreement of 29 April 1963 concerning the International Commission for the Protection of the Rhine against Pollution is denounced by one of its Contracting Parties, the Contracting Parties shall immediately consult with regard to the appropriate measures to be taken to ensure the continued performance of the duties which are encumbent on the International Commission pursuant to this Convention.

2. If agreement is not reached within six months of the opening of these consultations, any Contracting Party may at any time denounce this Convention in accordance with Article 18 without waiting for the expiry of the three-year time limit.

Article 21

This Convention, drawn up in a single original in the Dutch, French and German languages, all three texts being equally authentic, will be deposited in the archives of the Government of the Swiss Confederation, which will transmit a certified copy to each Contracting Party.

Done at Bonn, 3 December 1976.

For the Government of the Federal Republic of Germany:

For the Government of the French Republic:

For the Government of the Grand Duchy of Luxembourg:

For the Government of the Kingdom of the Netherlands:

For the Government of the Swiss Confederation:

For the European Economic Community:

ANNEX A

For the purposes of implementing this Convention, the Rhine shall be taken as beginning at its outflow from the Untersee and including the arms, up to the coastline, through which its waters flow freely into the North Sea, inclusive of the Ijssel up to Kampen.

During the drawing-up of the national programmes provided for in Article 6 of the Convention — where quality objectives are concerned — and during the coordination of these programmes within the International Commission, a distinction shall be made in each separate case between the fresh water and the salt water of the river.

ANNEX B

ARBITRATION

1. Unless the parties to a dispute decide otherwise, the arbitration procedure shall be conducted in accordance with the provisions of this Annex.

2. The arbitral tribunal shall consist of three members; each of the parties to the dispute shall appoint an arbitrator; the two arbitrators so appointed shall by common consent designate a third who shall chair the tribunal.

If the chairman has not been appointed within two months of the designation of the second arbitrator, the President of the European Court of Human Rights shall, within a further two months, designate him at the request of the first party to act.

3. If, within two months of receipt of the request provided for in Article 15 of the Convention, one of the parties to the dispute has not designated an arbitrator, the other party may submit the matter to the President of the European Court of Human Rights who shall designate the chairman of the arbitral tribunal within a further two months. Once appointed, the chairman of the arbitral tribunal shall request the party which has not appointed an arbitrator to do so within two months. Upon expiry of this time limit, he shall submit the matter to the President of the European Court of Human Rights who shall make this appointment within a further two months.

4. If, in one of the cases referred to above, the President of the European Court of Human Rights is prevented from acting, or if he is a national of one of the parties to the dispute, the Vice-President of the Court or the most senior member of the Court who is not prevented from acting and who is not a national of one of the parties to the dispute shall appoint the chairman of the arbitral tribunal or an arbitrator.

5. These provisions shall apply, *mutatis mutandis,* to the filling of posts which have become vacant.

6. The arbitral tribunal shall decide on the basis of the rules of international law and in particular on the basis of the provisions of this Convention.

7. As regards both procedural and substantive matters, the arbitral tribunal shall decide by a majority of its members' votes; the absence or abstention of one of the members of the tribunal appointed by the parties shall not prevent the tribunal from reaching a decision. In the case of parity of votes, the chairman shall have a casting vote. The decisions of the tribunal shall be binding on the parties. Each party shall bear the costs of the arbitrator appointed by it and shall share the other costs equally. For other matters, the arbitral tribunal shall establish its own rules of procedure.

8. In the case of a dispute between two Contracting Parties, only one of which is a Member State of the European Economic Community, which is itself a Contracting Party, the other party shall simultaneously transmit its request to that Member State and the Community, which shall jointly notify the party within two months following receipt of the request whether the Member State, the Community or the Member State and the Community together are parties to the dispute. If such notification is not given within the appointed time, both the Member State and the Community shall be regarded as constituting one and the same party to the dispute for the purposes of applying this Annex. The same shall obtain when the Member State and the Community are jointly a party to the dispute.

ANNEX I

Families and groups of substances

Annex I includes certain individual substances from the following families or groups of substances, selected mainly on the basis of their toxicity, persistence and bioaccumulation, with the exception of those which are biologically harmless or which are rapidly converted into substances which are biologically harmless.

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment,

2. Organophosphorus compounds,

3. Organotin compounds,

4. Substances in respect of which it has been proved that they possess carcinogenic properties in or via the aquatic environment [1].

5. Mercury and its compounds,

6. Cadmium and its compounds,

7. Persistent mineral oils and hydrocarbons of petroleum origin.

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[1] Where certain substances in Annex II are carcinogenic, they are included in category 4 of this Annex.

ANNEX II

Families and groups of substances

Annex II contains:

— substances belonging to the families and groups in Annex I for which the limit values referred to in Article 5 of the Convention have not been determined,

— certain individual substances and categories of substances belonging to the families and groups of substances listed below,

and which have a deleterious effect on the aquatic environment, which can, however, be confined to a given area and which depend on the characteristics and location of the water into which they are discharged.

Families and groups of substances referred to in the second indent:

1. The following metalloids and metals and their compounds:

1. Zinc	6. Selenium	11. Tin	16. Vanadium
2. Copper	7. Arsenic	12. Barium	17. Cobalt
3. Nickel	8. Antimony	13. Beryllium	18. Thalium
4. Chromium	9. Molybenum	14. Boron	19. Tellurium
5. Lead	10. Titanium	15. Uranium	20. Silver

2. Biocides

   and their derivatives not appearing in Annex I.

3. Substances which have a deleterious effect on the taste and/or smell of the products for human consumption derived from the aquatic environment, and compounds liable to give rise to such substances in water.

4. Toxic or persistent organic compounds of silicon and substances which may give rise to such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances.

5. Inorganic compounds of phosphorus and elemental phosphorus.

6. Non-persistent mineral oils and hydrocarbons of petroleum origin.

7. Cyanides,

   Fluorides.

8. Substances which have an adverse effect on the oxygen balance, in particular:

   Ammonia,

   Nitrites.

ANNEX III

1. The national inventory provided for in Article 2 (1) of this Convention shall show dischargers, points of discharge, and discharged substances classified according to type and quality.

2. The contents of the inventory referred to in Article 2 (2) of the Convention shall include the total quantities of each of the various substances set out in Annex I, discharges into the waters of the Rhine basin between the measuring points proposed by the International Commission and accepted by all the Contracting Parties.

ANNEX IV

Limit values (Article 5)

Substance or group of substances	Origin	Limit value in terms of the maximum concentration of a substance	Limit value in terms of the maximum quantity of a substance	Time limit for existing discharges	Remarks
Mercury	Chlor-alkali electrolysis establishments	The limit values in terms of the maximum concentration of mercury are calculated by dividing the limit values in terms of the maximum quantity of mercury by the quantity of water used per tonne of chlorine production capacity	A monthly average of 0·5 gram of mercury per tonne of chlorine production capacity A daily average of 2 grams of mercury per tonne of chlorine production capacity	1 July 1983	The limit values set out in the preceding columns are to be applied to mercury deriving from production activity and must therefore be observed at the outlet from the production plants. As regards measuring, analyzing and sampling methods, see the recommendation of the International Commission dated 28 December 1979

Cadmium	1. Zinc mining, lead and zinc refining, cadmium metal and non-ferrous metal industry	Monthly average of 0,2 milligrams of cadmium per litre of discharge		1. 1. 1989	(1) (2) (3) (4)
		For existing discharges the provisional limit value of 0,3 milligrams of cadmium per litre of discharge is valid as a monthly average		1. 1. 1986	
	2. Manufacture of cadmium compounds	Monthly average of 0,2 milligrams of cadmium per litre of discharge	(5)	1. 1. 1989	(1) (2) (3)
		For existing discharges the provisional limit value of 0,5 milligrams of cadmium per litre of discharge is valid as a monthly average	For existing discharges the provisional limit value of 0,5 kilograms of cadmium per tonne of cadmium used in production is valid as a monthly average	1. 1. 1986	
	3. Manufacture of pigments	Monthly average of 0,2 milligrams of cadmium per litre of discharge	(5)	1. 1. 1989	(1) (2) (3)
		For existing discharges the provisional limit value of 0,5 milligrams of cadmium per litre of discharge is valid as a monthly average	For existing discharges the provisional limit value of 0,3 kilograms of cadmium per tonne of cadmium used in production is valid as a monthly average	1. 1. 1986	
	4. Manufacture of stabilizers	Monthly average of 0,2 milligrams of cadmium per litre of discharge	(5)	1. 1. 1989	(1) (2) (3)
		For existing discharges the provisional limit value of 0,5 milligrams of cadmium per litre of discharge is valid as a monthly average	For existing discharges the provisional limit value of 0,5 kilograms of cadmium per tonne of cadmium used in production is valid as a monthly average	1. 1. 1986	

Substance or group of substances	Origin	Limit value in terms of the maximum concentration of a substance	Limit value in terms of the maximum quantity of a substance	Time limit for existing discharges	Remarks
1	2	3	4	5	6
Cadmium *(continued)*	5. Manufacture of primary and secondary batteries	Monthly average of 0,2 milligrams of cadmium per litre of discharge	(5)	1. 1. 1989	(1) (2) (3)
		For existing discharges the provisional limit value of 0,5 milligrams of cadmium per litre of discharge is valid as a monthly average	For existing discharges the provisional limit value of 1,5 kilograms of cadmium per tonne of cadmium used in production is valid as a monthly average	1. 1. 1986	
	6. Electroplating	Monthly average of 0,2 milligrams of cadmium per litre of discharge	(5)	1. 1. 1989	(1) (2) (3) (6)
		For existing discharges the provisional limit value of 0,5 milligrams of cadmium per litre of discharge is valid as a monthly average	For existing discharges the provisional limit value of 0,3 kilograms of cadmium per tonne of cadmium used in production is valid as a monthly average	1. 1. 1986	
	7. Manufacture of phosphoric acid and/or phosphatic fertilizer from phosphatic rock				(1) (2) (3) (7)

If necessary, the limit values for other industries will be proposed by the International Commission at a later stage. In the meantime, the Governments will fix emission standards for cadmium discharges autonomously in accordance with Articles 3 and 4 of the Convention. These standards must take account of the best technical means available and must not be less stringent than the nearest comparable limit value in the above table.

Pursuant to Articles 14 and 19 of the Convention, the measures set out in the above table will enter into force after their unanimous acceptance by the Contracting Parties to the Convention.

The Contracting Parties will notify their adoption to the Government of the Swiss Confederation, which will acknowledge reception of notification.

(1) The limit values given in the above columns refer to the determination of the cadmium contained in an unfiltered sample. They apply to the total cadmium content of all the waste arising from production processes at the site of the production installation.

If the waste water containing cadmium is treated outside the installation in an establishment designed to eliminate the cadmium, Governments may allow the limit values to be applied at the point of discharge at the exit of that establishment.

(2) The daily limit values are obtained by multiplying the monthly limits in the above columns by two.

For measuring, analysis and sampling methods, see the recommendations made by the International Commission on 20 June 1983 in Luxembourg.

(3) In the case of industrial sectors where limit values are expressed in terms of both maximum concentration and maximum quantity of cadmium, both should be applied. However, the competent authorities may authorize emission standards which exceed the applicable limit value expressed in terms of maximum concentration where the following two conditions are met:

(a) the volume of waste water discharged is greatly reduced by special water-saving measures; and

(b) the limit value expressed in terms of the maximum quantity of cadmium is respected.

(4) In the case of industrial sector 1, for which there are only limit values expressed in terms of maximum concentration, Governments should — in an attempt to establish future limit values expressed in terms of maximum quantity, to fix those limit values and to bring them into force on 1 January 1989 — provide the International Commission, at least every two years, with the relevant figures for the average monthly quantities of per tonne of cadmium produced of cadmium effectively discharged by the various branches in industrial sector 1.

(5) For the time being, it is impossible to fix limit values expressed in terms of maximum quantity. The International Commission will propose such values, where necessary, in accordance with Article 5 of the Convention. If the International Commission does not propose limit values, then the values expressed in terms of maximum quantity (which are to be respected as from 1 January 1986) will be retained.

(6) When this is made absolutely necessary by the technical or administrative situation, governments may suspend up to 1 January 1989 application of the limit values for installations not discharging more than 10 kilograms of cadmium per year where the total volume of all the electroplating tanks is not more than 1,5 m^3.

