

environment and quality of life

**Exchange of information concerning
atmospheric pollution by certain sulphur
compounds and suspended particulates in
the European Community**

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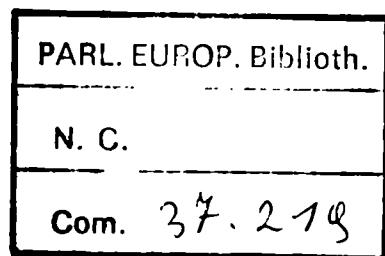
COMMISSION OF THE EUROPEAN COMMUNITIES

environment and quality of life

Exchange of information concerning atmospheric pollution by certain sulphur compounds and suspended particulates in the European Community

Annual report for January to December 1977

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ABSTRACT

This document, established by the Environment and Consumer Protection Service of the Commission of the European Communities is the second Annual Report of a 3 year pilot study within the European Communities for the exchange of information between surveillance and monitoring networks based on data relating to atmospheric pollution caused by certain (sulphur) compounds and suspended particles (1).

It summarises and evaluates the data for these pollutants for the year 1977 from a series of sampling and measuring stations selected by the Member States in accordance with an agreed procedure.

(1) O.J. 18 L 194, 25 July 1975 - Council Decision 75/441/EEC

EUR. 6827EN

SUMMARY

This report presents the second analysis of yearly air pollution data for specific pollutants in the countries of the European Community.

The first seven chapters have been revised with the latest information available and have been clarified where necessary. They contain, however, basically the same information as last year.

In the first six chapters, general information is given about the data. In chapter VII, the sampling and analytical techniques are discussed. These chapters can be considered to contain reference material for those familiar with the exchange of data.

Chapter VIII presents the results of the analysis of the pollution data for 1977. Data for each class of towns is discussed in detail. Emphasis was put on finding general characteristics of the ambient pollution patterns.

The main characteristics found are:

- the winter pollution levels are higher than the summer ones. However, the maximum daily pollution levels were often found in the summer period.
- the high level of pollution of single stations influence significantly the average pollution levels in a town or area.

In chapter IX, recommendations for the future exchange of data and the analysis thereof are given.

Given the dominance of single stations on the pollution patterns of a town or region, it is recommended to analyse next year's data by natural characteristics such as distinct levels of pollution, dominant pollutants throughout the year and the importance of seasonal fluctuations.

The result of such analysis might facilitate pollution control.

CHAPTER I

INTRODUCTION

Sulphur compounds and suspended particulate matter are the two most commonly measured and monitored pollutants in the atmosphere. In all the Member States of the European Community, as well as the rest of the world, these measurements are made on at least a daily basis and cover very large areas in attempt to establish the spatial and temporal distributions.

The decision (see Annex A of this report) defines two pollutants, certain (sulphur) compounds and suspended particulates, the measurement methods for which can each be divided into two mains categories:

- for sulphur compounds: - 'SO₂ -specific' methods,
- measurements of 'strong acidity' expressed as SO₂ equivalent.

- for suspended particulates: - gravimetric measurements,
- measurements of 'black smoke'.

For technical reasons concerned with the computer processing of the data it has been necessary to categorise the two pollutants with two subdivisions of each as four separate 'pollutants'. Throughout this report, therefore, the pollutant should be taken to mean a pollutant as measured by one general technique and 'pollutant' as defined in the Decision. The actual measurement method has also been briefly described so that a number of differing descriptions of analytical procedures are associated with each of these 'four pollutants'.

Annex I of the Decision requires that the information should be made available from towns divided into classes by the number of inhabitants. Within each town areas of industrial and commercial/residential activity should be identified. The clear delineation of such areas presents problems and the National Coordinators (page 83 e.s.) have agreed that the definitions of the type of area needed more flexibility. Accordingly the stations have been categorised as lying within a zone described as industrial, commercial, residential or any combination of these three types.

Within each area the Decision requires that three locations should be chosen to represent the highest, average and lowest pollution levels which are typical of that type of area in that specific town. Because of the differences in measurement techniques and the wide range of values measured throughout the E.C. the precise definition of numerical range for each level was impossible given the local, regional and national variations between maximum and minimum values. The classification as highest, average and lowest was left to the National Coordinators using available local or national expertise.

Each station is required to measure the pollution levels each 24 hours. The rules by which a given value is considered as legitimate vary considerably from one place to another. In some instances no monthly calculations are made if there are more than 5 consecutive days without a valid measurement or if there are less than a total of 20 days in the month with a valid measurement. It is agreed that this is invaluable but that, in this pilot study, monthly values should be calculated irrespective of this rule but that they should be annotated to indicate caution.

Other problems concern the 'negative' results of measurements and the days when no result is available because of a lack of sample. It has been agreed that when a sample is not available the day value will be set to BLANK and that a negative result should be recorded in the same way. Further problems, which still require consideration are values which are literally zero or are below the accepted minimum detection limit for that technique. The acceptable minimum detection limit, even for the same technique, does vary from place to place but it has been agreed that when a 'locally' acceptable minimum detection limit is available all values below that will be set to zero, as for the 'true' zero results.

It was further agreed by the National Coordinators that the original description form (Annex II of the Decision), should include some space for comments where necessary and that to facilitate computer processing some information should be supplied as a response to direct questions rather than under a general heading. The original and modified forms are included in Annex A of this report. The adoption of this system has greatly facilitated the preparation and uniformity of the computerised information files.

The descriptive Tables, included in Annex B*, contain the essential data for identification of the station, the pollutants measured and the analytical technique employed. Additional information is available and includes such items as the national reference number for the station as well as details of the calibration procedure used for the analytical techniques. This additional information will be placed in a Supplementary Table linked to the Descriptive Table. By using a computer editing programme it will then be possible to prepare special lists of information containing items from both of these Tables.

Although it was not foreseen by the Decision, the National Coordinators have agreed that it would be useful to include, within this pilot phase, data from stations in remote, rural areas, nominally referred to as 'background stations'. These stations do not coincide with the definition of a background station as given by the World Meteorological Organization but are defined as being sufficiently isolated from any local sources of pollution to give a clear indication of base levels within the European Community. The information and data collected will be discussed in Chapter X of this report.

* See report for 1976 EUR 6472 EN.

Additionally the inclusion of all the data from a few selected cities is under active consideration. It is expected that the selection will require a coordinated effort from each Member State so that all data will be submitted from at least the complete cities in each of the first two classes and from, preferably, at least one city in each country for the remaining three classes. Equipped with this data it would be possible to derive patterns for the distribution of pollution within a complete conurbation and to compare the relative patterns between different towns. This is referred to as the 'pilot cities study'.

The National Coordinators are also considering the value to be derived from a 'comparison station study' which would attempt to collect together all the available data from those stations at which more than one sampling or analytical technique are used to measure a pollutant. This would be of valuable assistance in fulfilling another of the tasks placed upon the Commission - the development of comparability of results from different techniques and the establishment of harmonised methods of measurement and sampling.

During the early discussions with the National Coordinators the question of 'trend analyses' was raised. It became clear that at least three years data were required in order to eliminate the effects of a 'mild' winter - or 'bad' summer. Since the development of such analyses is not easy it was felt that some data must be made available as quickly as possible so that the procedure could be developed and tested well in advance of the end of the three-year life of the pilot study. Accordingly the Member States have made available data from some, but not all, of the 'average' stations included in the Exchange subject in compliance with certain agreed 'rules'.

The results of the studies on 'pilot cities', 'comparison stations' and 'trend analyses' are not included in this report and will form the subject of special reports as the work progresses.

CHAPTER IIUSE OF INFORMATION

The interest of an Exchange of Information such as this is many-faceted because it creates a bank of data, available to both the Member States and the Commission, which will satisfy different requirements, either at national, Community or international level. Some of these uses are as follows:

- an overall view of the pollution situation due to these two principal pollutants,
- the capability to furnish basic data for studies which may be undertaken in the epidemiological domain, in the ecotoxicological domain, in modelling studies or in the study of the development of pollution episodes,
- the study of the evolution in changes of the pollution levels and patterns in order to verify the effectiveness of the measures taken to reduce the pollution at either national or Community levels,
- the study of new propositions for the next stages in the abatement of atmospheric pollution,
- the definition of a complete policy and long-term objectives for pollution monitoring and control,
- a contribution, on behalf of the Member States, to the work of W.H.O. and G.E.M.S. by providing support for actions with broader implications,
- the coordination, selection and transmission, on a Community basis, of data relevant to specific problems, required by other Organisations.

Given the importance of this Exchange of Information the arrangement of this Annual Report must be considered as a draft which may need to be modified in such a way that the various possibilities for the presentation of tabular data will assist in the resolution of the differing queries relating to atmospheric pollution. Not to make the maximum possible use of all that can be extracted from the data archives would be unacceptable.

It is for this reason that the layout of the report has been foreseen in three parts, the first of which can be published rapidly. The second part will contain all the daily data for a year and the third part will contain the more refined analyses with the relevant discussions and conclusions. It will be possible to re-arrange this third part to take account of the different requirements which will arise over the three years of the study. At the end of the period the layout should be definitive and such that it will provide a suitable appreciation of the value that the experience has produced. This could then serve as a basis for an extension to the study or for any new study which may differ in time, space and pollutants.

CHAPTER III

NATIONAL NETWORKS

The type and scope of the various National networks varies widely within the European Community. On one hand there is the network which is managed and controlled 'nationally' from one central point; on the other there is the network which is composed of stations taken from a regional or local network. Even though one technique, for sampling or analysis, may be common to several countries there are usually small but significant differences in either the equipment or the method. This will be discussed in greater detail in Chapter VII.

Another difference occurs in the policy applied to the location of sampling stations; in many instances the placement of a station is a direct function of the density of population and industry as well as on changing topographical and climatological conditions. In other instances however, the location is based on the intersections of a series of parallel grid lines.

Most stations provide daily values, albeit that some have been calculated from hourly (or smaller) values; there are, however, networks based on a random sampling principle but which are excluded from this present study. There are other methods, such as sampling by mobile laboratories, which are important in special studies but, again, are not included in this particular study because of their irregular nature.

Many local, regional and national networks sample and measure pollutants other than sulphur compounds and particulates. Although the data are excluded from the present study, the information about these other pollutants will be found in the Descriptive Tables (see Chapter IV and Annex B*).

BELGIUM has equipment especially designed for the national network using the OECD techniques for strong acidity and black smoke. They are in the process of installing a completely automatic network where the results are relayed to a central control point.

The FEDERAL REPUBLIC OF GERMANY works in liaison with the local Governments, Länder, to obtain data on a national basis. The preferred techniques for both sulphur compounds and suspended particulates vary from one region to another, and at times within a region, but have to meet national requirements. In some of these regions the preferred method is random sampling at points selected on a grid basis with a pre-determined number of samples at each of these points throughout the year.

The location of stations on a grid means that the points of maximum, average and minimum pollution rarely coincide with a station. The use of random period sampling gives a wider coverage than with fixed stations but means that daily data are not available from each point; therefore this information is not included in this report.

* See report for 1976 EUR 6472 EN.

IN DENMARK the local network includes equipment for measuring the two pollutants (as defined in the Decision) by one method for each of the two possible general types of analytical technique. This network is, therefore, a very useful one when considering the comparability between results obtained by the different techniques.

FRANCE has a national network composed of stations organised on a local basis. There are some regional variations in the choice of the technique but the national data is always based on the strong acidity and black smoke methods.

IRELAND has a network based on local organisations but with an internationally accepted technique for strong acidity and black smoke. The network, apart from Dublin itself, is small and the pollution levels are relatively low.

ITALY has a complete national network but only includes some of the larger towns. In many areas there are few, if any, pollution measurements made during the summer months. Although there are nationally defined techniques for specific SO₂ and suspended particulates some local organisations prefer alternative methods, or do not measure the SPM.

LUXEMBOURG has a series of national stations which are identical to those of the Belgian network. Additionally there are a few special and local stations. All the stations measure strong acidity and black smoke.

The NETHERLANDS has a national network for SO₂ using specific techniques but there is no national network for the suspended particulates. In some localities this pollutant is measured but these are regarded as local in character and of an 'experimental' nature until such time as the relative values of the black smoke and gravimetric techniques have been more clearly related to the health considerations.

The effect of the grid-location system is that it is difficult to classify a station as 'industrial', etc and the points of maximum, average and low pollution rarely coincide with a station. It also means that the density of stations in the towns is not as high as in other places which use a different policy for siting their stations, although 'extra' stations are operational in certain areas.

In the UNITED KINGDOM the stations, measuring strong acidity and black smoke, are organised on a local basis but there is a national authority that manages the network and frequently controls the comparability between the different analytical laboratories. Furthermore there is a national system for the acceptance and calculation of the values using the actual readings taken on each sample, i.e. there are national rules for the acceptability of the readings and national procedures for their conversion into pollution levels.