(7) The cadmium content of discharges from industrial sector 7 may be reduced appreciably when the waste containing the cadmium is eliminated. This waste must be eliminated from the discharge where underground storage or recycling is possible in such a way that the danger to the environment is not increased. However, local conditions are such that elimination of this kind is not yet possible everywhere. Consequently, economically acceptable techniques, which allow the cadmium to be extracted systematically from these discharges, are not applicable in these cases. No limit value has therefore been fixed for industrial sector 7. In view of the large quantities of cadmium discharged by industrial sector 7, the International Commission will draw up proposed limit values for that sector as soon as appropriate methods are available. In the meantime, Governments will set emission standards for cadmium autonomously in accordance with Articles 3 and 4 of the Convention, taking account of any possibilities of eliminating the waste containing the cadmium. For new discharges the cadmium must be eliminated from the waste water.

ADDITIONAL AGREEMENT

to the Agreement, signed in Berne on 29 April 1963, concerning the International Commission for the Protection of the Rhine against Pollution

THE GOVERNMENT OF THE FEDERAL REPUBLIC OF GERMANY,

THE GOVERNMENT OF THE FRENCH REPUBLIC,

THE GOVERNMENT OF THE GRAND DUCHY OF LUXEMBOURG,

THE GOVERNMENT OF THE KINGDOM OF THE NETHERLANDS,

THE GOVERNMENT OF THE SWISS CONFEDERATION,

AND THE EUROPEAN ECONOMIC COMMUNITY,

Having regard to the Agreement, signed in Berne on 29 April 1963, concerning the International Commission for the Protection of the Rhine against Pollution and the Protocol of Signature annexed thereto,

Having regard to the Convention for the protection of the Rhine against chemical pollution,

Whereas, in view of its jurisdiction, the European Economic Community must become a Contracting Party to the Agreement signed in Berne on 29 April 1963,

HAVE AGREED AS FOLLOWS:

Article 1

The European Economic Community shall become a Contracting Party to the Agreement concerning the International Commission for the Protection of the Rhine against Pollution and the Protocol of Signature attached thereto (hereinafter referred to as 'the Agreement'), signed in Berne on 29 April 1963, from the date of the entry into force of this Additional Agreement.

Article 2

The following amendments shall be made to the Agreement:

(a) The term 'Signatory Governments' shall be replaced by 'Contracting Parties'.

(b) Article 4 (1) shall be replaced by the following:

'1. Details regarding the exercise of the chairmanship of the Commission by the delegations shall be worked out by the Commission and included in its rules of procedure; the delegation assuming the chairmanship shall designate one of its members as chairman of the Commission.'

(c) The following paragraph shall be inserted after Article 6 (1):

'2. In those areas coming within its jurisdiction, the European Economic Community shall have the number of votes corresponding to the number of its Member States which are Contracting Parties to this Agreement. The European Economic Community shall not vote in cases where its Member States vote and vice versa.'

Article 6 (2) shall become Article 6 (3).

Article 6 (3) shall become Article 6 (4); the following words shall be added thereto:

'However, this provision shall not apply to the delegation of the European Economic Community.'

(d) Article 12 (2) shall be replaced by the following:

'2. The remaining costs of the Commission's activities shall be shared out among the Contracting Parties as follows:

Federal Republic of Germany	24·5 %
French Republic	24·5 %
Grand Duchy of Luxembourg	1·5 %
Kingdom of the Netherlands	24·5 %
European Economic Community	13 %
Swiss Confederation	12 %
Total	100 %

In certain cases, the Commission may adopt a different distribution.'

Article 3

1. The delegation which holds the chair of the Commission at the time of the entry into force of the Additional Agreement shall continue to preside until its three-year period of office expires.

2. The details of the subsequent exercise of the chairmanship of the Commission by the delegations shall be worked out by the Commission in the light of its new composition and before the expiry of the period of office referred to in paragraph 1.

Article 4

1. Each Signatory Party will notify the Government of the Swiss Confederation of the completion of the procedures necessary for the entry into force of this Additional Agreement.

2. The Government of the Swiss Confederation will inform the Contracting Parties of the date of receipt of such notifications. This Additional Agreement shall enter into force at the same time as the Convention for the protection of the Rhine against chemical pollution.

Article 5

This Additional Agreement, drawn up in a single original in the Dutch, French and German languages, all three texts being equally authentic, will be deposited in the archives of the Government of the Swiss Confederation, which will transmit a certified copy to each Contracting Party.

Done at Bonn, 3 December 1976.

For the Government of the Federal Republic of Germany:

For the Government of the French Republic:

For the Government of the Grand Duchy of Luxembourg:

For the Government of the Kingdom of the Netherlands:

For the Government of the Swiss Confederation:

For the European Economic Community:

COUNCIL DECISION

of 12 December 1977

establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community

(77/795/EEC)

(as amended by the Act of Adhesion of Greece of 28 May 1979 (OJ L 291, 19.11.79, p. 17); Council Decision 81/856/EEC of 19 October 1981 consequent upon the accession of Greece (OJ L 319, 7.11.81, p. 17); Commission Decision 84/422/EEC of 24 July 1984 (OJ L 237, 5.9.84, p. 15); Council Decision 86/574/EEC of 24 November 1986 amending Decision 77/795/EEC establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community (OJ L 335, 28.11.86, p. 44); and the Act of Accession of Spain and Portugal of 12 June 1985 (OJ L 302, 15.11.85, p. 9))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the 1973 [3] and 1977 [4] programmes of action of the European Communities on the environment provide for the introduction of a procedure for the exchange of information between the pollution surveillance and monitoring networks;

Whereas such a procedure is necessary to determine the pollution levels of the rivers in the Community and consequently to lay down guidelines for the control of pollution and nuisances, which is one of the Community's objectives in respect of the improvement of living conditions and the harmonious development of economic activities throughout the Community; whereas no provision is made in the Treaty for the specific powers required for this purpose;

Whereas such an exchange of information on pollution levels is one of the means of monitoring the long-term trends and the improvements resulting from the application of current national and Community rules;

Whereas the exchange of information provided for in this Decision should allow for as significant a comparison as possible of the results obtained in the sampling and measuring stations;

Whereas the exchange of information provided for in this Decision would lay the foundations for a system for monitoring surface fresh-water pollution at Community level and could constitute a component of the global environmental monitoring system provided for in the United Nations environment programme;

Whereas to attain these objectives the Member States must forward to the Commission data relating to certain parameters for surface fresh water; whereas the Commission will draw up a consolidated report which it will transmit to the Member States;

Whereas the list of stations in Annex I may, with advantage, be modified by the Commission at the request of the Member State concerned, provided that certain criteria are fulfilled;

Whereas technical progress requires that the technical specifications laid down in Annex II to this Decision should be adapted promptly; whereas, to facilitate the

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[1] OJ No C 178, 2. 8. 1976, p. 48.
[2] OJ No C 285, 2. 12. 1976, p. 10.
[3] OJ No C 112, 20. 12. 1973, p. 3.
[4] OJ No C 139, 13. 6. 1977, p. 3.

implementation of the measures required for this purpose, provision must be made for a procedure establishing close cooperation between the Member States and the Commission within the Committee for the adaptation of this Decision to technical progress,

HAS ADOPTED THIS DECISION:

Article 1

A common procedure for the exchange of information on the quality of surface fresh water in the Community is hereby established.

Article 2

1. For the purposes of this Decision 'sampling or measuring stations' means the stations listed in Annex I.

2. The information concerning the parameters listed in the first column of Annex II covered by the exchange of information shall be:

(a) the results of the measurements carried out by the sampling or measuring stations;

(b) a description of the sampling, sample preservation and measuring methods used and the frequency of sampling.

Article 3

1. Each Member State shall designate a central agency and inform the Commission thereof within 15 days of the notification of this Decision.

2. The information referred to in Article 2 (2) shall be forwarded to the Commission through the central agency in each Member State.

3. The data referred to in Article 2 (2) (a) shall be presented according to the modes of expression and with the significant figures set out in the second and third columns of Annex II.

The descriptions of the methods referred to in Article 2 (2) (b) may be omitted if the methods are the same as those used in previous years, provided always that an explicit reference to any such omission is made .

4. The information, covering a calendar year, shall be forwarded to the Commission before 1 October of the following year.

5. The Commission shall forward annually to the Member States which so request the information received under paragraph 2. Every three years, and for the first time in 1987, the Commission shall draw up a draft consolidated report based on the information referred to in Article 2 (2). The part of this report concerning the information supplied by a Member State shall be sent to the central agency of that State for verification. Any comments on the draft shall be included in the report. The report shall include indications of the trends noted in water quality since implementation of this Decision and as much interpretative comment as possible, taking into account the objectives of the Decision.

The Commission shall publish the final version of its report and send copies to the Member States.

6. The Commission shall assess the effectiveness of the procedure for the exchange of information and shall submit proposals, where appropriate, to the Council aimed at improving the procedure and, if necessary, harmonizing the methods of measurement, taking into account the provisions of Article 4.

Article 4

1. Each Member State shall organize such intercalibration at national level amongst laboratories taking part in the collection and the analysis of data as may be necessary to ensure comparability of reference methods of measurement with those used in the laboratories of the Member States.

2. The Commission shall, if necessary, organize a comparative evaluation of nationally applied methods of measurement. This evaluation shall be the subject of a report to be transmitted to Member States.

3. On the basis of the report referred to in paragraph 2, the Commission shall, if necessary, make proposals to the Council for the intercalibration of nationally applied methods of measurement with the reference methods of measurement listed in Annex III.

Article 4a

1. In order to implement the common procedure for the exchange of information, the Member States shall lay down a frequency for sampling and analysis, normally monthly.

2. If a Member State has established that the water quality does not display any significant variation in terms of the value of one or more parameters and if there is no risk of a deterioration of the water quality, the frequency of sampling and measurement of that parameter or those parameters may be reduced. Such a reduction of the frequency shall not involve any risk to human beings and the environment.

Modifications to the frequency shall be explicitly mentioned in the information forwarded to the Commission under Article 3 (2).

3. The reference methods of measurement for the parameters in question are set out in Annex III. Laboratories which use other methods of measurement shall satisfy themselves that the results obtained are comparable.

4. The containers used for samples, the agents or methods used to preserve part of a sample for the analysis of one or more parameters, the conveyance and storage of samples and the preparation of samples for analysis must not be such as to bring about any significant change in the results of the analysis.

5. Sampling shall take place in the same places and the sampling procedures shall be the same on each occasion.

Article 5

1. The list in Annex I may be amended by the Commission on a request from the Member State concerned.

2. The Commission shall make such amendments when it is satisfied that the following requirements are met:

— that the list of sampling or measuring stations for each Member State is sufficiently representative for the purposes of this Decision,

— that the stations are at points which are representative of water conditions in the area around and not directly and immediately influenced by a source of pollution,

— that they are capable of measuring at regular intervals the parameters in Annex II,

— that they are as a general rule not more than 100 kilometres apart on main rivers, not including tributaries,

— that they are upstream of any confluences and not on tidal stretches of water.

3. The Commission shall inform the Council of any amendments which it has accepted.

4. The Commission shall submit for decision by the Council any requests for amendments which it has been unable to accept.

Article 6

Amendments necessary to adapt to technical progress the list of parameters and the modes of expression and significant figures in respect thereof set out in Annex II, as well as the reference methods of measurement, the parameters and the modes of expression set out in Annex III, shall be adopted in accordance with the procedure laid down in Article 8, provided that any additions to the list involve only parameters covered by Community rules concerned with the aquatic environment and for which data are available in all sampling and measuring stations of the Member States. Any changes in the modes of expression and significant figures must not involve changes to the methods of measurement used by the Member States in the various stations in Annex I.

Article 7

1. A Committee for the adaptation of this Decision to technical progress (hereinafter referred to as the 'the Committee') is hereby set up, consisting of representatives of the Member States with a representative of the Commission as Chairman.

2. The Committee shall adopt its own rules of procedure.

Article 8

1. Where the procedure laid down in this Article is to be followed, the matter shall be referred to the Committee by its chairman, either on his own initiative or at the request of a representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be taken. The Committee shall give its opinion on the draft within a time limit set by the chairman according to the urgency of the matter. Opinions shall be delivered by a majority of 54 votes, the votes of the Member States being weighted as provided for in Article 148 (2) of the Treaty. The chairman shall not vote.

3. (a) Where the measures envisaged are in accordance with the opinion of the Committee, the Commission shall adopt them.

(b) Where the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall without delay submit to the Council a proposal on the measures to be taken. The Council shall act by a qualified majority.

(c) If within three months of the proposal being submitted to it the Council has not acted, the proposed measures shall be adopted by the Commission.

Article 9

This Decision is addressed to the Member States.

Done at Brussels, 12 December 1977.

For the Council

The President

L. DHOORE

ANNEX I

LIST OF SAMPLING OR MEASURING STATIONS INVOLVED IN THE EXCHANGE OF INFORMATION

FEDERAL REPUBLIC OF GERMANY

Sampling or measuring stations		List of rivers
Maxau	362·3 km downstream of the Rhine bridge at Constance	Rhine
Mainz	498·5 km downstream of the Rhine bridge at Constance	Rhine
Koblenz/Braubach	590·3 km downstream of the Rhine bridge at Constance	Rhine
Palzem	230·3 km upstream of the confluence with the Rhine	Moselle
Koblenz/Moselle	2 km upstream of the confluence with the Rhine	Moselle
Kleve/Bimmen	864·95 km downstream of the Rhine bridge at Constance at the point where the river leaves the Federal Republic of Germany	Rhine
Goch	21·4 km upstream of the confluence with the Meuse	Niers
Herbrüm	284·9 km from the source (212·04 Canal km)	Ems
Hemeln	11 km downstream of the confluence of the Werra and the Fulda	Weser
Intschede	329·7 km downstream of the confluence of the Werra and the Fulda	Weser
Geesthacht	113 km downstream of the entry of the river into the Federal Republic of Germany (584·5 Elbe km)	Elbe
Jochenstein	2 203 km upstream of the mouth of the Danube	Danube

BELGIUM

Sampling or measuring stations		List of rivers
Warneton	downstream of the confluence with the Deule	Lys
Leers-Nord	at the point where the river enters Belgium	Espierre
Doel	at the point where the river leaves Belgium	Scheldt
Bléharies	at the point where the river enters Belgium	Scheldt
Erquelinnes	at the point where the river enters Belgium	Sambre
Heer-Agimont	at the point where the river enters Belgium	Meuse
Lanaye-Ternaaien	at the point where the river leaves Belgium	Meuse
Martelange	at the point where the river leaves Belgium	Sure
Zelzate	at the point where the river leaves Belgium	Ghent-Terneuzen Canal

DENMARK

Sampling or measuring stations		List of rivers
Nåby	Station No 57.12	Suså
Nr Broby	Station No 45.01	Odense Å
Tvilum bro	Station No 21.01	Gudenå
Ahlergård	Station No 25.05	Skjern Å

GREECE

Sampling or measuring station		List of rivers
Drama	Papades Bridge (01) (30 km from the point where the river enters Greece)	Nestos
Serres	Sidirokastro Bridge (02) (18 km from the point where the river enters Greece)	Strymon
Thessaloniki	Kilometre post 61·500 on the Thessaloniki-Idomeni railway line (03) (10 km from the point where the river enters Greece)	Axios
Kozani	Moni Ilarion (04) upstream of the Polyphyte reservoir (150 km upstream of the mouth)	Aliakmon
Larissa	Larissa municipality water-tower (05) (50 km upstream of the mouth)	Pinios
Agrinion	Kastraki (06) downstream of the reservoir (50 km upstream of the mouth)	Akheloos

FRANCE

	Sampling or measuring stations	List of rivers
Méry	upstream of the confluence with the Aube (St 6 000)	Seine
Montereau	upstream of the confluence with the Yonne (St 14 000)	Seine
Melun	(St 47 000)	Seine
Paris	Tolbiac Bridge (St 81 000)	Seine
St Rambert	Andrézieux Bridge downstream of St Rambert (St 9 000)	Loire
Roanne	Villecrest Bridge upstream of Roanne (St 13 000)	Loire
Orléans	downstream of Orléans (St 51 000)	Loire
Nantes	upstream of Nantes (St 137 000)	Loire
Toulouse	downstream of Toulouse (St 161 000)	Garonne
Lamagistère	downstream of the confluence with the Aveyron (St 117 000)	Garonne
Couthures	near Couthures, downstream of the confluence with the Avance (St 81 000)	Garonne
Auxonne	France Bridge (St 11 000)	Saône
Mulatière	upstream of the confluence with the Rhone (St 59 000)	Saône
Pont Carnot	downstream of Lake Geneva and upstream of the Génissiat Dam (St 67 000)	Rhône
Lyon	downstream of the confluence with the Saône et Chasse sur Rhône (St 98 000)	Rhône
St Vallier	upstream of the confluence with the Isère (St 104 000)	Rhône

IRELAND

	Sampling or measuring stations	List of rivers
Slane Bridge	approximately 12 km downstream of Navan (N 96 74)	Boyne
Corofin Bridge	approximately 19 km downstream of Tuam (M 42 43)	Clare
Graiguenamanagh Bridge	approximately 29 km downstream of Muine Bheag (Bagenalstown) (S 71 44)	Barrow
Killavullen Bridge	approximately 13 km downstream of Mallow (W 65 99)	Blackwater (Munster)

ITALY

	Sampling or measuring stations	List of rivers
Ponte d'Adige	308 km upstream of the mouth	Adige
Trento	253 km upstream of the mouth	Adige
Badia Polesine	66 km upstream of the mouth	Adige
Moncalieri	594 km upstream of the mouth	Po
Cremona	281 km upstream of the mouth	Po
Boretto	216 km upstream of the mouth	Po
Borgo Forte	184 km upstream of the mouth	Po
Pontelagoscuro	91 km upstream of the mouth	Po
Ponte degli Alberi	38 km upstream of the mouth	Metauro
Subbiano	178 km upstream of the mouth	Arno
Nave di Rosano	120 km upstream of the mouth	Arno
Capraia	70 km upstream of the mouth	Arno
San Giovanni alla Vena	37 km upstream of the mouth	Arno
Ponte Felcino	300 km upstream of the mouth	Tiber
Ponte Nuovo	273 km upstream of the mouth	Tiber
Ponte Ripetta	43 km upstream of the mouth	Tiber

GRAND DUCHY OF LUXEMBOURG

	Sampling or measuring stations	List of rivers
Wasserbillig	upstream of the confluence with the Moselle	Sûre

NETHERLANDS

	Sampling or measuring stations	List of rivers
Lobith	at the point where the river enters the Netherlands	Upper Rhine
Kampen	123 km downstream of the point where the Rhine enters the Netherlands	Ijssel
Vuren	88 km downstream of the point where the Rhine enters the Netherlands	Upper Merwede
Hagestein	82 km downstream of the point where the Rhine enters the Netherlands	Lek
OM 42	Puttershoek, 120 km downstream of the point where the Rhine enters the Netherlands	Oude Maas
NM 34	near the island of Brienenoord, 134 km downstream of the point where the Rhine enters the Netherlands	Nieuwe Maas

NETHERLANDS *(continued)*

Sampling or measuring stations		List of rivers
Eijsden	4·5 km downstream of the point where the Meuse enters the Netherlands	Meuse
Lith	201 km downstream of the point where the Meuse enters the Netherlands	Meuse
Keizersveer	248 km downstream of the point where the Meuse enters the Netherlands	Bergse Maas
H 9	Haringvlietbrug (Haringvliet Bridge)	Haringvliet
H 12	near the Haringvlietdam	Haringvliet
IJ 12	Ketelbrug, 145 km downstream of the point where the Rhine enters the Netherlands	Ketelmeer
IJ 23	centre of Lake Ijssel	Lake Ijssel

UNITED KINGDOM

Sampling or measuring stations		List of rivers
Chollerford	6 km upstream of the confluence (NY 919 706)	North Tyne
Warden Bridge	800 m upstream of the confluence (NY 910 660)	South Tyne
Wylam Bridge	immediately upstream of the tidal limit (NZ 119 645)	Tyne
Derwenthaugh	1·3 km upstream of the tidal limit (NZ 187 607)	Derwent
Whitford Bridge	3 km upstream of the tidal limit (SY 262 953)	Axe
Tregony Gauging Station	6 km upstream of the tidal limit (SW 921 445)	Fal
Devoran Bridge	immediately upstream of the tidal limit (SW 791 394)	Carnon
Denny Bridge	0,5 km upstream of the tidal limit (SD 504 647)	Lune
St Michael's Weir	immediately upstream of the tidal limit (SD 462 411)	Wyre
Samlesbury	1·5 km upstream of the tidal limit (SD 589 304)	Ribble
Teddington Weir	(TQ 171 714)	Thames
Chetwynd	(SK 187 138)	Tame
Nottingham	(SK 581 383)	Trent
Yoxall	(SK 131 177)	Trent
Fochabers	4 km upstream of the tidal limit (NJ 341 596)	Spey
Craigiehall	3 km upstream of the tidal limit (NT 165 752)	Almond
Renton Footbridge	immediately upstream of the tidal limit (NS 389 783)	Leven

SPAIN

Sampling or measuring stations		List of rivers
San Esteban de Gormaz	station nº 02.07	Douro
Villamarciel	station nº 02.54	Douro
Puente Pino	station nº 02.53	Douro
Trillo	station nº 03.93	Tagus
Aranjuez	station nº 03.11	Tagus
Talavera de la Reina	station nº 03.15	Tagus
Alcántara	station nº 03.19	Tagus
Balbuena	station nº 04.08	Guadiana
Badajoz	station nº 04.18	Guadiana
Menjíbar	station nº 05.04	Guadalquivir
Peñaflor	station nº 05.06	Guadalquivir
Sevilla	station nº 05.74	Guadalquivir
Miranda de Ebro	station nº 09.01	Ebro
Zaragoza	station nº 09.11	Ebro
Tortosa	station nº 09.27	Ebro

PORTUGAL

Sampling or measuring stations		List of rivers
Lanhelas	station nº 01.1	Minho
Messegães	station nº 01.4	Minho
Porto	station nº 09.1	Douro
Barca d'Alva	station nº 09.8	Douro
Miranda do Douro	station nº 09.11	Douro
S. João de Loure	station nº 12.2	Vouga
Penacova	station nº 16.4	Mondego
Santarém	station nº 30.3	Tagus
Perais	station nº 30.10	Tagus
Castelo de Bode	station nº 30.20.2	Zêzere
Mértola	station nº 54.3	Guadiana
Sª da Ajuda	station nº 54.7	Guadiana

ANNEX II

PARAMETERS IN RESPECT OF WHICH INFORMATION IS TO BE EXCHANGED

(Modes of expression and significant figures for the parametric data)

Parameter		Mode of expression	Significant figures	
			Before the decimal comma	After the decimal comma
physical	Rate of flow (1) (at the time of sampling)	m^3/sec	× × × ×	× ×
	Temperature	°C	× ×	×
	pH	pH	× ×	×
	Conductivity at 20 °C	$\mu S\ cm^{-1}$	(<100) × × (≥100) × × ×	
chemical	Chlorides	Cl mg/l	(<100) × × (≥100) × × ×	
	Nitrates	NO_3 mg/l	× × ×	× ×
	Ammonia	NH_4 mg/l	× × ×	× ×
	Dissolved oxygen	O_2 mg/l	× ×	×
	BOD_5	O_2 mg/l	× × ×	×
	COD	O_2 mg/l	× × ×	×
	Total phosphorus	P mg/l	× ×	× ×
	Surfactants reacting to methylene blue	Sodium lauryl sulphate eq. mg/l	× ×	× ×
	Total cadmium	Cd mg/l	×	× × × ×
	Mercury	Hg mg/l	×	× × × ×
micro-biological	Faecal coliforms	/ 100 ml	× × × × × ×	
	Total coliforms (2)	/ 100 ml	× × × × × ×	
	Faecal streptococci (2)	/ 100 ml	× × × × × ×	
	Salmonella (2)	/ 1 l	×	
biological	biological quality (2) (3)			

(1) The date of sampling must be given.

(2) The data relating to this parameter shall be exchanged when it is measured.

(3) The frequency of sampling of this parameter and the mode of expression of results shall be decided on by Member States.