CHAPTER IVDESCRIPTIVE LIST OF STATIONS INCLUDED IN THE EXCHANGEGeneral

The complete Descriptive Tables, known in French as "Tables Signalétiques" are to be found in Annex B*. Volume II, Part A will include some examples of edited versions containing only entries with pre-selected contents. Later a second set of tables, closely linked to the existing ones, will be available and contain additional information. These will be known as "Tables Supplémentaires" and the same editing facilities will be available.

The complete Descriptive Tables are divided into two parts of which the second is the largest and sub-divided into chapters, paragraphs and pages.

The first part contains each of the pollutants in different languages, as appropriate or necessary. Each listed pollutant is followed by a series of very brief indications of each of the various different analytical techniques and the names of the organisation responsible.

In many instances the list of pollutants extends beyond the sulphur compounds and suspended particulates since one of the questions on the information form required the National Coordinators to state which other pollutants were measured at each station but without requiring details of the sampling and measuring techniques. In some instances details on the technique have been provided but the technique has not been given a code number and data is not available.

The second part of the Tables is divided into nine "chapters", one for each of the Member States. Each "chapter" is then divided into several "paragraphs", one for each of the appropriate classes of town. Within the "paragraphs" there is a "page" for each town. In practice this means that all the information for one town is (usually) printed on one physical page and each "page" is always prefaced by the name of the country ("chapter") and the size of the town ("paragraph"). In very few cases does the information for a particular town exceed one physical page.

Information relating to the nearest meteorological stations was also requested. In those cases where the meteorological station is at the same site as the pollution measuring station the Descriptive Tables contain a complete list of the measured meteorological parameters for that station, each parameter being regarded and coded as a separate 'pollutant'. In other instances where the meteorological and pollution measuring stations do not coincide, the parameters are all listed under the 'pollutant' code 80 with an indication of the separation in kilometers between pollution and meteorological stations.

* See report for 1976 EUR 6472 EN.

The arrangement of the information on a page of the second part of the Tables is as follows:

Chapter heading	Country (responsible national authority)
Paragraph heading	Class by number of inhabitants
Town	Name, (region), country
Station	Local/ national number, name, address, town (suburb)
Station + pollutant - pollutant + measurement technique, (abbreviated name of the responsible authority), number and name, town.	

Coding

The coding system, that is the information on the left hand side of each page, is constructed of two groups, each independant of the other. Within a group a code from a higher level is always "carried down" as a prefix to the code at a lower level to give an unique definition. The hierarchy is as follows:

<u>Group (i)</u>	PL	unique code for a pollutant
	PL/TM	unique code for a measurement technique and calibration system for the given pollutant PL a calibration system includes a calibration technique together with a unique calibration material; thus standardization implies the implicit use of a calibration system.

Studying part one of the tables of Annex B*, seems to show that the unique code for a measurement technique for the given pollutant is in reality a unique code for the laboratory or the organisation responsable for the analyses. For example, the U.K. has only one measurement technique for strong acidity, coded 0407 while Ireland has four techniques coded from 0404 to 0406 inclusive and 0414.

This double-meaning occurs because, in some instances, the National Coordinator has requested that data verified at the national level before transmission to the Commission, should be considered as though it has all been analysed by the same laboratory, i.e., with the same calibration system and is, therefore, allocated a unique code. This is equivalent to stating that the same measurement technique and calibration system has been applied. In other cases, even though nationally recommended measurement and calibration techniques exist, the National Coordinator has requested that there should be a differentiation between the different laboratories; this is due to the fact that there is no verification of the individual results at national level to control the equivalence of the applied techniques, i.e., there is therefore, no national standardisation. Thus all the measurements for a pollutant in the United Kingdom appear against a unique code, whereas there are different codes appropriate to the different local administrations for the "different" techniques used in Ireland.

* See report for 1976 EUR 6472 EN.

Group (ii)

PP	unique code for country
PP/C	unique code for class (by number of inhabitants) within the given country PP
PP/C/VV	unique code for a town in a given class PP/C within a given country PP
PP/C/VV/EE/SSS	-unique code for a station in a given town PP/C/VV, etc as in PP/C/VV above

(Note : In this application the code EE is always set to zero and has no significance in this hierarchy).

Data code The code against which data is recorded in the files - the "identifier" - is always composed of a unique code for a station plus a unique code for the technique i.e. PP/C/VV/EE/SSS/PL/TM. The existence of such a code in the Descriptive Tables is a pre-requisite to the insertion, modification or suppression of data. Should a station cease to operate the code will be reduced to PP/C/VV/EE/SSS/PL and the technique code transferred to the description or "label" for that code. This completely prohibits any further changes to the relevant data which, however, remains available for further use since the code is readily reconstructed.

Beginning in part two of the tables, apart from the codes of the groups (i) and (ii) other information is usually given in coded form on the right hand side of the page for the following:

Station: Codes for the situation of the station and the pollution level of all pollutants at the station; followed by the geographical location (latitude and longitude) of the station.

Station + Pollutant: Codes for the situation of the station and the pollution level of each of the pollutants at that station.

Situation: The code used for the situation includes the type of area, type of zone and the traffic density and is as follows:

xyz

0 in any position = no information or unclassified

x = area: 1 = urban
2 = suburban
3 = rural

y = zone: 1 = industrial
2 = commercial
3 = industrial + commercial
4 = residential
5 = industrial + residential
6 = commercial + residential
7 = industrial + commercial + residential

z = traffic: 1 = very light, almost non-existent
2 = light
3 = moderate
4 = heavy

Pollution level: The pollution level code which appears beside a station code is taken to indicate the considered level of pollution due to all known pollutants, not just sulphur compounds and particles. Where it appears against a full code, including pollutant and techniques codes, it is taken to be the considered level for that specific pollutant.

The code used for the pollution level is as follows:

0 = no information or unclassified
1 = maximum) based on the levels known to exist in, and relative
2 = average (to, the town under consideration
3 = minimum)

CHAPTER VMEASUREMENT STATIONS

Table A gives a complete summary of the information relating to the pollutants that are measured in each of the towns included in this Exchange of Information. The tables are arranged in order of the class of town, defined by the Council Decision in terms of the number of the inhabitants.

Each of the Tables A1 to A5 contains for one class the towns that are included and these are listed together with the number of stations included in this exchange at which the pollutants are sampled and measured. It should be noted that since more than one pollutant is usually measured at each station the total of the figures on any one line does not represent the number of stations for that town; this is dealt with later in Chapter VI and Tables B.

• Conclusions

Table A.0 summarizes the information from the tables A1 to A5 and shows that for sulphur compounds about two-thirds of the stations use the strong acidity techniques and only one-third the SO₂-specific analyses. Examination of Tables A1 to A5 for sulphur compounds shows that the distribution of the preferred techniques does not vary to any great extent between the classes but is often a function of the technique chosen by the Member State concerned.

For suspended particulates Table A.0 shows that three-quarters of the stations make analyses for black smoke and only a quarter measure gravimetrically. An examination of the detailed tables A.1 to A.5 shows that there are no measurements for suspended particulates for the Netherlands because there is no national network for it, a point already noted in Chapter III, and that about 80% of the measurements are by black smoke.

RECIPROCAL EXCHANGE OF INFORMATION

ANNUAL REPORT FOR 1977

TABLES A

(Table A.0 to A.5)

Abbreviations: SO₂ - Sulphur Dioxide
Acid - Strong Acidity
Smoke - Black Smoke
SPM - Suspended Particulate Matter
- - indicates no measuring locations

TABLE A.0SUMMARY OF MEASURED POLLUTANTS

<u>CLASS</u>	<u>No. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
Class 1	16	23	26	3
Class 2	19	34	34	9
Class 3	25	41	41	7
Class 4	50	71	60	30
Class 5	13	26	21	8
Total	<u>123</u>	<u>195</u>	<u>182</u>	<u>57</u>
<u>Expressed as % of pollutants:</u>				
Class 1	41	59	90	10
Class 2	36	64	79	21
Class 3	38	62	85	15
Class 4	41	59	67	33
Class 5	33	67	72	28
Total as percentage of pollutants:	<u>39</u>	<u>61</u>	<u>76</u>	<u>24</u>
Grand Total	100%		100%	
<u>Expressed as total percentage</u>				
Class 1	24	34	38	4
Class 2	20	35	35	9
Class 3	22	36	36	6
Class 4	24	34	28	14
Class 5	19	38	31	12
As total percentage	<u>22</u>	<u>35</u>	<u>33</u>	<u>10</u>
Grand Total	100%			

TABLE A.1

SUMMARY OF MEASURED POLLUTANTS

Town Class : 1 (over 2 million inhabitants)

Town	No. of measuring locations for			
	SO ₂	Acid	Smcke	SPM
Berlin - BRD	6	-	-	-
Milano - I	6	-	-	2
Roma - I	4	-	3	1
Greater London - U.K.	-	6	6	-
Greater Manchester - U.K.	-	6	6	-
Paris - F	-	5	5	-
West Midlands - U.K.	-	6	6	-
Total	<u>16</u>	<u>23</u>	<u>26</u>	<u>3</u>
as % for pollutants	•	41	59	90
Grand Total		100%		100%
total percentage		<u>24</u>	<u>34</u>	<u>4</u>
Grand Total			100%	

TABLE A.2SUMMARY OF MEASURED POLLUTANTS

Town Class: 2 (1-2 million inhabitants)

<u>Town</u>	<u>No. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
København - DK	6	6	6	6
München - BRD	9	-	-	-
Torino - I	4	-	-	3
Bruxelles - B	-	5	5	-
Glasgow - UK	-	5	5	-
Lyon - F	-	6	6	-
Marseille - F	-	6	6	-
Merseyside - UK	-	6	6	-
Total	<u>19</u>	<u>34</u>	<u>34</u>	<u>9</u>
as % for pollutants	<u>36</u>	<u>64</u>	<u>79</u>	<u>21</u>
Grand Total	<u>100%</u>		<u>100%</u>	
total percentage	<u>20</u>	<u>35</u>	<u>35</u>	<u>9</u>
Grand Total	<u>100%</u>			

TABLE A.3

SUMMARY OF MEASURED POLLUTANTS

Town Class: 3 (0.5 - 1 million inhabitants)

<u>Town</u>	<u>No. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
Amsterdam - NL	8	-	-	-
Den Haag - NL	2	-	-	-
Dortmund - BRD	1	-	-	1
Duisburg - BRD	1	-	-	1
Düsseldorf - BRD	1	-	-	1
Genova - I	2	-	-	-
Frankfurt/Main - BRD	5	-	-	1
Nürnberg - BRD	3	-	-	3
Rotterdam - NL	2	-	-	-
Antwerpen/Anvers - B	-	6	6	-
Bordeaux - F	-	6	6	-
Dublin - IRL	-	4	4	-
Leeds - UK	-	5	5	-
Lille/Roubaix/Tourcoing - F	-	6	6	-
Sheffield -UK	-	4	4	-
Toulouse - F	-	6	6	-
Tyneside - UK	-	4	4	-
Total	<u>25</u>	<u>41</u>	<u>41</u>	<u>7</u>
as % for pollutants	<u>38</u>	<u>62</u>	<u>85</u>	<u>15</u>
Grand Total	100%		100%	
Total percentage	<u>22</u>	<u>36</u>	<u>36</u>	<u>6</u>
Grand Total	100%			

TABLE A.4SUMMARY OF MEASURED POLLUTANTS

Town Class: 4 (0.1 - 0.5 million inhabitants)

<u>Town</u>	<u>No. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
Augsburg - BRD	2	-	-	1
Bolzano - I	5	-	-	5
Enschede - NL	1	-	-	-
Erlangen - BRD	1	-	-	1
Fürth - BRD	1	-	-	1
Groningen - NL	2	+	-	-
Ingoldstadt - BRD	1	-	-	1
Karlsruhe - BRD	2	-	-	2
Kassel - BRD	1	-	-	1
Ludwigshafen - BRD	5	-	-	2
Mainz - BRD	6	-	-	2
Mannheim - BRD	2	-	-	2
Pescara - I	1	-	-	1
Regensburg - BRD	1	-	-	1
Terni - I	2	-	-	2
Tilburg - NL	2	-	-	-
Utrecht - NL	2	-	-	-
Venezia - I	9	-	-	5
Wiesbaden - BRD	1	-	-	1
Würzburg - BRD	2	-	-	1
Ferrara - I	1	-	-	-
Belfast - UK	-	4	4	-
Cardiff - UK	-	4	4	-
Charleroi - B	-	6	6	-
Clermont Ferrand - F	-	6	5	-
Cork - IRL	-	1	1	-
Edinburgh - UK	-	4	4	-
Gent - B	-	6	6	-
Le Havre - F	-	6	6	-
Liège/Luik - B	-	6	6	-
Nantes - F	-	6	-	-
Portsmouth - UK	-	4	4	-
Rouen - F	-	6	1	-
Strasbourg - F	-	6	4	-
Teesside - UK	-	6	6	-
Total	50	71	60	30
as % of pollutant	41	59	67	33
Grand Total		100%		100%
total percentage				
Grand Total	24	34	28	14
			100%	

TABLE A.5

SUMMARY OF MEASURED POLLUTANTS

Town Class: 5 (under 0.1 million inhabitants)

<u>Town</u>	<u>No. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
Aschaffenburg - BRD	1	-	-	1
Ascoli Piceno - I	1	-	-	1
Bussum - NL	1	-	-	-
Den Bosch - NL	1	-	-	-
Hilversum - NL	1	-	-	-
Kelheim - BRD	2	-	-	2
Maastricht - NL	1	-	-	-
Middelburg - NL	1	-	-	-
Pistoia - I	1	-	-	1
Vercelli - I	1	-	-	1
Zwolle - NL	1	-	-	-
Barnsley - UK	-	2	2	-
Bath - UK	-	1	1	-
Bedford - UK	-	1	1	-
Brugge - B	-	1	1	-
Calais - F	-	4	1	-
Esch/Alzette - GDL	-	1	1	-
Exeter - UK	-	1	1	-
Galway - IRL	-	1	1	-
Kortrijk - B	-	2	2	-
Libramont - B	-	1	1	-
Lincoln - UK	-	3	3	-
Luxembourg Ville - GDL	-	2	2	-
Martigues - F	-	1	-	-
Namur - B	-	3	3	-
Steinfurt - GDL	-	1	1	-
Vigneux de Bretagne - F	-	1	-	-
Belluno - I	1	-	-	2
Total	<u>13</u>	<u>26</u>	<u>21</u>	<u>8</u>
as % of pollutants	<u>33</u>	<u>67</u>	<u>72</u>	<u>28</u>
Grand Total	100%		100%	
Total percentage	<u>19</u>	<u>38</u>	<u>31</u>	<u>12</u>
Grand Total	100%			

CHAPTER VISTATION CLASSIFICATION

Table B gives a summary of the station classification within a class of town for each Member State based on the type of zone or on a level of pollution; Table C gives more detailed figures for the stations in each town.