ANNEX III

REFERENCE METHODS OF MEASUREMENT

Parameter	Mode of expression	Reference method of measurement
Rate of flow at the time of sampling	m^3/s	Flowmeter
Temperature	°C	Thermometry measured *in situ* at the time of sampling
pH	pH	Electrometry measured *in situ* at the time of sampling without prior treatment of the sample
Conductivity at 20 °C	$\mu S\ cm^{-1}$	Electrometry
Chlorides	Cl mg/l	Titration (Mohr's method) Molecular absorption spectrophotometry
Nitrates	NO_3 mg/l	Molecular absorption spectrophotometry
Ammonia	NH_4 mg/l	Molecular absorption spectrophotometry
Dissolved oxygen	O_2 mg/l	Winkler's method Electrochemical method
BOD_5	O_2 mg/l	Determination of dissolved oxygen before and after five-day incubation at 20 ± 1 °C in complete darkness. Addition of a nitrification inhibitor.
COD	O_2 mg/l	Potassium dichromate method
Total phosphorus	P mg/l	Molecular absorption spectrophotometry
Surfactants reacting to methylene blue	Sodium lauryl sulphate eq. mg/l	Molecular absorption spectrophotometry
Total cadmium	Cd mg/l	Atomic absorption spectrophotometry
Mercury	Hg mg/l	Flameless atomic absorption spectrophotometry
Faecal coliforms	/100 ml	— Culture at 44 °C on an appropriate specific solid medium (such as Tergitol lactose agar, Endo agar, 0,4 % Teepol broth) with or without filtration and colony count. Samples must be diluted or, where appropriate, concentrated in such a way as to contain between 10 and 100 colonies. If necessary, identification by gasification. — Method of dilution with fermentation in liquid substrates in at least three tubes in three dilutions. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number). Incubation temperature : 44 ± 0,5 °C.

Parameter	Mode of expression	Reference method of measurement
Total coliforms	/100 ml	— Culture at 37 °C on an appropriate specific solid medium (such as Tergitol lactose agar, Endo agar, 0,4 % Teepol broth) with or without filtration and colony count. Samples must be diluted or, where appropriate, concentrated in such a way as to contain between 10 and 100 colonies. If necessary, identification by gasification. — Method of dilution with fermentation in liquid substrates in at least three tubes in three dilutions. Subculturing of the positive tubes on a confirmation medium. Count according to MPN (most probable number). Incubation temperatures : 37 °C ± 1 °C.
Faecal streptococci	/100 ml	— Culture at 37 °C on an appropriate solid medium (such as sodium azide) with or without filtration and colony count. — Method of dilution in sodium azide broth (Litsky). Count according to MPN (most probable number).
Salmonella	/1 l	Concentration by filtration (on membrane or appropriate filter). Innoculation into pre-enrichement medium. Enrichment and transfer into isolating gelose — identification.
Biological quality	Pending Community-wide harmonization, Member States will use their respective methods.	

COUNCIL DECISION

of 6 March 1986

establishing a Community information system for the control and reduction of pollution caused by the spillage of hydrocarbons and other harmful substances at sea

(86/85/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Articles 213 and 235 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas studies carried out by the Commission in accordance with the Council Resolution of 26 June 1978 setting up an action programme of the European Communities on the control and reduction of pollution caused by hydrocarbons discharged at sea (4) have demonstrated the feasibility of setting up a Community information system for the control and reduction of pollution caused by the spillage of hydrocarbons and other harmful substances at sea;

Whereas the Council adopted Decision 81/971/EEC of 3 December 1981 establishing a Community information system for the control and reduction of pollution caused by hydrocarbons discharged at sea (5),

Whereas the Council adopted Decision 81/420/EEC of 19 May 1981 on the conclusion of the Protocol concerning cooperation in combating pollution of the Mediterranean Sea by oil and other harmful substances in cases of emergency (6) and Decision 84/358/EEC of 28 June 1984 concerning the conclusion of the Agreement for cooperation in dealing with pollution of the North Sea by oil and other harmful substances (7);

Whereas scientific knowledge of the properties and behaviour of harmful substances, other than hydrocarbons spilt at sea is still limited and whereas, therefore, the information system should be established gradually, in keeping in particular with changes in such knowledge.

Whereas information concerning the properties and behaviour of harmful substances other than hydrocarbons will help the Member States to assess the nature of the threat in case of accident and determine the most appropriate means and methods for combating pollution;

Whereas the scope of Decision 81/971/EEC should therefore be extended, in particular to draw up an inventory of resources for intervention in the event of spillage at sea of harmful substances other than hydrocarbons;

Whereas the information system will enable the Commission to accomplish a number of tasks laid down in the abovementioned Resolution of 26 June 1978 and in the action programme annexed thereto;

Whereas this information system appears necessary for the realization of one of the objectives of the Community in the field of the control and reduction of pollution caused by the spillage of hydrocarbons and other harmful substances at sea; whereas, since the Treaty has not provided for all the necessary powers, recourse should also be had to Article 235 thereof,

HAS ADOPTED THIS DECISION:

Article 1

1. An information system is hereby established to make available to the competent authorities in the Member States the data required for the control and reduction of pollution caused by the spillage of hydrocarbons and other harmful substances at sea in large quantities.

2. The information system shall comprise:

(a) a list of national and joint plans for combating pollution caused by the spillage of hydrocarbons at sea, comprising a brief description of the content of the plans and naming the authorities responsible for them;

(b) an inventory of resources for combating pollution of the sea by hydrocarbons (Annex I);

(c) a compendium of hydrocarbon properties and their behaviour and of methods of treatment and end uses of mixtures of water-hydrocarbon-solid matter recovered from the sea or along the coast (Annex II);

(d) an inventory, to be compiled gradually by the Commission, of resources for intervention in the event of a spillage at sea of harmful substances other than hydrocarbons (Annex III).

(1) OJ No C 112, 7. 5. 1985, p. 5.
(2) OJ No C 229, 9. 9. 1985, p. 15.
(3) OJ No C 118, 29. 7. 1985, p. 18.
(4) OJ No C 162, 8. 7. 1978, p. 1.
(5) OJ No L 355, 10. 12. 1981, p. 52.
(6) OJ No L 162, 19. 6. 1981, p. 4.
(7) OJ No L 188, 16. 7. 1984, p. 7.

3. In addition, the Commission will gradually compile, in the light of experience, a compendium of information concerning the properties and behaviour of harmful substances or groups of harmful substances other than hydrocarbons.

Article 2

1. Member States shall forward to the Commission the information referred to in the Annexes and in Article 1 (2) (a) for the first time within twelve months of the day of publication of this Decision in the *Official Journal of the European Communities.*

2. Subsequently, Member States shall update the information specified in paragraph 1 in January of each year.

Member States shall also notify the Commission at the earliest opportunity of substantial changes relating to such information.

Article 3

The Commission shall be responsible for implementing the information system.

The Commission shall make available to each Member State, during the dissemination stage, a copy of all the information in the system.

Article 4

Within six months of the day of publication of this Decision in the *Official Journal of the European Communities,* each Member State shall appoint the authority or authorities responsible for collecting and forwarding to the Commission the information referred to in Article 2 and for receiving the information referred to in Article 3. It shall inform the Commission thereof.

Article 5

Every two years the Commission shall draw up and forward to the Council and the European Parliament a report on the operation of the information system and the use made of it by Member States.

Article 6

Decision 81/971/EEC is hereby repealed.

Article 7

This Decision is addressed to the Member States.

Done at Brussels, 6 March 1986.

For the Council

The President

P. WINSEMIUS

ANNEX I

INVENTORY OF RESOURCES FOR COMBATING POLLUTION OF THE SEA BY HYDROCARBONS

The purpose of this inventory is to provide a preliminary indication of the resources available in a Mmber State (1) for combating pollution of the sea by hydrocarbons and of several thereof which, in the event of an incident and at the request of another Member State, might be made available to that Member State on conditions to be decide between the respective competent authorities. The inclusion in the inventory of any individual resource for combating pollution does not imply any obligation to make this resource available.

A. CONTENT

The inventory will contain data on :

1. the number and qualifications of the specialist staff;
2. mechanical resources for recovering hydrocarbons spilt at sea and preventing or combating coastal polluion, as well as on the specialist staff that will utilize these resources;
3. chemical resources for combating pollution at sea and cleaning up coasts, as well as on the specialist staff that will utilize these resources;
4. task forces;
5. ships and aircraft equipped for combating pollution;
6. mobile resources for temporary storage of recovered hydrocarbons;
7. systems for lightening oil-tankers.

The inventory will contain data on the characterisics of these resources and where they are located. It may also contain data on the time needed to utilize them.

B. PROCEDURES

The Commission will prepare a preliminary version of the inventory and send copies to the Member States. It will ensure that the information forwarded to it is in line with the aims and content of the inventory. It will take any action necessary to apply the inventory.

The Member States will :

— assemble and forward to the Commission the information available to them concerning the data mentioned in section A;

— supply the Commission with the information available to them that is required for updating the inventory.

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(1) Excluding resources and personnel available for the protection of the vital security interests of that Member State.

ANNEX II

COMPENDIUM OF HYDROCARBON PROPERTIES AND THEIR BEHAVIOUR AND OF METHODS OF TREATMENT AND END USES OF MIXTURES OF WATER-HYDROCARBON-SOLID MATTER RECOVERED FROM THE SEA OR ALONG THE COAST

The aim of this compendium is to provide information, in the form of guidelines, on hydrocarbons in order to facilitate rapid and effective strike action to control the effects of an accidental spillage of hydrocarbons and in order to limit the ultimate long-term impact of contaminated hydrocarbon stocks.

A. CONTENT

Firstly, the compendium will contain, in the form of guidelines, factual data on :

— the relevant characteristics of the hydrocarbons liable to be spilt, for example ; density, surface tension, viscosity, wax content, liquefaction point, flash point and solubility ;

— alterations in the nature of hydrocarbons in the sea due to the processes of evaporation, dissolution, emulsification, oxidation and biodegradation, and dispersion of hydrocarbons in the natural environment ;

— changes in the nature of hydrocarbons due to the methods of treatment used while combating pollution by hydrocarbons at sea and on the coast.

Secondly, the compendium will bring together existing information on the impact of hydrocarbons on marine fauna and flora.

Thirdly, the compendium will contain data on :

— the mode of operation and description of the permanent installations for final treatment ;

— the end uses of the mixtures of water-hydrocarbon-solid matter.

B. PROCEDURES

The Commission will collect the data specified in section A and will ensure that they are submitted and made available to the Member States.

The Member States will :

— assemble the data specified in section A where such data are available to them and forward them to the Commission ;

— inform the Commission of other sources of data which they know about ;

— supply the Commission with the information available to them required to update the compendium.

ANNEX III

INVENTORY OF RESOURCES FOR INTERVENTION IN THE EVENT OF A SPILLAGE OF HARMFUL SUBSTANCES OTHER THAN HYDROCARBONS

The purpose of this inventory is to provide a preliminary indication of the resources which are available in a Member State (1) for intervention when harmful substances other than hydrocarbons are spilt at sea and of several thereof which, in the event of an incident and at the request of another Member State, might be made available to that Member State on conditions to be decided between the respective competent authorities.

A. CONTENT

The inventory will contain data on:

1. manpower resources (specialist staff; task forces, etc.);
2. the material resources available for use in the different stages of intervention and the re-establishment of the original conditions at the sites affected by spillages.

The inventory will contain data on the caracteristics of these resources and where they are located. It may also contain data on the time needed to utilize them.

B. PROCEDURES

The Commission will gradually prepare the inventory and send copies to the Member States at each stage. It will ensure that the information forwarded to it is in line with the aims and content of the inventory. It will take any action necessary to apply the inventory.

The Member States will:

— assemble and forward to the Commission the information available to them which is considered necessary for drawing up the inventory (cf. data mentioned in section A);

— supply the Commission with the information available to them which is considered necessary for updating the inventory.

However, for a two-year transitional period it will be for the Mmber States to assess what information they consider necessary to forward to the Commission for the drawing up of the inventory referred to in this Annex. The situation will be reviewed on the basis of the Commission report mentioned in Article 5 of the Decision.

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(1) Excluding resources and personnel available for the protection of the vital security interests of that Member State.