In any one line of tables B and C the sum of the figures in the left- and right-hand sides are equal and give the total number of stations for the country (table B) or town (table C) concerned.

1. ZONE DESCRIPTION

The classification of zones foreseen by Annex I to the Council Decision allows for the consideration of two types:

- "residential zones, including business districts" (commercial)
"where the main stationary source of pollution is heating"
and
- "predominantly industrial zones".

It became clear, at an early stage, that the classification allowing only two zones would lead to situations where a clear definition was not possible.

With the approval of the National Coordinators, the original two classifications of the zone were re-grouped into seven as follows :

-
- Code 1 = Industrial (I)
 - Code 2 = Commercial (C)
 - Code 3 = Industrial + Commercial (IC)
 - Code 4 = Residential (R)
 - Code 5 = Industrial + residential (IR)
 - Code 6 = Commercial + residential (CR)
 - Code 7 = Industrial + commercial + residential (ICR)

with Code 0 indicating that there was no information or that the station was regarded as being 'Unclassified' (U/C).

The actual choice of classification was left to each of the National Coordinators in consultation with their appropriate experts. This classification is not, therefore, necessarily on the same basis for each town or Member State.

Furthermore there is no implication, implied or intended, that the result was based on a complete study of the station and its surrounding area with a consideration of meteorological, climatological or topographical parameters nor any survey of emissions. It is simply a global appreciation of the type of environment in which a station is located.

With the approval of the National Coordinators the Description form presented as Annex II of the Council Decision was modified to include space for additional notes about a.o. indications of the nearest and principal sources of pollution and any comment on the choice of a particular classification of a station.

As soon as the Supplementary Tables are available this information, relating to the nearest and the principal sources of pollution, will be entered. This will give more information which may be of use in examining apparent anomalies in the data.

2. POLLUTION LEVEL

The pollution level is based on an assessment of the known and/or measured levels of the pollutants. The Council Decision, Annex I, specifies that, for a given type of zone, stations should be selected which are indicative of the "maximum", "average" and "minimum" levels.

However, a station, in a particular zone and city, which has the "maximum" value for one year need not necessarily have the "maximum" value for the following years. The National coordinators considered, for reasons of continuity, that it would be better to select one station which was most likely to have the maximum value over a period of years.

Furthermore, given the variation in the range between "maximum" and "minimum" in different zones and cities, it is impossible to define a unique set of values for the "maximum", "average" and "minimum" which can be applied univocally to select the stations. Thus the three stations would be chosen as a function of the normal range of pollution levels existing in each zone of each city.

In view of the above problems, and the suggested solution or procedure, the National Coordinators agreed that it would avoid confusion if the words "maximum", "average" and "minimum", as used in the Directive, were replaced, for practical purposes, by "high" "medium" and "low". These words have been used in Tables B and C.

In some instances all levels are given as "medium". This is particularly true for those Member States in which the network, or at least parts of it, are located on the basis of an equi-spaced grid.

As noted in Chapter IV the pollution level for a station is deemed to be based on a consideration of the levels -measured or inferred- of all likely pollutants except that the classification for a specific pollutant refers solely to the level for that particular pollutant.

3. SUMMARY

3.1. Type of zone

Taking the classification of zones found in the Descriptive Tables it can be seen from Tables B that most of the stations lie in a commercial/residential zone except for class 1 where they lie in the "purely" residential zones. Both classes 1 and 5 show an interesting inversion in that the percentage of industrial sites is low but the proportion of residential sites is high; for class 1 this may be an effect of the classification system but for class 5 it may be attributed to the fact that industrial sites were not required by Annex I of the Council Decision on the presumption that small towns have little industry. This is clearly not the case for France and Italy where 50% and 33% respectively of stations in the class 5 lie in industrial areas. The proportion of stations in industrial and industrial/residential zones is very similar for classes 1, 2 and 4.

In the bottom part of each analysis per class in Tables B, the data are regrouped in terms of the two types of zones specified in the Council Decision, i.e., industrial or mixed commercial/residential. The contribution to zones I or C/R indicate stations which have either a partial or complete industrial or mixed commercial/residential aspect. Since several stations have more than one aspect the totals are larger than the total number of existing stations. More significant are therefore the percentage contribution figures, i.e., in Class 1, 34% of the stations are situated in zones which have to a greater or lesser extent an industrial aspect.

Further analysis of these data show that the majority of the stations, over 60%, lie in zones which have mixed commercial/residential aspects. In class 5, this figure rises to 76%, perhaps because Annex I of the Council Decision only required stations in that category for that class.

An examination of the last section of Table B, where summary information is given for all classes together, shows that the stations are distributed in the approximate ratio of

industrial : commercial : residential : = 1 : 1 : 2.
i.e., the number of stations having at least partially a residential aspect is about half of the total.

3.2. Pollution levels

Irrespective of town class about 40% of stations have been classed as having a 'medium' level of pollution. The proportion of stations which are 'high', 'low' or unclassified varies with the class of town and is affected by the inputs from the Bundesrepublik Deutschland and Nederlands which, by virtue of the system for the selection of sites, do not always allow a specific classification.

3.3. General

For both zone and pollution levels the variations between different towns are a function of the coverage and density of the network. This factor, as well as the interpretation by the relevant National Coordinator of the various points included in Annex I of the Council Decision, leads to differences. Another aspect which also has a bearing is the definition of the boundary of a town - should the word 'town' in the Decision be taken to imply the inclusion of the surrounding areas, i.e., the conurbation, or should it be restricted to the 'administrative', topographical or physical area?

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TABLES B and C

<u>Code</u>	<u>Abbreviations</u>
0	U/C - Unclassified
1	Ind - Industrial
2	Com - Commercial
3	IC - Industrial + Commercial
4	Res - Residential
5	IR - Industrial + Residential
6	CR - Commercial + Residential
7	ICR - Industrial + Commercial + Residential - - indicates no stations within that classification

TABLES C
(Table C.1 to C.5)

Abbreviations: (as tables B) +
B - Belgique/België
BRD - Bundes Republik Deutschland
DK - Danmark
F - France
I - Italia
IRL - Ireland
L - Luxembourg
NL - Nederland
UK - United Kingdom

TABLE B.1

SUMMARY OF STATION CLASSIFICATION

Type of Zone							CLASS	Pollution Level				
U/C	Ind	Com	IC	Res	IR	CR	ICR	Country	High	Med	Low	U/C
<u>1</u>												
-	4	-	-	-	-	2	-	BRD	-	6	-	-
-	-	-	-	2	-	1	2	France	1	4	-	-
-	1	1	-	6	-	2	-	Italia	2	1	1	6
-	1	1	1	3	5	4	3	United Kingdom	6	6	6	-
-	6	2	1	11	5	9	5	Totals:	9	17	7	6
-	15	5	3	28	13	23	13	As percentage	23	44	18	15
-	17	-	-	-	-	33	-	Contribution to zones I or C/R				
-	34	-	-	-	-	66	-	As %				
<u>2</u>												
-	-	1	-	-	2	2	-	Belgique/België	1	3	1	-
-	-	-	-	-	-	9	-	Bundesrep.Deutschland	-	7	1	1
-	1	-	-	-	-	5	-	Denmark	4	2	-	-
-	6	1	-	1	-	3	1	France	2	7	3	-
-	7	-	-	1	2	-	-	Italia	5	-	-	-
-	1	1	-	4	5	-	-	United Kingdom	3	4	4	-
-	10	3	-	6	9	19	1	Totals	15	23	9	1
-	21	6	-	13	19	40	2	as percentage	31	48	19	2
-	20	-	-	-	-	38	-	Contribution to zones I or C/R				
-	34	-	-	-	-	66	-	As %				
<u>3</u>												
-	2	-	-	3	1	-	-	Belgique/België	2	2	2	-
1	2	-	-	-	-	10	1	Bundesrep.Deutschland	-	4	-	10
-	7	2	-	5	-	4	-	France	2	14	2	-
-	1	-	-	1	-	2	-	Ireland	2	1	1	-
2	-	-	-	-	-	-	-	Italia	-	-	-	2
-	2	-	-	-	-	10	-	Netherlands	-	-	-	12
-	2	1	-	2	4	3	1	United Kingdom	5	4	3	1
3	16	3	-	11	5	29	2	Totals	11	25	8	25
4	23	4	-	16	7	42	3	As percentage	16	36	12	36
3	23	-	-	-	-	50	-	Contribution to zones I or C/R.				
4	30	-	-	-	-	66	-	As %				

TABLE B.1 (cont.)
SUMMARY OF STATION CLASSIFICATION

U/C	Ind	Com	Type of Zone			CR	ICR	CLASS Country	Pollution Level			
			IC	Res	IR				High	Med	Low	U/C
4												
-	3	-	-	7	6	2	-	Belgique/België	6	6	6	-
4	3	1	-	4	-	13	-	Bundesrepublik Deutschland	1	17	-	7
1	14	-	-	3	1	11	-	France	3	19	6	2
-	-	1	-	-	-	-	-	Ireland	-	-	1	-
1	5	1	-	-	9	2	-	Italia	9	4	4	1
-	-	-	-	-	-	7	-	Nederland	-	-	-	7
-	-	-	1	10	7	3	1	United Kingdom	7	9	6	-
6	25	3	1	24	23	38	1	Totals	26	55	23	17
5	21	2	1	20	19	31	1	As percentage	21	45	19	14
6	50	-	-	-	-	86	-	Contribution to Zones I or C/R				
4	35	-	-	-	-	61	-	As %				
5												
-	-	1	-	3	-	3	-	Belgique/België	1	4	2	-
-	-	-	-	-	-	3	-	Bundesrepublik Deutschland	-	3	-	-
1	3	-	-	-	-	2	-	France	-	3	3	-
-	-	1	-	-	-	-	-	Ireland	-	-	1	-
-	2	-	1	3	-	-	-	Italia	-	2	4	-
-	-	1	-	2	1	-	-	Luxembourg	2	-	2	-
-	-	-	-	-	-	6	-	Netherlands	-	-	-	6
-	-	-	-	3	2	2	1	United Kingdom	2	5	1	-
1	5	3	1	11	3	16	1	Totals	5	17	13	6
2	12	7	2	27	7	39	2	As percentage	12	41	32	15
1	10	-	-	-	-	35	-	Contribution to Zones I or C/R				
2	22	-	-	-	-	76	-					

TABLE C.1

STATION CLASSIFICATION

Town Class: 1 (over 2 million inhabitants)

Type of Zone								Town	Pollution Level			
U/C	Ind	Com	IC	Res	IR	CR	ICR		High	Med	Low	U/C
-	4	-	-	-	-	2	-	Berlin (BRD)	-	6	-	-
-	-	-	-	2	-	1	2	Paris (F)	1	4	-	-
-	-	-	-	4	-	2	-	Milano (I)	-	-	-	6
-	1	1	-	2	-	-	-	Roma (I)	2	1	1	-
-	1	-	-	1	1	1	2	Greater London (UK)	2	2	2	-
-	-	1	-	1	2	1	1	Greater Manchester (UK)	2	2	2	-
-	-	-	1	1	2	2	-	West Midlands (UK)	2	2	2	-
Totals:									9	17	7	6
As percentage									23	44	18	15

TABLE C.2STATION CLASSIFICATION

Town Class: 2 (1 - 2 million inhabitants)

U/C	Ind	Com	Type of Zone					Town	Pollution Level			
			IC	Res	IR	CR	ICR		High	Med	Low	U/C
-	-	1	-	-	2	2	-	Bruxelles/Brussel (B)	1	3	1	-
-	-	-	-	-	-	9	-	München (BRD)	-	7	1	1
-	1	-	-	-	-	5	-	København (DK)	4	2	-	-
-	3	1	-	1	-	0	1	Lyon (F)	-	5	1	-
-	3	-	-	-	-	3	-	Marseille (F)	2	2	2	-
-	2	-	-	1	2	-	-	Torino (I)	5	-	-	-
-	-	1	-	2	2	-	-	Glasgow (UK)	1	2	2	-
-	1	-	-	2	3	-	-	Merseyside (UK)	2	2	2	-
-								Totals:	15	23	9	1
-								As percentage	31	48	19	2

TABLE C.3

STATION CLASSIFICATION

Town Class: 3 (0.5 - 1 million inhabitants)

U/C	Type of Zone						Town	Pollution Level				
	Ind	Com	IC	Res	IR	CR		High	Med	Low	U/C	
-	2	-	-	3	1	-	-	Antwerpen/Anvers (B)	2	2	2	-
-	1	-	-	-	-	1	-	Dortmund (BRD)	-	-	-	2
-	1	-	-	-	-	1	-	Duisburg (BRD)	-	-	-	2
-	-	-	-	-	-	2	-	Düsseldorf (BRD)	-	-	-	2
1	-	-	-	-	-	3	1	Frankfurt/Main (BRD)	-	1	-	4
-	-	-	-	-	-	3	-	Nürnberg (BRD)	-	3	-	-
-	3	2	-	1	-	-	-	Bordeaux (F)	-	5	1	-
-	3	-	-	-	-	3	-	Lille/Roubaix/Tourcoing	-	6	-	-
-	1	-	-	4	-	1	-	Toulouse (F)	2	3	1	-
-	1	-	-	1	-	2	-	Dublin (IRL)	2	1	1	-
2	-	-	-	-	-	-	-	Genova (I)	-	-	-	2
-	2	-	-	-	-	6	-	Amsterdam (NL)	-	-	-	8
-	-	-	-	-	-	2	-	Den Haag (NL)	-	-	-	2
-	-	-	-	-	-	2	-	Rotterdam (NL)	-	-	-	2
-	-	-	-	1	2	1	1	Leeds (UK)	2	2	1	-
-	1	1	-	1	1	-	-	Sheffield (UK)	2	1	1	-
-	1	-	-	-	1	2	-	Tyneside (UK)	1	1	1	1
3	16	3	-	11	5	29	2	Totals:	11	25	8	25
4	23	4	-	16	7	42	3	As percentage	16	36	12	36

TABLE C.4STATION CLASSIFICATION

Town Class: 4 (0.1 - 0.5 million inhabitants)

U/C	Ind	Com	IC	Res	IR	CR	ICR	Town	Pollution Level			
									High	Med	Low	U/C
-	-	-	-	1	3	2	-	Charleroi - B	2	2	2	-
-	3	-	-	3	-	-	-	Gent - B	2	2	2	-
-	-	-	-	3	3	-	-	Liège/Luik - B	2	2	2	-
1	-	-	-	1	-	-	-	Augsburg - BRD	-	2	-	-
-	-	-	-	-	-	1	-	Erlangen - BRD	-	1	-	-
-	-	-	-	-	-	2	-	Karlsruhe - BRD	-	1	-	1
-	-	-	-	-	-	1	-	Kassel - BRD	-	1	-	-
-	1	-	-	-	-	4	-	Ludwigshafen - BRD	-	5	-	-
-	1	-	-	1	-	-	-	Mannheim - BRD	-	2	-	-
-	-	-	-	-	-	1	-	Regensburg - BRD	-	1	-	-
-	-	-	-	-	-	1	-	Wiesbaden - BRD	1	-	-	-
-	-	-	-	-	-	2	-	Würzburg - BRD	-	2	-	-
-	-	-	-	1	-	-	-	Ingoldstadt - BRD	-	1	-	-
-	-	-	-	-	-	1	-	Fürth - BRD	-	1	-	-
3	1	1	-	1	-	-	-	Mainz - BRD	-	-	1	6
-	2	-	-	3	1	-	-	Clermont Ferrand - F	-	3	3	-
-	3	-	-	-	-	3	-	Le Havre - F	1	2	1	2
1	5	-	-	-	-	2	-	Nantes - F	-	5	1	-
-	3	-	-	-	-	3	-	Rouen - F	1	4	1	-
-	3	-	-	-	-	3	-	Strasbourg - F	1	5	-	-
-	-	1	-	-	-	-	-	Cork - IRL	-	-	1	-
-	2	1	-	-	2	-	-	Bolzano - I	2	1	2	-
-	-	-	-	-	-	1	-	Pescara - I	-	1	-	-
-	-	-	-	-	2	-	-	Terni - I	-	1	1	-
1	3	-	-	-	4	1	-	Venezia - I	7	-	1	1
-	-	-	-	-	1	-	-	Ferrara - I	-	1	-	-
-	-	-	-	-	-	1	-	Enschede - NL	-	-	-	1
-	-	-	-	-	-	2	-	Groningen - NL	-	-	-	2
-	-	-	-	-	-	2	-	Tilburg - NL	-	-	-	2
-	1	-	-	-	-	1	-	Utrecht - NL	-	-	-	2
-	-	-	1	2	1	-	-	Belfast - UK	1	2	1	-
-	-	-	-	2	1	-	1	Cardiff - UK	2	1	1	-
-	-	-	-	2	1	1	-	Edinburgh - UK	1	2	1	-
-	-	-	-	2	1	1	-	Portsmouth - UK	1	2	1	-
-	-	-	-	2	3	1	-	Teesside - UK	2	2	2	-
6	26	3	1	24	23	37	1	Totals	26	55	23	17
5	21	2	1	20	19	31	1	Totals as %	21	45	19	14

TABLE C.5

STATION CLASSIFICATION

Town Class: 5 (under 0.1 million inhabitants)

U/C	Type of Zone						Town	Pollution Level			
	Ind	Com	IC	Res	IR	CR		High	Med	Low	U/C
-	-	-	-	1	-	-	Brugge - B	-	1	-	-
-	-	1	-	-	-	1	Kortrijk - B	-	2	-	-
-	-	-	-	1	-	-	Libramont - B	-	-	1	-
-	-	-	-	1	-	2	Namur - B	1	1	1	-
-	-	-	-	-	-	1	Aschaffenburg - BRD	-	1	-	-
-	-	-	-	-	-	2	Kelheim - BRD	-	2	-	-
-	3	-	-	-	-	1	Calais - F	-	3	1	-
-	-	-	-	-	-	1	Martigues - F	-	-	1	-
1	-	-	-	-	-	-	Vigneux-de-Bretagne - F	-	-	1	-
-	-	1	-	-	-	-	Galway - IRL	-	-	1	-
-	-	-	1	-	-	-	Ascoli Piceno - I	-	-	1	-
-	2	-	-	1	-	-	Belluno - I	-	1	2	-
-	-	-	-	1	-	-	Pistoia - I	-	-	1	-
-	-	-	-	1	-	-	Vercelli - I	-	1	-	-
-	-	1	-	1	-	-	Luxembourg-Ville - GD	1	-	1	-
-	-	-	-	-	1	-	Esch/Alzette - GD	1	-	-	-
-	-	-	-	-	1	-	Steinfort - GD	-	-	1	-
-	-	-	-	-	-	1	Bussum - NL	-	-	-	1
-	-	-	-	-	-	1	Den Bosch - NL	-	-	-	1
-	-	-	-	-	-	1	Hilversum - NL	-	-	-	1
-	-	-	-	-	-	1	Maastricht - NL	-	-	-	1
-	-	-	-	-	-	1	Middelburg - NL	-	-	-	1
-	-	-	-	-	-	1	Zwolle - NL	-	-	-	1
-	-	-	-	-	1	1	Barnsley - UK	1	1	-	-
-	-	-	-	-	1	-	Bath - UK	-	1	-	-
-	-	-	-	-	-	1	Bedford - UK	-	1	-	-
-	-	-	-	-	-	1	Exeter - UK	-	1	-	-
-	-	-	-	2	-	-	Lincoln - UK	1	1	1	-
1	5	3	1	11	3	16	Totals	5	17	13	6
2	12	7	2	27	7	39	Totals as %	12	41	32	15

CHAPTER VII

SAMPLING AND ANALYTICAL TECHNIQUES

Introduction

The present chapter describes briefly the different methods used by the Member States for the measurement stations included in this exchange of information. This is not intended and should not be read as a complete technical description for which the reader is referred to the appropriate publications.

Although it may appear that the same sampling and/or analytical methods are used in different locations the results of these measurements should not be considered as comparable without further detailed and careful investigation.

The only common characteristic among all measurements is that they are all done on a 24 hours basis.

1. Measurement methods for SO₂

1.1. Specific measurement methods

1.1.1. Conductometric method

Samples are collected at field stations and taken to a central laboratory for conductometric analysis. This analysis is based on the oxidation of SO₂ to sulphuric acid by aqueous hydrogen peroxide and the subsequent measurement of the increased electrical conductivity of the solution. Usually, 2 m³ of air are sampled. Special precautions may be taken to eliminate other pollutants that could affect the conductivity of the solution (e.g. HCl, HNO₃).

1.1.2. Coulometric method

Air is passed through a cell containing a neutral-buffered iodide or bromide electrolyte where an electrical current maintains a constant concentration of free I₂ or Br₂. When SO₂ in the air sample reacts with the I₂ or Br₂, the change in electrical current necessary to restore or maintain the original concentration of I₂ or Br₂ is a quantitative measure of the SO₂ input. If the rate of air flow through a cell is constant, the SO₂ concentration can be related to an electrical signal by dynamic calibration with known SO₂ concentration standards.

1.1.3. Colorimetric (pararosaniline) method

In the instrumental pararosaniline method, SO_2 is absorbed continuously in dilute aqueous sodium tetrachloromercurate solution to form the non-volatile dichlorosulfotomercurate ion, which then reacts with formaldehyde and bleached pararosaniline to form red-purple pararosaniline-methyl-sulfonic acid. The sampling rate may vary from 0.2 to 1.0 litres air per minute, depending on the length of the sampling period. This reaction is specific for SO_2 and sulphite salts. The colour intensity of the dye, which is proportional to the concentration of SO_2 , is measured at a wavelength of 560 nanometers.

1.1.4. OECD Thorin photometric method

Air is bubbled through 0.03 N hydrogen peroxide solution adjusted to pH 4.5. The acidity is measured by photometric titration with barium perchlorate, using Thorin as indicator.

1.1.5. Flame spectrometry method

The principle of this method is that the air sample is drawn through a quartz tube filled with specially prepared fine porous silica-gel which absorbs the sulphur dioxide present in the atmosphere. After sampling for a short period, for example twenty minutes, the tube is disconnected and closed at both ends to prevent any contamination or loss of sulphur dioxide. The analytical determination is made in the laboratory by desorbing the sulphur dioxide at a temperature of 500° C and reducing it to hydrogen sulphide in a flow of hydrogen over a catalyst made of fine platinum mesh. The hydrogen sulphide is then absorbed in a solution of ammonium molybdate to form molybdenum blue which is calculated from a previously prepared calibration curve. A sampling time of 5 to 30 minutes is needed with this method. The silica-gel can be used up to 100 times without any loss in absorptive capacity.

1.2. Non-specific measurement methods

1.2.1. Acidimetric titration method

Air is bubbled through 0.03 N hydrogen peroxide solution adjusted to pH 4.5. Any sulphur dioxide present forms sulphuric acid, which is titrated against standard alkali. Usually about 2m³ of air are sampled per day. Assuming that only sulphuric acid is present, the concentration of sulphur dioxide in the air can be calculated.

1.2.2. pH measurement

Instead of a titration by standard alkali as in the acidimetric titration method, the pH is measured with appropriate apparatus.

2. Measurement methods for suspended particulate matter

2.1. Black Smoke Methods

2.1.1. Reflectometric method

When air is drawn through a filter-paper smoke particles suspended in the air are retained on the paper, forming a stain. "Smoke" is considered to include particles of roughly 10 micrometres diameter or less. The density of the stain depends partly on the mass of smoke particles collected and partly on the nature of the smoke. The concentration of smoke in the atmosphere can be estimated by drawing a known volume of air through a filter-paper and measuring the blackness of the resulting stain with a photo-electric reflectometer. Usually about 2 m³ of air are sampled per day. A calibration curve relating the blackness of the filter stain to the weight of smoke particles deposited on the filter-paper has been established for "standard smoke". Thus the concentration of smoke per unit volume of air can be calculated and expressed in terms of the "standard smoke" equivalent.