COUNCIL DIRECTIVE
of 22 November 1973
on the approximation of the laws of the Member States relating to detergents
(73/404/EEC)

(as amended by Council Directive 82/242/EEC of 31 March 1982 on the approximation of the laws of the Member States relating to methods of testing the biodegradability of non-ionic surfactants (OJ L 109, 22.4.82, p. 1); and Council Directive 86/94/EEC of 10 March 1986 amending for the second time Directive 73/404/EEC on the approximation of the laws of the Member States relating to detergents (OJ L 80, 25.3.86, p. 51))

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament (1);

Having regard to the Opinion of the Economic and Social Committee (2);

Whereas the laws in force in the Member States for ensuring the biodegradability of surfactants differ from one Member State to another, which results in a hindrance to trade;

Whereas the increasing use of detergents is one of the causes of pollution of the natural environment in general and the pollution of waters in particular;

Whereas one of the pollutant effects of detergents on waters, namely the formation of foam in large quantities restricts contact between water and air, renders oxygenation difficult, causes inconvenience to navigation, impairs the photosynthesis necessary to the life of aquatic flora, exercises an unfavourable influence on the various stages of processes for the purification of waste waters, causes damage to waste water purification plants and constitutes an indirect microbiological risk due to the possible transference of bacteria and viruses;

Whereas it is desirable to maintain an average level of biodegradegradability of detergents of 90 % and whereas technology and industrial practicalities make this possible, and whereas it is desirable nevertheless to safeguard against uncertainties of test methods which could lead to rejection decisions having important economic consequences,

(1) OJ No C 10, 5.2.1972, p. 29.
(2) OJ No C 89, 23.8.1972, p. 13.

HAS ADOPTED THIS DIRECTIVE:

Article 1

For the purposes of this Directive, detergent shall mean [any product]* the composition of which has been specially studied with a view to developing its detergent properties, and which is made up of essential constituents (surfactants) and, in general, additional constituents (adjuvants, intensifying agents, fillers additives and other auxiliary constituents).

Article 2

Member States shall prohibit the placing on the market and use of detergents where the average level of biodegradability of the surfactants contained therein is less than 90% for each of the following categories: anionic, cationic, non-ionic and ampholytic.

The use of surfactants with an average level of biodegradability of not less than 90% must not, under normal conditions of use, be harmful to human or animal health.

Article 2a

1. Until 31 December 1989, Member States may, exempt the following products from the requirements of the first paragraph of Article 2:

(a) low-foaming alkene oxide additives on such substances as alcohols, alkylphenols, glycols, polyols, fatty acids, amides or amines, used in dish-washing products;

(b) alkali-resistant terminally blocked alkyl and alkyl-aryl polyglycol ethers and substances of the type referred to in subparagraph (a), used in cleaning agents for the food, beverage and metal-working industries.

* **Ed. note:** These words are missing in the original Official Journal in English.

Article 3

No Member State may, on grounds of the biodegradability or toxicity of surfactants, prohibit or restrict or hinder the placing on the market and use of detergents which comply with the provisions of this Directive.

*Article 4**

Compliance with the requirements of Article 2 shall be established by the methods of testing provided for in other Council Directives, which take due account of the unreliability of such methods and lay down the relevant tolerances.

Article 5

1. If a Member State should establish, by test procedures carried out on the basis of the Direrctive referred to in Article 4, that a detergent does not comply with the requirements laid down in Article 2, the Member State shall prohibit the placing on the market and use of that detergent in its territory.

2. In the event of that Member State taking the decision to prohibit a detergent, it shall immediately inform the Member State from which the product comes and the Commission to that effect, stating the reasons for its decision and details of the tests referred to in paragraph 1.

If the State from which the detergent comes raises objections to the decision, the Commission shall consult without delay both the Member States concerned and, if appropriate, any other Member States.

If it is not possible to reach agreement, the Commission shall, within three months from the date of receiving the information provided for in the first subparagraph obtain the opinion of one of the laboratories referred to in Article 6, but not one of the laboratories notified by the two Member States concerned under that Article.

The opinion shall be issued using the reference methods laid down in the directives referred to in Article 4.

The Commission shall transmit the opinion of the laboratory to the Member States concerned which may, within one month, forward their comments to the Commission. The Commission may at the same time hear any comments from the interested parties on that opinion.

After taking note of those comments, the Commission shall make any necessary recommendations.

Article 6

Each Member State shall notify the other Member States and the Commission of the laboratory or laboratories authorized to carry out the tests in accordance with the reference methods referred to in Article 5 (2).

Article 7

1. The following information must appear in legible, visible and indelible characters on the packaging in which the detergents are put up for sale to the consumer:

(a) the name of the product,

(b) the name or trade name and address or trademark of the party responsible for placing the product on the market.

The same information must appear on all documents accompanying detergents transported in bulk.

2. Member States may make the placing on the market of detergents in their territory subject to the use of their national languages for the information specified in paragraph 1.

Article 7a

1. A Committee shall be established for the adaptation to technical progress of Directives for removing technical barriers to trade in the detergents sector, hereinafter called "the Committee", which shall consist of representatives of the Member States under the chairmanship of a representative of the Commission.

2. The Committee shall establish its rules of procedure.

Article 7b

1. Where recourse is had to the procedure defined in this Article, the matter shall be referred to the Committee by its chairman, on his own initiative or at the request of the representative of a Member State.

2. The Commission representative shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a period which may be fixed by the chairman according to the urgency of the matter. A qualified majority of votes as laid down in Article 148 (2) of the Treaty shall be required before the Committee can deliver its opinion.

The chairman shall not vote.

3. (a) The Commission shall adopt the proposed measures where they are in accordance with the opinion of the Committee.

(b) Where the proposed measures are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall submit to the Council without delay a proposal on the measures to be adopted. The Council shall decide by a qualified majority.

(c) If the Council has not acted within three months of the date on which the proposal was submitted, the proposed measures shall be adopted by the Commission.

Article 7c

1. In accordance with the procedure laid down in Article 7b,

— the references to test methods in the Directives referred to in Article 4 shall, if necessary, be brought up to date or supplemented by other references to test methods established in other Member States,

— the reference methods (confirmatory test) in the Annexes to the Directives referred to in Article 4 shall be modified in order to adapt them to technical progress.

2. These adaptations should not have the effect of modifying in a negative fashion the biodegradability requirements of surfactants, already laid down in accordance with Article 4.

Article 8

1. Member States shall put into force the laws, regulations, and administrative provisions necessary for compliance with this Directive within eighteen months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the main provisions of national law in the field covered by the Directive are communicated to the Commission.

Article 9

This Directive is addressed to the Member States.

Done at Brussels, 22 November 1973.

For the Council
The President
J. KAMPMANN

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* **Ed. note:** For the test methods referred to in Art. 4, see Council Directive 73/405/EEC of 22 November 1973 on the approximation of the laws of the Member States relating to methods of testing the biodegradability of non-ionic surfactants (OJ L 347, 17.12.73, p. 53), as amended by Directive 82/243/EEC of 31 March 1982 (OJ L 109, 22.4.82, p. 18).

COUNCIL DIRECTIVE

of 31 March 1982

on the approximation of the laws of the Member States relating to methods of testing the biodegradability of non-ionic surfactants and amending Directive 73/404/EEC

(82/242/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the methods of testing in force in the Member States, while pursuing the same objective, differ in certain respects and are thus detrimental to the proper functioning of the common market;

Whereas Council Directive 73/404/EEC of 22 November 1973 on the approximation of the laws of the Member States relating to detergents (4) provides in Article 4 for the adoption of Directives specifying methods of testing as well as relevant tolerances to enable compliance with the requirements of that Directive to be established; whereas Council Directive 73/405/EEC of 22 November 1973 on the approximation of the laws of the Member States relating to methods of testing the biodegradability of anionic surfactants (5) specified such methods and tolerances for anionic surfactants;

Whereas, to enable Member States to determine the level of biodegradability of non-ionic surfactants, it is advisable to employ methods of testing already in use for this purpose in certain Member States; whereas, however, in the event of disputes, biodegradability should be tested by a common reference method;

Whereas, in regard to the approximation of the laws of the Member States relating to detergents, suitable tolerances for measuring biodegradability should be laid down, as provided for in Article 4 of Council Directive 73/404/EEC, in order to safeguard against the unreliability of methods of testing which could lead to rejection decisions having considerable economic consequences; whereas a rejection decision must be taken only if the results obtained by an analytical method mentioned in Article 2 show a level of biodegradability lower than 80 %;

(1) OJ No C 104, 28. 4. 1980, p. 112.
(2) OJ No C 197, 4. 8. 1980, p. 66.
(3) OJ No C 310, 30. 11. 1981, p. 7.
(4) OJ No L 347, 17. 12. 1973, p. 51.
(5) OJ No L 347, 17. 12. 1973, p. 53.

Whereas for the time being small quantities of certain non-ionic surfactants of low biodegradability must be used for some purposes because of technical problems and in order to prevent other undesirable effects on health and the environment; whereas it will nevertheless be necessary to have the opportunity of reviewing the use of these surfactants of low biodegradability in the light of technical progress;

Whereas technical progress necessitates a rapid adaptation of the technical requirements specified by the Directives on detergents; whereas, to facilitate implementation of the necessary measures designed to achieve this, a procedure should be established providing for close collaboration between the Member States and the Commission by means of a Committee for the adaptation to technical progress of the Directives on the removal of technical barriers to trade in detergents,

HAS ADOPTED THIS DIRECTIVE:

Article 1

This Directive concerns the methods of testing the biodegradability of non-ionic surfactants present in the detergents defined in Article 1 of Directive 73/404/EEC.

Article 2

In accordance with the provisions of Article 4 of Directive 73/404/EEC, the Member States shall prohibit the placing on the market and use on their territory of a detergent if the level of biodegradability of the non-ionic surfactants contained in such detergent is less than 80 % determined in accordance with one of the following methods:

— the OECD method, published in the OECD technical report of 11 June 1976 on the 'Proposed Method for the Determination of the Biodegradability of Surfactants used in Synthetic Detergents',

— the method in use in Germany, established by the 'Verordnung über die Abbaubarkeit anionischer und nichtionischer grenzflächenaktiver Stoffe in Wasch- und Reinigungsmitteln' of 30 January 1977, published in the *Bundesgesetzblatt*, 1977, Part I, page 244, as set out in the Regulation amending that Regulation of 18 June 1980, published in the *Bundesgesetzblatt*, 1980, Part I, page 706,

— the method in use in France, approved by Decree of 28 December 1977 published in the *Journal officiel de la République française* of 18 January 1978, and experimental standard T 73-270 March 1974, published by the Association française de normalisation (AFNOR),

— the method in use in the United Kingdom called the 'Porous Pot Test', as described in Technical Report No 70/1978 of the Water Research Centre.

Article 3

Under the procedure laid down in Article 5 (2) of Directive 73/404/EEC, the laboratory opinion on non-ionic surfactants shall be based on the reference method (confirmatory test procedure) described in the Annex to this Directive.

Article 4

The amendments required for adapting the Annex to technical progress shall be adopted in accordance with the procedure laid down in Article 7b of Directive 73/404/EEC.

Article 5

The following Articles shall be inserted in Directive 73/404/EEC:

[Ed. note: These Articles have been inserted into Directive 73/404]

Article 6

1. The Member States shall bring into force the provisions necessary to comply with this Directive within a period of 18 months following its notification. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive.

Article 7

This Directive is addressed to the Member States.

Done at Brussels, 31 March 1982.

For the Council

The President

P. de KEERSMAEKER

ANNEX

DETERMINATION OF THE BIODEGRADABILITY OF NON-IONIC SURFACTANTS

Reference method (confirmatory test)

CHAPTER 1

1.1. Definition

Non-ionic surface active agents in the sense of this Directive are those surface active agents which, after passage through cationic and anionic ion exchangers, are determined as bismuth-active substance (BiAS) according to the analytical procedure described in Chapter 3.

1.2. Equipment needed for measurement

The method of measurement employs the small activated sludge plant shown in Figure 1, and in greater detail in Figure 2. The equipment consists of a storage vessel A for synthetic sewage, dosing pump B, aeration vessel C, settling vessel D, air-lift pump E to recycle the activated sludge, and vessel F for collecting the treated effluent.

Vessels A and F must be of glass or suitable plastic and hold at least 24 litres. Pump B must provide a constant flow of synthetic sewage to the aeration vessel; this vessel, during normal operation, contains three litres of mixed liquor. A sintered aeration cube G is suspended in the vessel C at the apex of the cone. The quantity of air blown through the aerator should be monitored by means of a flowmeter H.