2.1.2. Transmittance method

The sampler consists of a tape of filter-paper, an intake tube and a pump. Successive areas of the paper tape are positioned and clamped between an intake tube and the pump. Air is drawn through the filter for a selected length of time, usually 1-4 hours. A new area of tape is then moved into position and sampling is resumed. The air flow can be regulated and usually ranges from 4.2 to 5.7 m³ per hour. The samples are evaluated by comparing the transmittance of light through both filter and deposit with the transmission through a clean portion of filter. Transmittance is normally converted into coefficient of haze (COH units per thousand linear feet of air passing through the filter).

2.1.3. 'Streulicht'

This is similar to the transmittance method above but is cross-calibrated to give values in $\mu\text{g}/\text{m}^3$ equivalent.

2.2. Direct determination of S.P.M.

2.2.1. Gravimetric method

The determination of the suspended particles retained on a filter is realised by comparison of the weight of the filter before and after the deposition. The volume of air passed can be estimated either by regulating the flow rate or by installing an air volume meter. The ratio of the two measurements (weight and volume) gives a direct value expressed in $\mu\text{g}/\text{m}^3$.

2.2.2. Beta absorption

The superficial density of the S.P.M. deposited on suitable filters may be readily achieved by measurement of the attenuation it produces in the count rate from an electron source. A calibration curve may be obtained by using absorbers of known superficial density in the same counting geometry, for example gravimetrically measured aluminium foils or plastic films.

3. Conclusions

3.1. Specific measurements for SO₂ - Table D.1

It is immediately obvious that the most common method is coulometry and that the principal users are the Federal Republic of Germany and the Netherlands. The determination by conductimetry is used only in Germany and the pararosaniline method only in Italy. The photometric OECD - Thorin method is only used in København.

One notes that the other five countries (Belgium, France, Luxembourg and United Kingdom) do not use any method which is specific to SO₂ within the national network.

3.2. Strong_Acidity_measurement_for_SO₂ - Table D.2

Here there is about 90% unanimity for the OECD method but with variations on the standardisation, British Standard 1747 for the United Kingdom and Ireland and Normes Françaises 43005 for France. Only 10% of the towns use measurements of pH.

Comparing the Tables D.1 and D.2 it is clear that there is very little difference between the number of towns using strong acidity (about 50) and those where a specific technique for SO₂ is used (about 45).

3.3. Black_Smoke_method_for_suspended_particles- Table D.3

Here again one may note that there is about 90% unanimity for the OECD method with variations for the British and French standards. In the last column there is a method, 'streu Licht' only used in Germany.

3.4. Direct determinations of suspended particles - Table D.4

For this determination there are only two techniques which are widely used, gravimetry and beta-absorption : about 60% gravimetry and 40% beta-absorption. It should also be noted that nearly all the towns use samplers which take $2\text{m}^3/\text{day}$, except in Italy where they take $20\text{m}^3/\text{day}$; only three towns use High Volume Samplers (HVS) taking more than $200\text{m}^3/\text{day}$. Two towns use a 'radiometric' technique which has not been fully defined but, for the purpose of this report, has provisionally been classed as beta-absorption. Tables D.3 and D.4 show that several countries (Belgium, France, Ireland, Luxembourg and United Kingdom) prefer to make measurements by the 'black smoke' techniques whilst the others (Germany, Italy, Denmark) prefer a direct method. The Netherlands does not have a national network for suspended particles and have not transmitted information or data for stations which do make measurements because it is local, rather than national, data.

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TABLES D
(Table D.1 to D.4)

Abreviations: C. - Class of town by n° of inhabitants
Count. - Country
+ B —> UK as tables C

TABLE D.1

SPECIFIC MEASUREMENT METHODS FOR SO₂

CONDUCTIMETRY			COULOMETRY			PARAROSANILINE			OECD - THORIN			FLAME-SPECTROMETRY		
C	Town	Count.	C	Town	Count.	C	Town	Count.	C	Town	Count.	C	Town	Count.
1	Berlin	D	1	Milano	I	1	Roma	I	2	København	DK	4	Bolzano	I
2	München	D	2	Torino	I	3	Ferrara	I				4	Karlsruhe	D
3	Dortmund	D	3	Amsterdam(auto)	NL	4	Pescara	I				4	Ludwigshafen	D
3	Düsseldorf	D	3	Den Haag (auto)	NL	4	Terni	I				4	Mannheim	D
3	Frankfurt/Main	D	3	Frankfurt/Main	D	5	Ascoli Piceno	I						
4	Kassel(Gaspuren)	D	3	Nürnberg(Philips)	D	5	Belluno	I						
4	Ludwigshafen	D	3	Rotterdam	NL	5	Pistoia	I						
4	Mainz	D	4	Augsburg(Philips)	D	5	Vercelli	I						
4	Wiesbaden	D	4	Enschede(auto)	NL	3	Genova	I						
3	Duisburg		4	Fürth(Philips)	D									
			4	Ingoldstadt (Philips)	D									
			4	Regensburg (Philips)	D									
			4	Erlangen	D									
			4	Groeningen	NL									
			4	Tilburg (auto)	NL									
			4	Venezia	I									
			4	Würzburg	D									
			5	Aschaffenburg	D									
			5	(Philips)										
			5	Bussum(auto)	NL									
			5	Den Bosch(auto)	NL									
			5	Kelheim(Philips)	D									
			5	Maastricht(auto)	NL									
			5	Middelburg (auto)	NL									
			5	Zwolle	NL									
			5	Hilversum	NL									
			4	Utrecht	NL									
Total numbers of towns: 10			Total number of towns: 26			Total number of towns: 9			Total number of towns: 1			Total number of towns: 4		

TABLE D.2

MEASUREMENT METHODS BY STRONG ACIDITY

OECD			OECD/BS1747-3			OECD/NF43005			pH		
C	Town	Count.	C	Town	Count.	C	Town	Count.	C	Town	Count.
2	Bruxelles	B	1	Greater London	UK	1	Paris	F	2	København	DK
3	Antwerpen	B	1	Greater Manchester	UK	2	Lyon	F	4	Le Havre(auto)	F
3	Dublin	IRL		West Midlands	UK	2	Marseille	F	4	Nantes (auto)	F
4	Charleroi	B	1	Glasgow	UK	3	Bordeaux	F	4	Rouen	F
4	Cork	IRL	2	Merseyside	UK	3	Lille-Roubaix-Tourcoing	F	4	Strasbourg	F
4	Gent	B	2	Dublin	IRL	3	Toulouse	F			
4	Liège	B	3	Leeds	UK	3	Toulouse	F			
5	Brugge	B	3	Sheffield	UK		(moins NH ₃)				
5	Esch/Alzette	L	3	Tyneside	UK	4	Clermont Ferrand	F			
5	Galway	IRL	3	Belfast	UK	5	Calais	F			
5	Kortrijk	B	4	Cardiff	UK	5	Martigues	F			
5	Libramont	B	4	Edinburgh	UK	5	Vigneux-de-Bretagne	F			
5	Luxembourg-Ville	L	4	Portsmouth	UK		4	Strasbourg	F		
5	Namur	B	4	Teesside	UK						
5	Steinfort	L	4	Barnsley	UK						
			5	Bath	UK						
			5	Bedford	UK						
			5	Exeter	UK						
			5	Lincoln	UK						
Total number of towns: 15			Total number of towns: 19			Total number of towns: 12			Total number of towns: 5		

TABLE D.3

MEASUREMENT METHODS FOR BLACK SMOKE

OECD			OECD/BS1747 - 2			OECD/NF43005			TRANSMITTANCE(COH)		
C	Town	Count.	C	Town	Count.	C	Town	Count.	C	Town	Count.
1	Roma	I	1.	Greater London	UK	1	Paris	F	3	Ferrara	I
2	Bruxelles	B	1	Greater Manchester	UK	2	Lyon	F	4	Bolzano	I
2	København	DK	1	West Midlands	UK	2	Marseille	F			
3	Antwerpen	B	2	Glasgow	UK	3	Lille-Roub.Tourc.F				
3	Toulouse(glass fibre)	F	2	Merseyside	UK	3	Bordeaux	F			
4	Charleroi	B	3	Dublin	IR	4	Clermont Ferrand	F			
4	Gent	B	3	Leeds	UK	4	Rouen(autom)	F			
4	Liège	B	3	Sheffield	UK	4	Strasbourg	F			
5	Brugge	B	3	Tyneside	UK	5	Calais	F			
5	Esch/Alzette	L	4	Belfast	UK						
5	Kortrijk	B	4	Cardiff	UK						
5	Libramont	B	4	Cork	IRL						
5	Luxembourg-V	L	4	Edinburgh	UK						
5	Namur	B	4	Portsmouth	UK						
5	Steinfort	L	4	Teesside	UK						
			5	Barnsley	UK						
			5	Bath	UK						
			5	Bedford	UK						
			5	Exeter	UK						
			5	Galway	IRL						
			5	Lincoln	UK						
Total number of towns: 15			Total number of towns: 21			Total number of towns: 9			Total number of towns: 2		

DIRECT DETERMINATION OF SPM

TABLE D.4

GRAVIMETRY			BETA ABSORPTION			STREULICHT		
C	Town	Count.	C	Town	Count.	C	Town	Count.
1	Roma	I	1	Milano	I	4	Karlsruhe	D
2	Köbenhavn(HVS)	DK	3	Frankfurt/Main (+ Radiom.)	D	4	Ludwigshafen	D
2	München (Niederschlag)	D	3	Nürnberg	D	4	Manheim	D
2	Torino	I	4	Augsburg	D			
3	Dortmund	D	4	Erlangen	D			
3	Duisburg	D	4	Fürth	D			
3	Düsseldorf	D	4	Ingoldstadt	D			
4	Bolzano	I	4	Kassel(Radiom.)	D			
4	Ludwigshafen(HVS)	D	4	Regensburg	D			
4	Mainz (HVS)	D	4	Würzburg	D			
4	Pescara	I	5	Aschaffenburg	D			
4	Terni	I	5	Kelheim	D			
4	Venezia	I	4	Wiesbaden	D			
5	Ascoli Piceno	I						
5	Belluno	I						
5	Pistoia	I						
5	Vercelli	I						
<hr/>			<hr/>			<hr/>		
Total number of towns: 17			Total number of towns: 13			Total number of towns: 3		

CHAPTER VIII

DISCUSSION OF THE RESULTS

Introduction

The detailed summaries of the monthly values calculated for all the stations included in this study will be found in Annex C where they are grouped by class of town and then in the following order of pollutants : SO₂, strong acidity, black smoke and suspended particulate matter (S.P.M.).

To facilitate discussions the data have been reduced to a more compact series of values that will be found in Tables E ; these contain a summary of the data relative to each town within the various classes for each of the measured pollutants. These Tables will be used throughout the discussions but reference will be made, as required, to the more comprehensive and detailed Tables in Annex C.

Given that both health criteria and air quality standards are based on medians for the seasonal values, and not means these discussions follow the same lines and no attempt is made to discuss variations in seasonal means, which are more easily calculated but give a "distorted" view due to the effects of high and zero values.

In both Tables E and those in Annex C it has been necessary to resort to a convention for the calculation of annual, winter and zonal medians. Strictly these should be calculated from the daily values relevant to the period or zone under consideration but the computer programme that is required to do this is not yet available. The convention that has been used is to take the mean of the relevant monthly medians which were themselves calculated from the daily values. The justification for this procedure is that randomly selected sets of data have shown that the averaged median and the true median are not likely to differ by more than $\pm 5\%$.

This year's report represents the second analysis done since the exchange of air pollution data began in 1976. In this report the data of 1977 are analysed. The annual values, A, are calculated over the calendar year January 1st to December 31st 1977. The winter values, W', are composed once over the two half winters January 1st to March 31st and October 1st to December 31st 1977. This convention of using two half winters was kept to allow comparison with the 1976 winter data which were also composed over the same two half winters. Another set of winter data, W, was calculated over the period October 1st 1976 to March 31st 1977. These data analyse the uninterrupted true winter period of 1976-1977.

The tables E show, for each town and for each pollutant, the following parameters for the whole year, A, and for the two half winters, W', as defined above :

- a) - averaged medians for the whole town based on all available data
- b) - averaged medians for all stations in an industrial zone,
- c) - averaged medians for all stations in commercial/residential zones,
- d) - the ratio of b)/c), or I/CR
- e) - highest averaged median for any one station in an industrial zone,
- f) - highest averaged median for any one station in a commercial/residential zone.

The final two columns of the Tables show the highest daily values recorded for each of the two types of zone. These figures and the highest averaged zonal medians should not be compared between towns since the number of stations, as well as the total number of measurements in the zone of a town vary considerably from one town to another. An analysis was done to find any common characteristics among the towns which had the highest daily values and the highest averaged zonal medians.

The averaged median for the whole town or zone is based only on the data required by the Council Decision which are available from that town; it is not, therefore, the 'true' median for the town or zone since this would require a knowledge of the other stations which are not included. Even then, the significance of the 'true' median is a complex function of the number of stations and the policy of the site selection. However, it can be argued that since the Council Decision requires that a minimum quantity of data is submitted for each town and zone, at least in the larger classes, then there is some degree of representativity of the distribution of pollution levels. Thus a calculation of this type may be considered as indicative of, and related to, the range of levels likely to be encountered. The fact that data from every station in the town were to be included does not make the representation any better because the number of stations, their distribution and the policy of site selection differ considerably even within the same country.

It has been necessary to choose a set of rules to simplify the presentation of the data in Tables E since there are occasions when a greater or lesser quantity of data are not available or are invalid.

If data were not available for one or more stations in a town over the whole or part of the season this has been noted under the name of the town by the word 'incomplete'. In this case all the values so affected are put into parentheses and must be viewed with some caution; reference must be made to Annex C to verify the quantity of data that are missing. The figures that appear in parentheses are, therefore, only designed to give some indications of the levels likely to be encountered.

Mainly for the smaller towns, there are occasions when the data are only available from one station and the value for the whole town has been omitted and an asterisk (*) put in the column to indicate that in these instances the values shown in the next completed column must be used. Also it will be seen that in these cases the values shown in the columns with averaged medians for a zone agrees with those for the highest averaged medians for any one station.

There are also occasions when there is only one 'mixed' station or when the station that produces the highest value is a mixed industrial, commercial and residential one. In these cases the values in the columns for industrial and commercial/residential zones are the same and an equality sign (=) has been used between the identical values. This same convention has been used in the final two columns with the highest daily values since the same situation may exist there.

Another convention also had to be adopted to allocate a station to one of the two original zones, industrial zone, I, or the commercial and/or residential zone, C/R, since many stations are situated in mixed zones. It was finally decided to allocate all stations which are completely or partially situated in an industrial zone to the I group and all stations which are completely or partially in a commercial and/or residential zone to the C/R group. This convention implies that all stations which are situated and in an industrial zone and in a commercial and/or residential zone are counted twice in the calculation of the averages. The justification of this decision is based on the fact that the data of the mixed stations contain the characteristics of industrial stations, higher annual values and those of commercial/residential stations, greater seasonal fluctuations. Omitting these stations from one or the other group would give a distorted picture. A very practical reason for adopting this convention was that not enough data are available of 'pure' industrial or commercial and/or residential stations to make any kind of an analysis. This situation exists since the differentiation in I, C/R zones is not sufficiently well defined to make a rigorous separation.

A consequence of this convention is that in certain cases the annual medians are the same as the seasonal medians of the C/R zone. This happens when within a town there are no stations which have a 'pure' industrial classification and consequently all stations are included in the C/R average.

The majority of stations have a maximum of the daily values in the winter but there are some instances where the maximum occurs in the summer period. In the cases where the maximum occurs in the winter no values has been inserted for the whole year since the appropriate value is the same as that for the winter. Where the annual maximum is higher than that for the winter it is duly entered in the appropriate line.

At the end of each class in Tables E a summary of the percentage increases from annual to winter has been made for each of the four pollutants alone in pairs according to the general type of pollutant measured and, finally, for all the pollutants put together. Accordingly in the discussions which follow no mention will be made of these figures except to draw attention to important variations from the general levels. The discussions, therefore, will concentrate on the departures from the 'norm' for each town.

1. Class 1 - towns with over 2 millions inhabitants

1.0. General remarks.

The highest pollution levels for all pollutants and all towns and the two zones were found in the winter. In general these levels are about a third higher than the annual levels, which are approximately the same as last year. In the two zones the industrial one has higher annual and winter values than the commercial residential zone for more than 60% of the towns. In the commercial/residential zones the seasonal modifications are greater than those in the industrial zones in more than 70% of the cases. These characteristics are the same as last year, however last year they were not as pronounced as this year. This might just be the result of more extensive measurement data available this second year of the exchange of pollution data. All the towns in this class have about six stations except Rome which only has one. These stations are equally well distributed among the two zones. However, in the majority of the towns, the stations classified as industrial lie in a mixed zone.

1.1. Averaged medians for towns.

For SO_2 , West Berlin is the only town with complete data. It shows an increase of 35% of the winter values over the annual values. With incomplete data, Milano has an increase of about 90%. For strong acidity Greater London, Greater Manchester and West Midlands show approximately the same increase of about 20%. The only exception is Paris with a much larger increase of 35%. For S.P.M., data are only available for one station in Roma which increases by 18% in the winter period.

Only data for strong acidity and smoke are measured in the same four towns. Comparison of these data give an indication that towns in this class are more likely to have greater increases in winter smoke levels than in winter acidity levels except for Paris where the inverse is true.

1.2. Averaged medians for zones.

These figures do not differ to any great extent from those of the whole town. In general the figures of the whole town are somewhere between those of the zones. From the zonal data the general characteristics of the two zones, higher values in the industrial zone and greater seasonal fluctuations in the commercial/residential zone can be deduced. The exceptions are Paris and West Berlin which have higher annual and winter values in the commercial/residential zone for smoke and SO_2 . Greater Manchester and Paris again have greater seasonal smoke increases in the industrial zone and West Midlands has the same for acidity.

1.3. Ratio I/CR.

The ratio is with the exception of Berlin, always higher than 1 confirming that the higher pollution levels are found in the industrial zones. The seasonal modifications in the ratio confirm that the greater seasonal increases are found in the commercial/residential zones.

1.4. Highest averaged medians for any one station in a zone.

In the majority of the towns, the highest polluted stations were found in the commercial/residential zone. All industrial stations showing the highest averaged median were mixed stations. These pollution levels are between 17% and 75% higher than the averaged medians for the commercial/residential zone and between -7% and +45% for the industrial zone. The seasonal increases confirm again that the commercial/residential zone has greater seasonal fluctuations. Moreover, they tend to follow the seasonal percentage increases for the whole town, but they are between 5 and 20% greater for the commercial/residential zone with exception of Paris and the West Midlands where they are lower.

- The seasonal percentage increases are lower than those for the whole town in the industrial zone in about half of the towns. In most of the towns it was the same station that measured the highest winter and annual value.

1.5. Maxima of daily values.

As can be expected, the maximum of the daily values were also found in the commercial/residential zones just as the highest averaged medians. It is moreover interesting to note that these maxima were found at the same station as the one with the highest averaged median for two thirds of the stations.

Of the industrial stations having the maxima of daily values, three out of four were mixed stations.

Given that the data are incomplete for Milano and that there may be significant differences between the techniques, it must be noted that the maximum for Milano is about 70% higher than for West Berlin for SO_2 . In the case of smoke and acidity, difference between the maxima of the four towns measuring these pollutants is about 80%.

1.6. Exceptional behaviour of Paris smoke data.

The rather exceptional behaviour of the Paris smoke data might indicate an interesting exception to the rules. The higher averaged median was found in the commercial/residential zone rather than in the industrial, and the greater seasonal increase was in the industrial zone. This inverse characteristic was also found in the highest polluted stations. The measurement stations included in Paris are not under the immediate influence of any large industrial sources. This situation might explain this exceptional behaviour.

. Class 2 - Towns with 1 to 2 million inhabitants

2.J. General remarks.

Similar to class 1, the highest pollution levels were found in the winter except in Brussels where it happened in the summer for acidity in the industrial zone. These levels are about 20% higher than the annual levels which is, in general, a bit lower than last year.

The general characteristics of the zone, that the greater seasonal fluctuations are found in the C/R zones seem to be confirmed for about 70% of the towns. However in more than 80% of the towns the highest annual and winter pollution levels were also found in the C/R rather than in the industrial zone contrary to the characteristic noticed in class 1. A rough comparison of the summer and winter data indicate that both in the summer and the winter the C/R zones had higher values in the majority of the towns.

A very simple explanation of this phenomenon could be that there are relatively few "pure" I stations in this class, only two out of a total of 15 stations. For acidity, about half of the stations were either exclusively in the I zone or in a mixed zone. Of all the stations, less than 40% lie completely or partially in an industrial zone and less than 20% lie in a purely industrial zone.

Towns in this class have about the same number of stations as those in class 1, distributed over the two zones in about the same way. Less than 40% of the stations are classified on industrial and the majority of them lie in a mixed zone.

2.1. Averaged medians for towns.

For SO_2 there are only two towns that have complete measurements and their seasonal increases are 27% and 30%. For acidity Merseyside shows the greatest increase with 20%, which is twice the average for this pollutant. For smoke there is less of a discrepancy; the average is 25% and the greatest increase is in Glasgow at 36%. For SPM complete data are only available from København.

The increases for all four pollutants are similar to those of class 1. For SO_2 and acidity they are slightly lower but of the same order. For smoke and SPM they are of the same order and about the same size.

Interesting results are found in Brussels which has low increases for acidity and no increases for smoke. In Glasgow, the increase in smoke levels is about four times that for acidity; in Lyon this ratio is two. Also interesting is Marseille, the only town of the six measuring both pollutants, which has higher smoke values than acidity values. Increase in smoke pollution is in Marseille very much higher than for acidity, there is only an increment of 1%.

København is the only town measuring the four pollutants. Increases in smoke and SPM levels are about the same, for SO_2 levels they are a little higher. The increase in acidity levels is however very close to zero.

Generally, the acidity levels increase half as much as the smoke levels in the six towns measuring both pollutants, a tendency also noticed in class 1.

2.2. Averaged medians for zones.

The averages and the seasonal increases for most of the towns are higher in the C/R zones as was noticed in the general remarks.

The exceptional value is the reduction in winter pollution levels in the Brussels I zone for acidity. A detailed analysis of the monthly data reveals that this situation is caused by the higher summer data of one of the two measuring stations.

The seasonal increases in class 2 are lower than those in class 1 for both zones. This is also true for the actual pollution levels.

The increase in winter pollution levels are approximately the same for all pollutants in this class. Noticeable is that Glasgow increases are twice those of Marseille for smoke and that Brussels has very low fluctuations in smoke levels. The same is true in Marseille and in København for acidity.

In München there are no measuring stations in the industrial zone, therefore, the SO_2 increases for this class are those of København.

2.3. Ratio I/CR.

This figure swings around the value of one but stays most often below it showing again that pollution levels were higher in the CR zone. The seasonal increases of this ratio show again a dominance in the CR zone.

2.4. Highest averaged medians for any one station in a zone.

These pollution levels are again higher in the CR zones of most of the towns. In class 1, if a station measured the highest value in a town it was always in the winter as well as annually for both zones. This is also true in class 2 with two exceptions : København, for SO_2 , where the maxima change between zones and in Brussels for acidity, where the maxima in the industrial zone were found at different stations. Again as in class 1, of the towns where the higher pollution levels were found in the industrial zone, three of the four stations were mixed.

These values follow about the same pattern as the averaged medians, except that the seasonal increases of these pollution levels tend to be higher than the averaged median increases with a few minor exceptions.

2.5. Maxima of daily values.

As is to be expected, the daily maxima are found in the C/R zone where the higher values of the other measurements are found. This is true for all towns. Moreover, the stations in two thirds of the cases are the same as the ones measuring the highest averaged medians. In class 1, exactly the same situation exists. There seems to be a certain dominance in the averages of the maximum pollution levels of single stations.

3. Class 3 - towns with 0.5 to 1 million inhabitants

3.0. General remarks.

The number of towns in this class supplying data about the four pollutants is much larger than in the previous classes. The majority of towns measuring SO₂ and SPM have stations only in one zone, most often in the C/R zone.

There are eight towns measuring both acidity and smoke. They have stations in both zones, equally distributed.

Thirty percent of the stations lie in an exclusively industrial zone and 15% in a mixed zone. The remaining 55% of the stations lie in a C/R zone. This class has the highest percentage of stations lying in an exclusively I zone of all classes.

3.1. Averaged medians for towns.

Again, the maximum pollution levels are in the winter in all towns, except for SPM in four out of the five towns.

The seasonal fluctuations in acidity lie between 15% in Bordeaux and Dublin, and 30% in Sheffield. Toulouse has the smallest smoke increase at 10%. The maximum was found in Leeds at 48%. No general conclusions or special pattern can be made from these data.

The average increases for all towns are the same for acidity and smoke at more than 26%. The smoke increases are less than last year, the acidity ones the same.

3.2. Averaged medians for zones.

Only for acidity and smoke analysis between zones can be made. There are two general characteristics which can be noted.

The largest seasonal fluctuations were found in 75% of the towns in the C/R zone for acidity and in about 70% of the towns in the industrial zone for smoke.

The highest pollution levels were in 62,5% of the towns in the C/R zone for acidity and in 62,5% of the towns in the I zone for smoke.

The value of the seasonal increases for acidity lie between 0% in Toulouse and 34% in Sheffield in the I zone and between 23% and 35% in the C/R zone for different towns. For smoke, comparable data are 15 and 46% in the I zone and 12 and 48% in the C/R zone all for different towns.

For SO₂ only figures of the C/R zone are available. Maximum and minimum increases are found in the Netherlands in two towns in the rim city. Amsterdam only showed 20% increase in winter levels, Den Haag registered 57%.