1.3. Synthetic sewage

A synthetic sewage is employed for the test. Dissolve in each litre of tap water:

160 mg peptone,
110 mg meat extract,
30 mg urea $CO(NH_2)_2$,
7 mg sodium chloride NaCl,
4 mg calcium chloride, $CaCl_2 \cdot 2H_2O$,
2 mg magnesium sulphate, $MgSO_4 \cdot 7H_2O$,
28 mg of dipotassium hydrogen phosphate K_2HPO_4
and 10 ± 1 mg BiAS.

The BiAS is extracted from the product to be tested by the method given in Chapter 2. The synthetic sewage is freshly prepared daily.

1.4. Preparation of samples

1.4.1. Uncompounded surfactants may be examined in the original state. The BiAS content must be determined in order to prepare the synthetic sewage (1.3).

1.4.2. Formulated products are analyzed for BiAS, MBAS and soap content. They must be subjected to an alcoholic extraction and to a separation of the BiAS (see Chapter 2). The BiAS content of the extract must be known in order to prepare the synthetic sewage.

1.5. Operation of equipment

Initially, fill aeration vessel C and settling vessel D with synthetic sewage. The height of the vessel D should be so fixed that the volume contained in the seration vessel C is three

litres. Inoculation is made by introducing 3 ml of a secondary effluent of good quality, freshly collected from a treatment plant dealing with a predominantly domestic sewage. The effluent must be kept under aerobic conditions in the period between sampling and application. Then set the aerator G, air-lift E and dosing device B in operation. The synthetic sewage must pass through the aeration vessel C at a rate of one litre per hour; this gives a mean retention time of three hours.

The rate of aeration should be so regulated that the contents of vessel C are kept constantly in suspension and the dissolved oxygen content is at least 2 mg/l. Foaming must be prevented by appropriate means. Anti-foaming agents which inhibit the activated sludge or contain BiAS must not be used. The air-lift pump E must be set so that the activated sludge from the settling vessel is continually and regularly recycled to aeration vessel C. Sludge which has accumulated around the top of the aeration vessel C, in the base of the settling vessel D, or in the circulation circuit must be returned to the circulation at least once each day by brushing or some other appropriate means. When the sludge fails to settle, its settlebility may be increased by the addition of 2 ml portions of a 5 % solution of ferric chloride, repeated as necessary.

The effluent from the settling vessel D is accumulated in vessel F for 24 hours, following which a sample is taken after thorough mixing. Vessel F must then be carefully cleaned.

1.6. Checking measuring equipment

The BiAS content (in mg/l) of the synthetic sewage is determined immediately before use.

The BiAS content (in mg/l) of the effluent collected over 24 hours in vessel F should be determined analytically by the same method, immediately after collection: otherwise the samples must be preserved, preferably by freezing. The concentrations must be determined to the nearest 0·1 mg/l BiAS.

As a check on the efficiency of the process, the chemical oxygen demand (COD) or the dissolved organic carbon (DOC) of the glass fibre filtered effluent accumulated in vessel F and of the filtered synthetic sewage in vessel A is measured at least twice per week.

The reduction in COD or DOC should level off when a roughly regular daily BiAS degradation is obtained at the end of the running-in period shown in Figure 3.

The content of dry matter in the activated sludge contained in the aeration vessel should be determined twice a week in g/l. If it is more than 2·5 g/l, the excess activated sludge must be discarded.

The degradation test is performed at room temperature; this should be steady and kept between 292 and 297 K (19-24 °C).

1.7. Calculation of biodegradability

The percentage degradation of BiAS must be calculated every day on the basis of the BiAS content in mg/l of the synthetic sewage and of the corresponding effluent accumulated in vessel F.

The degradability figures thus obtained should be presented graphically as in Figure 3.

The degradability of the BiAS should be calculated as the arithmetic mean of the figures obtained over the 21 days which follow the running-in period, during which degradation has been regular and the operation of the plant trouble-free. In any event the duration of the running-in period should not exceed six weeks.

The daily degradation values are calculated to the nearest 0·1 % but the final result is given to the nearest whole number.

In some cases it may be permissible to reduce the frequency of sampling but at least 14 results collected over the 21 days which follow the running-in period should be used in calculating the average.

CHAPTER 2

PRELIMINARY TREATMENT OF PRODUCTS TO BE TESTED

2.1. Preliminary notes

2.1.1. *Treatment of samples*

The treatment of non-ionic surface active agents and formulated detergents prior to the determination of biodegradability in the confirmatory test is:

Products	Treatment
Non-ionic surfactants	None
Formulated detergents	Alcoholic extraction followed by separation of the non-ionic surfactants by ion exchange

The purpose of the alcoholic extraction is to eliminate the insoluble and inorganic ingredients of the commercial product, which in some circumstances might upset the biodegradability test.

2.1.2. *Ion-exchange procedure*

Isolation and separation of non-ionic surface active agents from soap, anionic and cationic surfactants is required for correct biodegradability tests.

This is achieved by an ion-exchange technique using a macro-porous exchange resin and suitable elutants for fractional elution. Thus soap, anionic and non-ionic surfactants may be isolated in one procedure.

2.1.3. *Analytical control*

After homogenizing, the concentration of anionic and non-ionic surfactants in the detergent is determined according to the MBAS and BiAS analytical procedure. The soap content is determined by a suitable analytical method.

This analysis of the product is necessary to calculate the quantities required to prepare fractions for the biodegradability tests.

Quantitative extraction is not necessary; however, at least 80 % of the non-ionic surfactants should be extracted. Usually, 90 % or more is obtained.

2.2. Principle

From an homogeneous sample (powders, dried pastes and dried liquids) an ethanol extract is obtained which contains the surfactants, soap and other alcohol-soluble constituents of the detergent sample.

The ethanol extract is evaporated to dryness, dissolved in an isopropanol/water mixture and the solution obtained is passed through a strongly acidic cation exchange/macro-porous anion exchange combination heated to 323 K (50 °C). This high temperature is necessary to prevent the precipitation of any fatty acids, which may be present in acidic media.

The non-ionic surfactants are obtained from the effluent by evaporation.

Cationic surfactants, which might upset the degradation test and the analytical procedure are eliminated by the cation exchanger placed above the anion exchanger.

2.3. Chemicals and equipment

2.3.1. Deionized water

2.3.2. Ethanol, 95 % (v/v) C_2H_5OH

(permissible denaturant: methyl-ethyl ketone or methanol)

2.3.3. Isopropanol/water mixture (50/50 v/v):

50 parts by volume isopropanol ($CH_3CHOH \cdot CH_3$) and
50 parts by volume water (2.3.1)

2.3.4. Ammonium bicarbonate solution (60/40 v/v):

0·3 mol NH_4HCO_3 in 1 000 ml of an isopropanol/water mixture consisting of 60 parts by volume isopropanol and 40 parts by volume water (2.3.1)

2.3.5. Cation exchanger (KAT), strongly acidic, resistant to alcohol (50-100 mesh)

2.3.6. Anion exchanger (AAT), macro-porous, Merck Lewatit MP 7080 (70-150 mesh) or equivalent

2.3.7. Hydrochloric acid, 10 % HCl w/w

2.3.8. 2 000 ml round-bottomed flask with ground glass stopper and reflux condenser

2.3.9. 90 mm diameter suction filter (heatable) for filter papers

2.3.10. 2 000 ml filter flask

2.3.11. Exchange columns with heating jacket and tap: inner tube 60 mm in diameter and 450 mm in height (Figure 4)

2.3.12. Water-bath

2.3.13. Vacuum drying oven

2.3.14. Thermostat

2.3.15. Rotary evaporator

2.4. Preparation of extract and separation of non-ionic active agents

2.4.1. *Preparation of extract*

The quantity of surface active agents necessary for the degradation test is about 25 g BiAS.

In preparing extracts for the degradation tests, the quantity of product to be used should be limited to a maximum of 2 000 g. Therefore it may be necessary to carry out the operation two or more times in order to obtain sufficient quantity for the degradation tests. Experience has shown that there are advantages in using a number of small extractions rather than one large extraction.

2.4.2. *Isolation of alcohol-soluble constituents*

Add 250 g of the synthetic detergent to be analyzed to 1 250 ml ethanol and heat the mixture to boiling point and reflux for one hour with stirring. Pass the hot alcoholic solution through a coarse-pored suction filter heated to 323 K (50 °C) and filter rapidly. Wash the flask and suction filter with approximately 200 ml hot ethanol. Collect the filtrate and filter washings in a filter flask.

In the case of pastes or liquid products to be analyzed, make sure that not more than 25 g anionic surfactants and 35 g soap are contained in the sample. Evaporate this weighed sample to dryness. Dissolve the residue in 500 ml ethanol and proceed as described above.

In case of powders of low apparent density (< 300 g/l) it is recommended to increase the ethanol ratio in the relation 20 : 1.

Evaporate the ethanolic filtrate to complete dryness, preferably by means of rotary evaporator. Repeat the operation if a greater quantity of extract is required. Dissolve the residue in 5 000 ml isopropanol/water mixture.

2.4.3. *Preparation of ion-exchange columns*

Cation-exchange column

Place 600 ml cation-exchange resin (2.3.5) in a 3 000 ml beaker and cover by adding 2 000 ml hydrochloric acid (2.3.7). Allow to stand for at least two hours, with occasional stirring. Decant the acid and transfer the resin into the column (2.3.11) by means of deionized water. The column should contain a glass wool plug. Wash the column with deionized water at a rate of 10-30 ml/min until the eluate is free of chloride. Displace the water with 2 000 ml isopropanol/water mixture (2.3.3) at a rate of 10-30 ml/min. The exchange column is now ready for operation.

Anion-exchange column

Place 600 ml anion-exchange resin (2.3.6) in a beaker and cover by adding 2 000 ml deionized water. Allow the resin to swell for at least two hours. Transfer the resin into the column by means of deionized water. The column should contain a glass wool plug.

Wash the column with 0·3 M ammonium bicarbonate solution (2.3.4) until free of chloride. This requires about 5 000 ml solution. Wash again with 2 000 ml deionized water. Displace the water with 2 000 ml isopropanol/water mixture (2.3.3) at a rate of 10-30 ml/min. The exchange column is now in the OH form and ready for operation.

2.4.4. *Ion-exchange procedure*

Connect the exchange columns so that the cation-exchange column is placed on top of the anion-exchange column. Heat the exchange columns to 323 K (50 °C) using thermostatic control. Heat 5 000 ml of the solution obtained in item 2.4.2 to 333 K (60 °C) and pass the solution through the exchanger combination at a rate of 20 ml/min. Wash the columns with 1 000 ml hot isopropanol/water mixture (2.3.3).

To obtain the non-ionic surface active agents, collect the filtrate and filter washings and evaporate to dryness, preferably by means of a rotary evaporator. The residue contains the BiAS. Add deionized water until a defined volume is obtained and determine the BiAS content as in item 3.3 in an aliquot. The solution is used as a standard solution of non-ionic surfactants for the degradation test. The solution should be kept at a temperature below 278 K (5 °C).

2.4.5. *Regeneration of ion-exchange resins*

The cation exchanger is rejected after use.

The anion-exchange resin is regenerated by passing about 5 000-6 000 ml of ammonium bicarbonate solution (2.3.4) down the column at a flow rate of approximately 10 ml/min until the eluate is free from anionic surfactants (methylene blue test). Then pass 2 000 ml isopropanol/water mixture (2.3.3) down the anion exchanger to wash. The anion exchanger is again ready for operation.

CHAPTER 3

DETERMINATION OF NON-IONIC SURFACE ACTIVE AGENT IN BIODEGRADATION TEST LIQUORS

3.1. **Principle**

Surface active agents are concentrated and isolated by gas stripping. In the sample used, the quantity of non-ionic surfactant should be in the range 250-800 µg.

The stripped surfactant is dissolved in ethyl acetate.

After phaser separation and evaporation of the solvent, the non-ionic surfactant is precipitated in aqueous solution with modified Dragendorff reagent ($KBiJ_4$ + $BaCl_2$ + glacial acetic acid).

The precipitate is filtered, washed with glacial acetic acid and dissolved in ammonium tartrate solution. The bismuth in the solution is titrated potentiometrically with pyrrolidinedithiocarbamate solution at pH 4-5 using a bright platinum indicator electrode and a calomel or silver/silver chloride reference electrode.

The method is applicable to non-ionic surfactants containing 6-30 alkylene oxide groups.

The titration result is multiplied by the empirical factor of 54 for conversion to the reference substance nonylphenol condensed with 10 mols ethylene oxide (NP 10).

3.2. **Reagents and equipment**

Reagents are to be made up in deionized water.

3.2.1. Pure ethyl acetate, freshly distilled.

3.2.2. Sodium bicarbonate ($NaHCO_3$) AR

3.2.3. Dilute hydrochloric acid (20 ml concentrated acid (HCl) diluted to 1 000 ml with water)

3.2.4. Methanol AR, freshly distilled, stored in a glass bottle.

3.2.5. Bromocresol purple, 0·1 g in 100 ml methanol.

3.2.6. Precipitating agent: the precipitating agent is a mixture of two volumes of solution A and one volume of solution B. The mixture is stored in a brown bottle and can be used for up to one week after mixing.

3.2.6.1. Solution A

Dissolve 1·7 g bismuth nitrate AR ($BiONO_3 \cdot H_2O$) in 20 ml glacial acetic acid, and make up to 100 ml with water. Then dissolve 65 g potassium iodide AR in 200 ml water. Mix these two solutions in a 1 000 ml measuring flask, add 200 ml glacial acetic acid (3.2.7) and make up to 1 000 ml with water.

3.2.6.2. Solution B

Dissolve 290 g barium chloride ($BaCl_2 \cdot 2H_2O$) AR in 1 000 ml of water.

3.2.7. Glacial acetic acid 99-100 % (lower concentrations are unsuitable).

3.2.8. Ammonium tartrate solution: mix 12·4 g tartaric acid AR and 12·4 ml of ammonia solution AR (d = 0·910 g/ml) and make up to 1 000 ml with water (or use the equivalent amount of ammonium tartrate AR).

3.2.9. Dilute ammonia solution: 40 ml ammonia solution AR (d = 0·910 g/ml) diluted to 1 000 ml with water.

3.2.10. Standard acetate buffer: dissolve 40 g solid sodium hydroxide AR in 500 ml water in a beaker and allow to cool. Add 120 ml glacial acetic acid (3.2.7). Mix thoroughly, cool and transfer to a 1 000 ml volumetric flask. Make up to the mark with water.

3.2.11. Pyrrolidinedithiocarbamate solution (known as 'carbate solution'): dissolve 103 mg sodium pyrrolidinedithiocarbamate ($C_5H_8NNaS_2 \cdot 2H_2O$) in about 500 ml water, add 10 ml of n-amyl alcohol AR and 0·5 g $NaHCO_3$ AR, and make up to 1 000 ml with water.

3.2.12. Copper sulphate solution (for standardization of 3.2.11).

Stock solution

Mix 1·249 g copper suphate ($CuSO_4 \cdot 5H_2O$) AR with 50 ml 0·5 M sulphuric acid and make up to 1 000 ml with water.

Standard solution

Mix 50 ml stock solution with 10 ml 0·5 M H_2SO_4 and make up to 1 000 ml with water.

3.2.13. Sodium chloride AR

3.2.14. Gas-stripping apparatus (see Figure 5).

The diameter of the sintered disc must be the same as the internal diameter of the cylinder.

3.2.15. Separating funnel, 250 ml.

3.2.16. Magnetic stirrer with magnet 25-30 mm.

3.2.17. Gooch crucible, diameter of the perforated base = 25 mm, Type G 4.

3.2.18. Circular glass-fibre filter papers, 27 mm diameter with fibre diameter 0·5-1·5 µm.

3.2.19. Two filter flasks with adaptors and rubber collars, 500 and 250 ml respectively.

3.2.20. Recording potentiometer fitted with a bright platinum indicator electrode and a calomel or silver/silver chloride reference electrode with a 250 mV range, with automatic burette of 20-25 ml capacity, or alternative manual equipment.

3.3. **Method**

3.3.1. *Concentration and separation of the surfactant*

Filter the aqueous sample through a qualitative filter paper. Discard the first 100 ml of the filtrate.

Into the stripping apparatus, previously rinsed with ethyl acetate, place a measured quantity of the sample, such that it contains between 250-800 µg non-ionic surfactant.

To improve the separation add 100 g sodium chloride and 5 g sodium bicarbonate.

If the volume of the sample exceeds 500 ml, add these salts to the stripping apparatus in solid form, and dissolve by passing nitrogen or air through.

If a smaller-sized sample is used, dissolve the salts in 400 ml water and then add to the stripping apparatus.

Add water to bring the level to the upper stopcock.

Cautiously add 100 ml ethyl acetate on top of the water.

Fill the wash-bottle in the gas-line (nitrogen or air) two-thirds full with ethyl acetate.

Pass a gas stream of 30-60 l/h through the apparatus; the inclusion of a rotameter is recommended. The rate of aeration must be increased gradually at the beginning. The gas rate must be so adjusted that the phases remain noticeably separate to minimize the mixing of the phases and the solution of the ethyl acetate in the water. Stop the gas flow after five minutes.

If there is a reduction of more than 20% in the volume of the organic phase through solution in water, the sublation must be repeated paying special attention to the rate of gas flow.

Run off the organic phase into a separating funnel. Return any water in the separating funnel from the aqueous phase — it should only be a few ml — to the stripping apparatus. Filter the ethyl acetate phase through a dry qualitative filter paper into a 250 ml beaker.

Put a further 100 ml ethyl acetate into the stripping apparatus and again pass nitrogen or air through for five minutes. Draw off the organic phase into the separating funnel used for the first separation, reject the aqueous phase and run the organic phase through the same filter as the first ethyl acetate portion. Rinse both the separating funnel and the filter with about 20 ml ethyl acetate.

Evaporate the ethyl acetate extract to dryness on a water-bath (fume cupboard). Direct a gentle stream of air over the surface of the solution to accelerate the evaporation.

3.3.2. *Precipitation and filtration*

Dissolve the dry residue from 3.3.1 in 5 ml methanol, add 40 ml water and 0·5 ml diluted HCl (3.2.3) and stir the mixture with a magnetic stirrer.

To this solution add 30 ml of precipitating agent (3.2.6) from a measuring cylinder. The precipitate forms after repeated stirring. After stirring for 10 minutes leave the mixture to stand for at least five minutes.

Filter the mixture through a Gooch crucible, the base of which is covered with a glass-fibre filter paper. First wash the filter under suction with about 2 ml glacial acetic acid. Then thoroughly wash the beaker, magnet, and crucible with glacial acetic acid, of which about 40-50 ml is necessary. It is not necessary to quantitatively transfer the precipitate adhering to the sides of the beaker, to the filter, because the solution of the precipitate for the titration is returned to the precipitating beaker, and the remaining precipitate will then be dissolved.

3.3.3. *Solution of the precipitate*

Dissolve the precipitate in the filter crucible by the addition of hot ammonium tartrate solution (about 80 °C, 353 K) (3.2.8) in three portions of 10 ml each. Allow each portion to stand in the crucible for some minutes before being sucked through the filter into the flask.

Put the contents of the filter flask into the beaker used for the precipitation. Rinse the sides of the beaker with a further 20 ml of tartrate solution to dissolve the rest of the precipitate.

Carefully wash the crucible, adaptor and filter flask with 150-200 ml water, and return the rinsing water to the beaker used for the precipitation.

3.3.4. *The titration*

Stir the solution using a magnetic stirrer (3.2.16), add a few drops of bromocresol purple (3.2.5) and add the diluted ammonia solution (3.2.9) until the colour turns violet (the solution is weakly acid from the residue of acetic acid used for rinsing).

Then add 10 ml standard acetate buffer (3.2.10), immerse the electrodes in the solution, and titrate potentiometrically with standard 'carbate solution' (3.2.11), the burette tip being immersed in the solution.

The titration rate should not exceed 2 ml/min.

The endpoint is the intersection of the tangents to the two branches of the potential curve. It will be observed occasionally that the inflection in the potential curve becomes flattened; this can be eliminated by carefully cleaning the platinum electrode (by polishing with emery paper).

3.3.5. *Blank determinations*

At the same time run a blank determination through the whole procedure with 5 ml methanol and 40 ml water, according to the instructions in 3.3.2. The blank titration should be below 1 ml, otherwise the purity of the reagents (3.2.3 — 3.2.7 — 3.2.8 — 3.2.9 — 3.2.10) is suspect, especially their content of heavy metals, and they must be replaced. The blank must be taken into account in the calculation of the results.

3.3.6. *Control of the factor of the 'carbate solution'*

Determine the factor for the carbate solution on the day of use. To do this, titrate 10 ml of the copper sulphate solution (3.2.12) with carbate solution after the addition of 100 ml water and 10 ml standard acetate buffer (3.2.10). If the amount used is 'a' ml, the factor f is:

$$f = \frac{10}{a}$$

and all the results of the titrations are multiplied by this factor.

3.4. Calculation of results

Every non-ionic surfactant has its own factor, depending on its composition, particularly on the length of the alkene oxide chain. The concentration of non-ionic surfactant is expressed in relation to a standard substance — a nonyl phenol with 10 ethylene oxide units (NP 10) — for which the conversion factor is 0·054.

Using this factor the amount of surfactant present in the sample is found expressed as mg of NP 10 equivalent, as follows:

$$(b\text{-}c) \cdot f \cdot 0{\cdot}054 = \text{mg non-ionic surfactant as NP 10}$$

where: b = volume of 'carbate solution' used by the sample (ml),

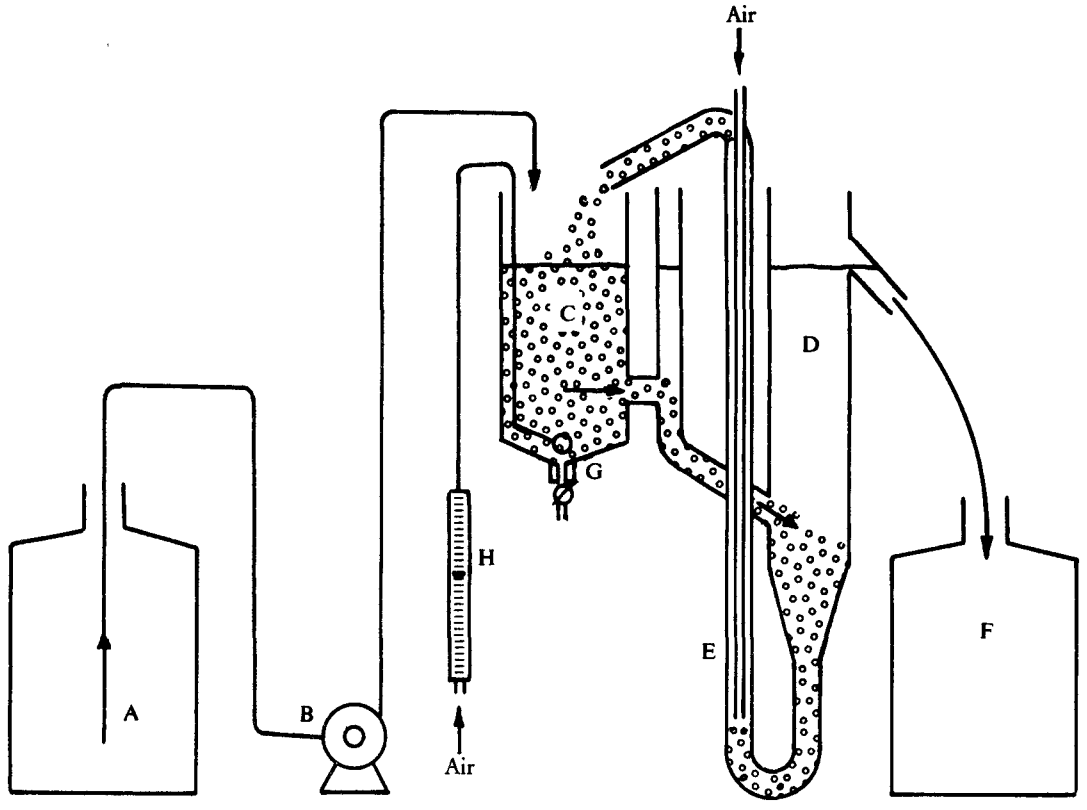
c = volume of 'carbate solution' used by the blank (ml),

f = factor of the 'carbate solution'.