SPM is the exceptional pollutant. Pollution levels decreased in the winter between almost 2% and 15%. Only in Dortmund did they increase. This winter decrease is mainly due to the low first

half winter values of January, February and March.

3.3. Ratio I/CR.

Again this ratio is only significant for acidity and smoke. For acidity it lingers around one, indicating the same levels of pollution in both zones. Both zones show also about the same increases in the winter.

Smoke shows larger discrepancies in the pollution levels between the two zones. In Bordeaux and Toulouse pollution is about three times as high in the C/R zone than in the I zone. The values for the other towns lie between 0.67% and 1.19%. Winter increases were however about the same in both zones.

3.4. Highest averaged medians for any one station in a zone.

Highest pollution levels were again found in the C/R zone for most of the towns, just as in class 1 and 2. Another similarity is that the highest winter and annual values were found at the same station for both zones and both pollutants, with one exception which only represents 3% of the cases. A third similar characteristic is that it was often a mixed station reporting the highest value in the I zone.

The winter increases followed the same pattern as those of the averaged medians of the zones, discussed under 3.2.

3.5. Maxima of daily values.

Of the eight towns reporting acid pollution, in 62,5% the maximum of daily values was found at the same station as the one reporting the highest averaged median. For smoke, this was in 100% of the towns the case.

Again, the dominance of maxima of single stations on the averages seems to be confirmed.

As was to be expected from the analysis of previous classes, the highest values were found in the C/R zones.

4. Class 4 - towns with 0.1 to 0.5 million inhabitants.

4.0. General remarks

There are sixteen towns in class four reporting on SO_2 . Out of these sixteen, nine or almost 60% have only one station. Of the remaining seven towns with more than one station, less than 50% have stations in both zones. Consequently analyses about the SO_2 will be limited to the analyses of zonal figures.

Ten of the towns reporting on SO_2 also exchange information on SPM. Only one of them has stations in the two zones, and only two have more than one station. Therefore the analysis of SPM pollution will also be limited.

There are fourteen towns reporting on the acid pollution. Only one has a single station in the C/R zone. All others have their stations equally distributed among the two zones. In almost 50% of the towns, the industrial stations are mixed stations.

For smoke, eleven towns are reporting data. They also exchange information on SO_2 and have therefore the same distribution of their stations except in one case. Consequently, interzonal comparisons have the same validity as before.

4.1. Averaged medians for towns.

For the acid figures, the general characteristic is that the maximum values are found in the winter with only one exception in Portsmouth.

A detailed analysis of the figures show that the seasonal percentage increases range from 35% in Le Havre to -2% in Portsmouth. The average for this class is almost 18%.

In the case of smoke, 100% of the towns had a winter maximum. The seasonal fluctuations were about 30%. Clermont Ferrand and Charleroi were low at 11%. Portsmouth had the maximum increase of 36%.

In the case of SO_2 , 100% of the towns reported a winter maximum. Only for SPM, winter decreases were monitored as was the case in class 3.

It is again noticed that winter smoke increases are higher than increases in the winter acid levels.

4.2. Averaged medians for zones.

For acid there are two general characteristics noticeable. The highest averaged median was found in 65% of the towns in the I zone. The largest seasonal increase was in 54% of the towns found in the C/R zone.

Remarkable is that three of the towns reported a reduction in the winter pollution levels in the I zone. Portsmouth showed

the largest decrease of 25%. In the C/R zone, only Portsmouth showed a reduction in the winter pollution levels.

The average seasonal increase in the C/R zone is twice as high as in the I zone. This is the same situation as last year.

In the case of smoke, the same situation exist as in the case of acid. The majority of the highest averaged medians are found at stations in the I zone. Of the largest winter increases, 50% were measured at C/R stations.

The seasonal fluctuations were on the average about 30% for both zones. Clermont Ferrand and Liège had low increases at 6%. Portsmouth had the largest increase in the I zone at almost 60% and the one to largest one in the C/R zone.

For SO₂ one can only remark that the average pollution level is almost four times as high as the acid levels in the I zone and twice as high in the C/R zone. The SPM levels are lower than those for smoke.

The winter smoke increases in the I zone were about three times as high as the winter increases in acidity.

4.3. Ratio I/CR.

For acidity this ratio is around 1, with only a few exceptions. The seasonal fluctuations of this ratio confirm the larger seasonal increases in the C/R zone in comparison to those in the I zone.

The same remarks as for acidity are valid for the smoke data.

4.4. Highest averaged medians for any one station in a town.

For acidity the highest values were found in the C/R zone in more than 80% of the towns. In 63% of the towns where the highest value was found in the I zone, it was a mixed station reporting. Another general characteristic found already in previous classes is that for both zones the highest winter and annual values were found at the same station in more than 90% of the towns.

For smoke, the 30% industrial stations reporting the highest value were almost all mixed stations.

The largest majority of the stations reporting the maximum annual value also reported the maximum winter value.

4.5. Maxima of daily values.

For acidity, the highest maxima were found in the C/R zone in more than 80% of the towns. Again stations in the industrial zone reporting the highest were most often mixed stations. In the I zone the stations were in 77% of the towns the same as the one reporting the highest averaged median pollution. In the C/R zone this is true for 50% of the towns.

Just as in last year, Le Havre and Rouen showed substantially larger maxima than the other towns. This year Nantes joined that group with a summer maxima of 1215 $\mu\text{g}/\text{m}^3$.

In the case of smoke, the same situation exist as for the highest averaged median.

Again it is noticed than 80% of the stations reporting the maximum daily value are the same as those reporting the highest averaged median.

There seems to appear a persistent dominance of single stations on the results of the whole town.

5. Class 5 - towns with less than 0.1 million inhabitants.

5.0. General remarks.

The majority of the towns in this class have only one measuring station for which data have been transmitted. For SO_2 and SPM measured by the same towns, these stations are all in the C/R zone except in one town where the station was mixed. The same is basically true for the towns measuring acidity and smoke levels.

5.1. Averaged medians for towns.

The seasonal increase in SO_2 is again much higher than in acidity as in previous classes. All towns showed a winter maximum for all of the pollutants.

5.2. Averaged medians for zones.

Noticeable is that the SO_2 winter increases are twice as high as those for acidity. The increases in SPM levels in the winter are again smaller than for smoke as in previous classes. Winter smoke increases were again larger than winter acidity increases.

5.3. Ratio I/CR.

There are not enough stations in the I zone to supply data for this analysis.

5.4. Highest averaged medians for any one station in a town.

Not enough data is available for this analysis.

5.5. Maxima of daily values.

In this class it happens in more than 40% of the towns that the maxima was found in the summer. This is in clear contrast to the characteristics found in all previous classes.

6. Summary.

The discussions in this chapter up to this point, have been concentrated on an examination of various values by class. It is, therefore, useful to draw the remarks for each class together and examine overall characteristics which appear in all classes.

A part of this analysis will be to compare the seasonal fluctuations of the different pollutants.

It should be born in mind that there are only two pollutants of which the levels are measured; sulphur compounds and suspended particulates. As is explained in Chapter I, measurement methods for each pollutant can be divided into two main categories. These methods are further explained in Chapter VII. For computer technical reasons, the two pollutants with two subdivisions of each are treated as four pollutants. The "two" pollutants of sulphur compounds are SO_2 and Acidity, the "two" of suspended particulates are Smoke and S.P.M.

Consequently, when seasonal fluctuations of SO_2 and Acidity are compared, differences are due to different measurements methods. The same is true for intercomparison between the seasonal fluctuations of Smoke and S.P.M.

6.0. General remarks.

In class 5 there are only one or two stations per town. In the first four classes the stations are equally well distributed over the two zones. However, the stations classified as I, were most often in a mixed zone. This situation makes interzonal comparisons difficult to justify.

In all classes and for all pollutants the highest pollution levels were found in the winter, with the exception of SPM in class three and four and acidity in class four.

6.1. Averaged medians for towns.

Where smoke and acidity are measured in the same towns it is interesting to note that winter smoke increases are larger than winter acidity increases in all classes.

Comparing the seasonal fluctuations of SO_2 and acidity, one notices that those of SO_2 are between 1,4 and 3,2 times as high as those of acidity. The increases in smoke levels are slightly higher than those of SPM, except in class 3 where the smoke levels increase 4 times as much as the SPM levels.

6.2. Averaged medians for zones.

The highest values were not consistently found in one zone. But more often were they measured in a I zone than in a C/R zone. This is particularly important since the I stations are often in a mixed zone.

The largest seasonal increases were almost always found in a C/R zone.

The SO₂ increases tend to exceed those of acidity by a factor of 1,3 to 4,0 in the I zone and by a factor of 1,3 to 2,0 in the C/R zone.

The difference between smoke and SPM is less regular. The highest factors were found in class 3 where the smoke increases were, on average, 19 times as high as the SPM increases in the I zone. In the C/R zone the increases were for smoke 27% and for SPM -9% in this same class. In the other classes the factors were between 1 and 2.

6.3. Ratio I/CR.

The general tendency is for the ratio to be about one. However, for individual towns and pollutants this ratio can vary considerably. Consequently it is not possible to draw any other general conclusions than that the delineation of zones as industrial or commercial/residential is insufficient to be able to make a clear distinction in the patterns of pollution.

6.4. Highest averaged medians for any one station in a zone.

The highest values were found in the majority of the towns in the C/R zone. Most often the highest value was found at the same station for both annual and winter values.

6.5. Maxima of daily values.

This item shows the same characteristics as the previous one. Highest values were found in the C/R zone at the same station as the one reporting the highest averaged medians. There definitely seems to be a dominant influence of high pollution levels of single stations on the averages of the whole town.

In general, the maxima of daily values is found in the winter. Only in class five there are many maxima in the summer.

7. Conclusions

There are several general conclusions that can be drawn from the tables and discussions in this chapter.

Class - the concept of classification of a town according to the number of inhabitants does not produce any well-defined conclusions regarding the levels, or difference in the levels, of the pollution.

Zone - the classification of the stations in different zones is not very clear particularly because most of the stations classified as I stations are in a mixed zone. This concept does little to resolve the differences between the levels and the changes in different parts of the same town. Nevertheless there seems to be a general tendency that the measured pollution levels are higher in the I zone, while the seasonal increases are higher in the C/R zone.

Pollutants - The only general conclusion that can be drawn is that the percentage seasonal increase for SO₂ and smoke tend to exceed those for acidity and SPM. In order of magnitude, average increases are 34% for SO₂, 27% for smoke, 20% for acidity and 12% for SPM. This is of the same order as last year but the magnitudes are slightly less than last year except for SPM where the average increase went up from 11% to 12%. It is of interest to note that, while the increase in SPM during the winter is less than for smoke, the measured levels of SPM are, in general, considerably higher than for smoke; in fact, they are far above the 20% difference which is often considered to be the extent of the discrepancies between the different curves that are available for converting a "blackness index" to an equivalent in micro-grams per cubic metre.

Given a winter increase of a few micrograms/cubic meter of 'small' particles the effect on the percentage increase for the smoke will be much higher than for the S.P.M. With the exception of København, no data are available for SO₂ and acidity at the same station - nor for smoke and S.P.M. The København data, when examined in some depth, show that the numerical differences in the seasonal levels for a station are variable and not directly related. The S.P.M. levels always increase, in absolute units, by more than the smoke. This is again the same situation as last year.

Highest values - It is remarkable that the three highest measured values, the highest polluted station in the I zone and the CR zone and the maximum of daily values, are found at the same station in the majority of the towns. This might mean that pollution levels measured at single stations can significantly influence the average pollution level of towns.

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TABLES E
(Table E.1 to E.5)

Abbreviations: SO₂ - Sulphur Dioxide
Acid - Acidity
Smoke - Black Smoke
SPM - Suspended Particulate Matter
I - Industrial
CR* - Commercial/Residential
A - Annual
W - Winter

Notes:

Averaged medians for towns:

Arithmetic average of medians for all stations in a town
for the year or month.

Averaged medians for zones:

Arithmetic average of medians for all stations in an I or
a CR zone in a town.

Ratio I/CR:

Ratio of: averaged medians for industrial zone/averaged
medians for commercial/residential zone.

* one station only therefore refer to appropriate column
following.

= same station, i.e., mixed industrial + commercial/resi-
dential.