3.5. **Expression of results**

Express the results in mg/l as NP 10 to the nearest 0·1.

Figure 1



A. Storage vessel
B. Dosing device
C. Aeration chamber (three litres capacity)
D. Settling vessel
E. Air-lift pump
F. Collector
G. Sintered aerator
H. Air-flow meter

Figure 2

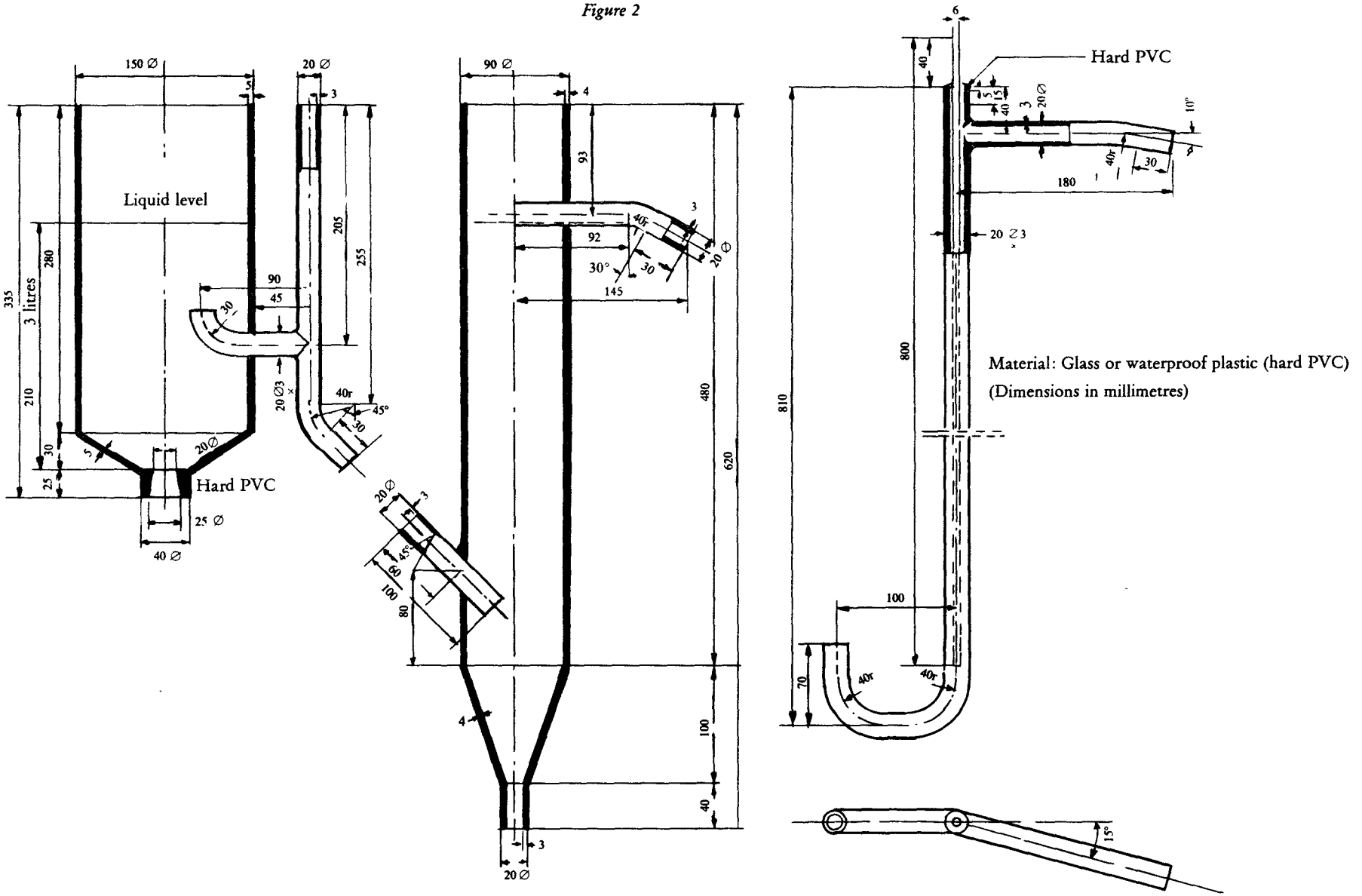

Liquid level
3 litres
Hard PVC
Hard PVC
Material: Glass or waterproof plastic (hard PVC)
(Dimensions in millimetres)

Figure 3

Calculation of biodegradability — Confirmatory test

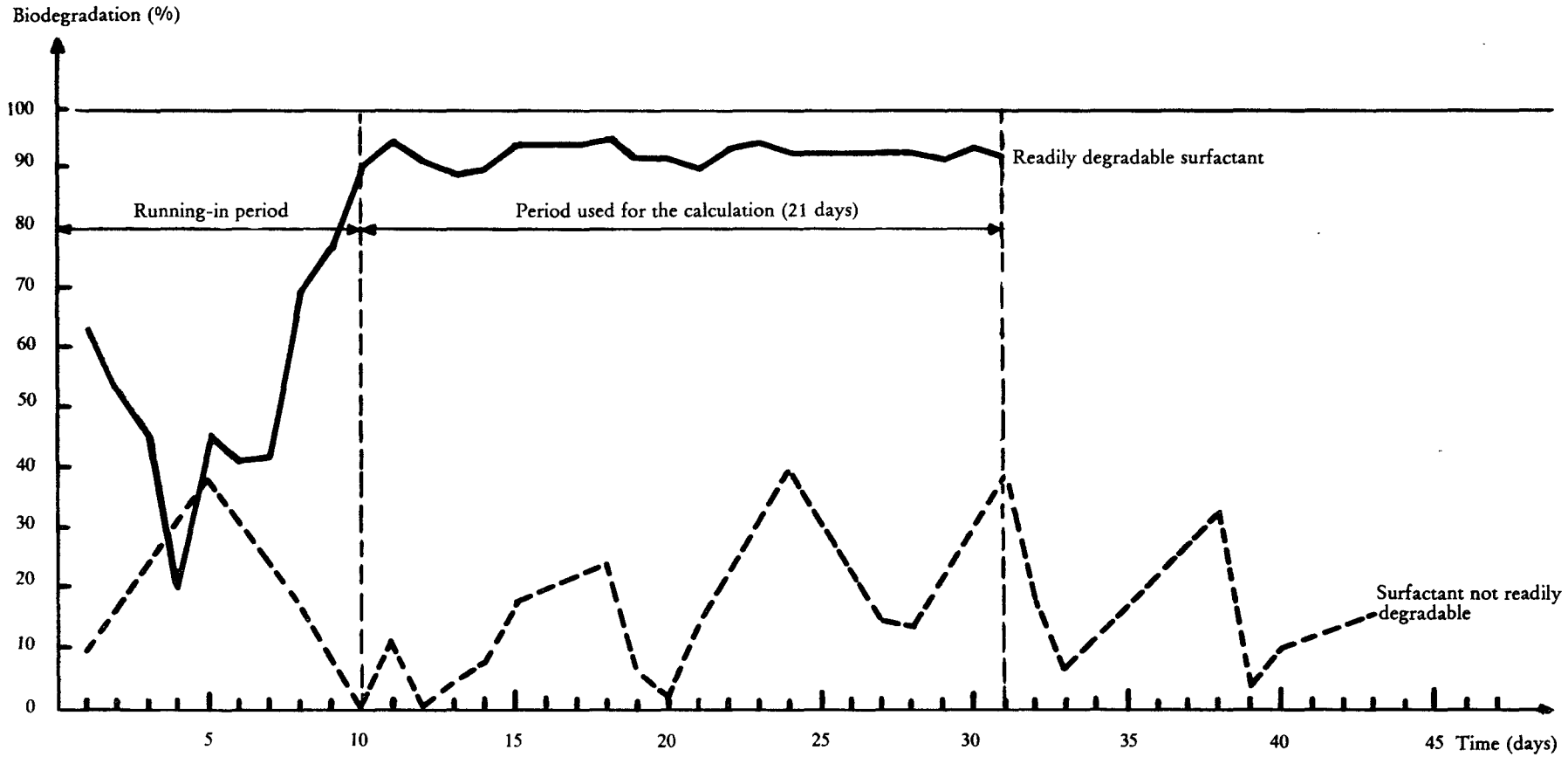


Figure 4

Heated exchange column

(Dimensions in millimetres)

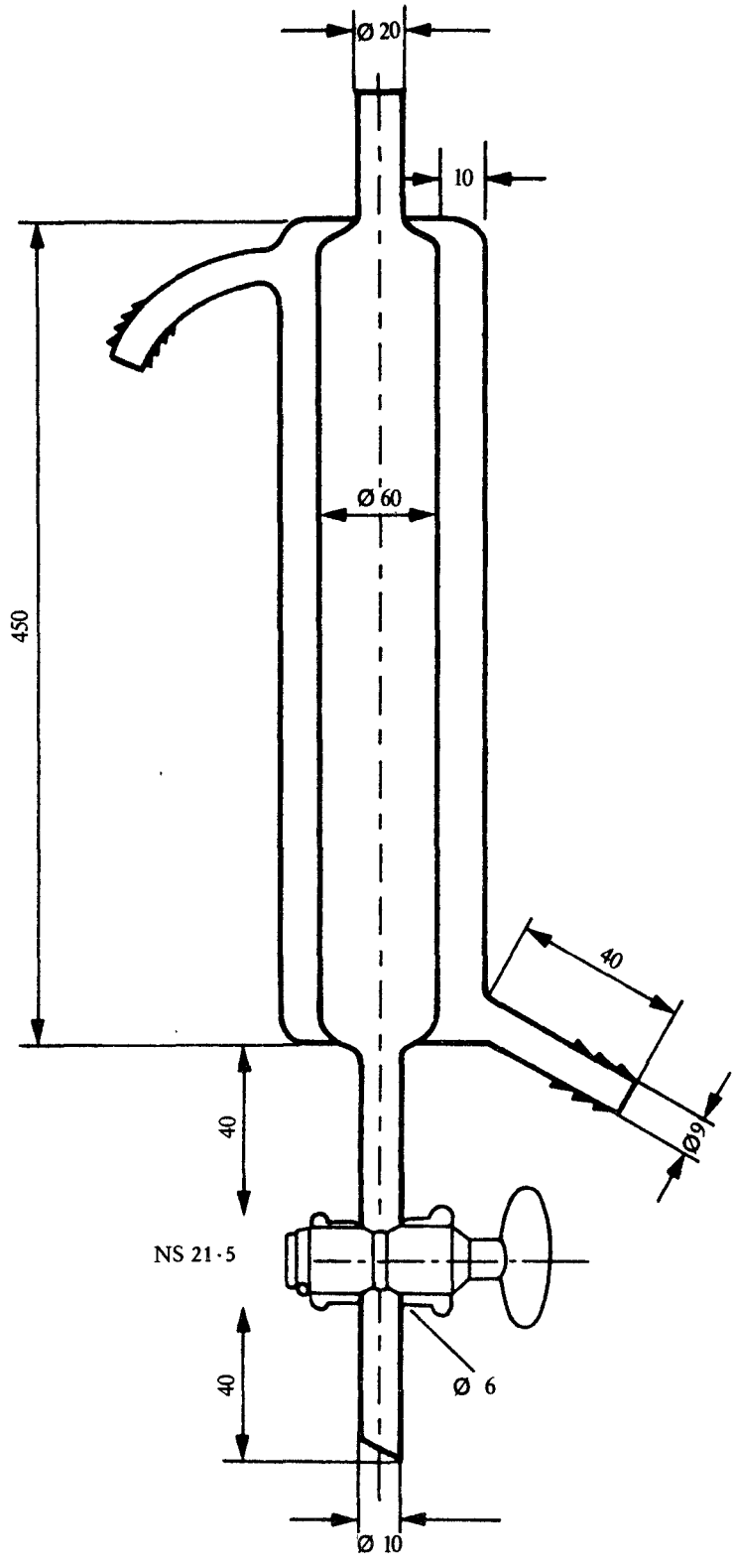


Figure 5

Gas-stripping apparatus

(Dimensions in millimetres)