TABLE E.1
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 1 Town	Pollutant	Season	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
West Berlin	SO ₂	A W	106 143	97 128	122 173	0.80 0.74	118 154	142 202	565	965
Milano (incomplete)	SO ₂	A W	(185) (350)	- -	(185) (350)	-	- -	277 537	-	1620
Roma	SPM	A W	*	- -	120 142	-	- -	120 142	-	620
Greater London	Acid	A W	68 81	78 92	63 76	1.24 1.21	109 - 133 -	109 133	458	483
	Smoke	A W	19 25	20 26	19 25	1.04 1.03	24 - 32 -	24 32	245	211
Greater Manchester	Acid	A W	93 112	95 113	93 112	1.03 1.01	121 142	135 167	400	640
	Smoke	A W	28 37	30 40	28 37	1.07 1.08	38 - 52 -	38 52	650 -	650
Paris	Acid	A W	95 128	101 133	95 128	1.06 1.04	108 141	120 157	851 -	851
	Smoke	A W	35 43	34 43	35 43	0.97 1.00	35 46	42 51	627 -	627
West Midlands	Acid	A W	65 78	65 82	65 78	1.00 1.05	82 - 100 -	82 100	348	477
	Smoke	A W	21 28	27 35	21 28	1.29 1.25	29 - 38 -	29 38	232	277
Summary	SO ₂	%	35	32	42		31	42	-	-
	Acid	%	24	24	24		23	25	-	-
	Both	%	26	25	28		25	28	-	-
	Smoke	%	30	30	30		33	31	-	-
	SPM	%	*	-	18		-	18	-	-
	Both	%	30	30	28		33	28	-	-
	ALL	%	27	27	28		28	28	-	-

TABLE E. 2.1

CLASS 2	Pollutant	Season	Averaged medians for:						Maxima of daily values at stations in		
			All stations in			Ratio I/CR	Highest polluted station in				
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone	
Kopenhagen	SO_2	A	37	41	36	1.14	41	44	185	195	
		W	48	58	46	1.26	58	52			
	Acid	A	38	-	38	-	-	56	-	595	
		W	38	-	38	-	-	57			
	Smoke	A	9	-	9	-	-	14	-	48	
		W	11	-	11	-	-	16			
	SPM	A	24	-	24	-	-	26	-	390	
		W	29	-	29	-	-	30			
München	SO_2	A	19	-	19	-	-	37	-	180	
		W	24	-	24	-	-	45			
Bruxelles	Aerosol	A	69	65	69	0.94	75	114	331	698	
		W	74	58	74	0.78	59	132			
	Smoke	A	15	14	15	0.93	17	-	17	129	129
		W	15	15	15	1.00	17	-	17		
Gdańsk	Acid	A	70	67	70	0.96	74	86	897	897	
		W	77	77	77	1.00	86	94			
	Smoke	A	22	22	22	1.00	23	34	478	529	
		W	30	30	30	1.00	33	44			
Lyon	Aerosol	A	80	61	66	0.92	71	71	456	478	
		W	91	85	100	0.85	99	106			
	Smoke	A	43	35	54	0.65	41	74	370	417	
		W	55	43	70	0.61	52	93			
Marseille	Acid	A	77	76	77	0.99	106	86	324	265	
		W	78	77	78	0.99	112	89			
	Smoke	A	80	78	82	0.95	110	125	635	325	
		W	93	90	95	0.95	124	143			
Merida	Acid	A	75	82	83	0.99	113	-	133	363	
		W	90	97	103	0.94	133	-			
	Smoke	A	27	30	29	1.03	43	-	43	434	399
		W	34	38	37	1.03	53	-	53		
Tucson	SO_2	A	-	-	-	-	-	-	-	-	
		W	-	-	-	-	-	-			
	SPM	A	-	-	-	-	-	-	-	-	
		W	-	-	-	-	-	-			

TABLE E. 2.2

SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 2 Town	Poll- utant	S e s o n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
SUMMARY	SO ₂	%	28	41.	27		41	20	-	-
	Acid	%	9	13	16		16	16	-	-
	Both	%	14	17	18		20	17	-	-
	Smoke	%	21	22	22		21	18	-	-
	SPM	%	21	-	21		-	15	-	-
	Both	%	21	22	22		21	17	-	-
	ALL	%	17	19	20		19	17	-	-

TABLE E. 3.1
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 3 Town	Poll- utant	S e a s o n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
Amsterdam	SO ₂	A W	25 31	26 36	25 30	1.04 1.20	27 37	27 38	133	152
Den Haag	SO ₂	A W	28 44	- -	28 44	-	- -	31 48	-	218
Dortmund	SO ₂	A W	*	-	107	-	- -	107 138	-	590
	SPM	A W	*	104	-	-	104 109	- -	254 290	-
Duisburg	SO ₂	A W	*	-	95	-	- -	95 130	-	450 330
	SPM	A W	*	128	-	-	128 126	- -	310	-
Dusseldorf	SO ₂	A W	*	-	89	-	- -	89 128	-	360
	SPM	A W	*	-	99	-	- -	99 95	-	330
Genova (incomplete)	SO ₂	A W	97 121	-	97 121	-	- -	108 104	- 410	- 416
Franfurt	SO ₂	A W	57 72	38 59	57 72	0.66 0.82	38 59	79 104	- 235	- 426
	SPM	A W	*	-	39 33	-	- -	39 33	-	90 92
Nürnberg	SO ₂	A W	38 56	-	38 56	-	- -	47 67	-	- 270
	SPM	A W	45 42	-	45 42	-	- -	45 42	-	200
Rotterdam	SO ₂	A W	32 47	-	32 47	-	- -	41 58	-	- 222
Antwerpen	Acid	A W	87 106	88 105	89 111	0.99 0.95	100 125	104 124	409	555
	Smoke	A W	22 27	16 20	24 30	0.67 0.69	21 26	50 58	100	141

TABLE E-3,2
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 3	Pollutant	Season	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
Bordeaux	Acid	A	39	33	44	0.74	36	67	145	216
		W	45	35	54	0.66	40	78		
	Smoke	A	42	20	63	0.32	24	102	113	257
		W	55	28	83	0.34	33	132		
Dublin	Acid	A	30	26	31	0.83	26	41	260	293
		W	42	41	42	0.97	41	52		
	Smoke	A	41	38	42	0.90	38	68	156	336
		W	43	42	43	0.98	42	66		
Leeds	Acid	A	72	77	72	1.06	85	85	370	370
		W	91	95	91	1.04	106	106		
	Smoke	A	23	26	23	1.13	27	27	359	359
		W	34	39	34	1.14	41	41		
Lille-Roubaix-Tourcoing	Acid	A	59	72	66	1.57	84	59	484	416
		W	76	90	62	1.44	101	82		
	Smoke	A	32	34	29	1.17	49	37	246	309
		W	37	39	35	1.11	56	42		
Toulouse	Acid	A	16	0	19	0	0	45	71	597
		W	20	0	24	0	0	52		
	Smoke	A	68	18	77	0.23	18	143	133	637
		W	75	22	86	0.26	22	165		
Tyneside	Acid	A	61	74	52	1.43	90	63	331	323
		W	77	92	65	1.42	112	81		
	Smoke	A	32	26	33	0.79	29	51	413	512
		W	46	38	47	0.81	41	68		
Sheffield	Acid	A	76	68	76	0.88	75	90	301	398
		W	99	91	96	0.95	106	112		
	Smoke	A	26	28	23	1.22	34	27	213	149
		W	35	37	31	1.19	46	37		
SUMMARY	SO_2	%	38	47	37		46	35		
	Acid	%	27	24	28		26	24		
	Both	%	31	28	33		30	30		
	Smoke	%	26	30	27		30	24		
	SPM	%	7	2	-9		2	-9		
	Both	%	23	24	17		24	15		
	ALL	%	28	26	27		27	24		

TABLE E. 4.1
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 4 Town	Poll- utant	S e s s o n	Averaged medians for :						Maxima of daily values at stations in			
			All stations in			Ratio I/CR	Highest polluted station in		I-zone	CR-zone	I-zone	CR-zone
			Whole town	I zone	CR zone		I-zone	CR-zone				
Augsburg	SO_2	A	13	-	13	-	-	15	-	-	-	
		W	20	-	20	-	-	27	-	-	-	140
	SPM	A	*	-	22	-	-	22	-	-	-	
		W	*	-	15	-	-	15	-	-	-	130
Bolzano (incomplete)	SO_2	A	27	26	28	0.92	26	30	-	-	-	
		W	44	36	49	0.73	39	60	1,860	1,860	-	
	SPM	A	78	81	71	1.14	89	87	-	-	-	
		W	94	97	92	1.05	120	120	986	951	-	
Enschede	SO_2	A	*	-	25	-	-	25	-	-	-	
		W	*	-	37	-	-	37	-	-	-	160
Erlangen	SO_2	A	*	-	27	-	-	27	-	-	-	
		W	*	-	35	-	-	35	-	-	-	170
	SPM	A	*	-	38	-	-	38	-	-	-	
		W	*	-	30	-	-	30	-	-	-	170
Furth	SO_2	A	*	-	43	-	-	43	-	-	-	
		W	*	-	67	-	-	67	-	-	-	240
	SPM	A	*	-	40	-	-	40	-	-	-	
		W	*	-	39	-	-	39	-	-	-	210
Groningen	SO_2	A	15	-	15	-	-	15	-	-	-	
		W	21	-	21	-	-	21	-	-	-	203
Ingolstadt	SO_2	A	*	-	30	-	-	30	-	-	-	
		W	*	-	46	-	-	46	-	-	-	210
	SPM	A	*	-	35	-	-	35	-	-	-	
		W	*	-	44	-	-	44	-	-	-	190
Kassel	SO_2	A	*	-	41	-	-	41	-	-	-	
		W	*	-	55	-	-	55	-	-	-	274
	SPM	A	*	-	30	-	-	30	-	-	-	141
		W	*	-	29	-	-	29	-	-	-	129
Pisa	SO_2	A	*	-	15	-	-	15	-	-	-	
		W	*	-	23	-	-	23	-	-	-	65
	SPM	A	*	-	109	-	-	109	-	-	-	
		W	*	-	119	-	-	119	-	-	-	193

TABLE E.4.2

CLASS 4	Pollutant	Season	Averaged medians for :							Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in				
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone	
Regensburg	SO_2	A	*	-	33	-	-	33	-	-	200
		W	*	-	49	-	-	49	-	-	
	SPM	A	*	-	26	-	-	26	-	-	190
		W	*	-	53	-	-	53	-	-	
Tilburg	SO_2	A	35	-	35	-	-	35	-	-	272
		W	44	-	44	-	-	44	-	-	
Utrecht	SO_2	A	25	23	26	0.88	23	26	124	125	
		W	34	31	36	0.86	31	36			
Venesia	SO_2	A	58	70	62	1.12	103	103	473	473	
		W	75	92	78	1.17	127	127			
Wiesbaden	SO_2	A	*	-	79	-	-	79	-	-	304
		W	*	-	115	-	-	115	-	-	
	SPM	A	*	-	53	-	-	53	-	-	158
		W	*	-	58	-	-	58	-	-	
Würzburg	SO_2	A	20	-	20	-	-	32	-	-	200
		W	27	-	27	-	-	41	-	-	
	SPM	A	*	-	43	-	-	43	-	-	170
		W	*	-	35	-	-	35	-	-	
Ferrara (incomplete)	SO_2	A	*	70	70	1	70	70	343	343	
		W	*	107	107	1	107	107			
Belfast	Acid	A	51	64	51	1.25	75	75	447	447	
		W	58	74	58	1.27	90	90			
	Smoke	A	43	62	62	1	62	62	1174	1174	
		W	63	94	94	1	94	94			
Cardiff	Acid	A	50	59	50	1.18	60	60	200	210	
		W	55	57	55	1.03	61	61			
	Smoke	A	26	27	26	1.03	33	38	216	268	
		W	34	32	34	0.94	40	59			
Charleroi	Acid	A	63	72	63	1.14	130	130	386	386	
		W	63	66	63	1.04	112	112			
	Smoke	A	18	20	18	1.11	28	28	155	155	
		W	20	22	20	1.1	30	30			

TABLE E. 4.3
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 4 Town	Pollutant	S e s s o n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
Clermont-Ferrand	Acid	A	37	33	35	0.94	49	52	370	475
		W	48	41	48	0.85	63	75		
	Smoke	A	17	19	22	0.86	27	27	246	290
		W	19	20	24	0.83	29	31		
Cork	Acid	A	*	-	34	-	-	34	-	130
		W	*	-	37	-	-	37	-	
	Smoke	A	*	-	21	-	-	21	-	143
		W	*	-	28	-	-	28	-	
Edinburgh	Acid	A	40	45	40	1.12	45	52	235	250
		W	45	54	45	1.2	54	67		
	Smoke	A	27	32	27	1.18	32	34	338	338
		W	33	44	33	1.33	44	44		
Gent	Acid	A	78	80	76	1.05	88	93	405	484
		W	92	96	89	1.07	116	109		
	Smoke	A	13	12	14	0.85	14	14	129	129
		W	16	16	16	1	20	17		
Le Havre	Acid	A	57	53	60	0.88	86	97	1.400	1.850
		W	77	63	91	0.69	125	140		
Liège	Acid	A	70	65	70	0.92	93	105	397	397
		W	81	79	81	0.97	117	120		
	Smoke	A	16	17	16	1.06	26	26	155	155
		W	20	18	20	0.9	28	33		
Nantes	Acid	A	25	27	23	1.17	58	26	1.215	480
		W	31	27	34	0.79	56	37		
Portsmouth	Acid	A	59	93	59	1.57	93	93	259	259
		W	58	70	58	1.20	70	71		
	Smoke	A	11	17	11	1.54	17	17	230	226
		W	15	27	15	1.8	27	27		
Rouen	Acid	A	73	79	67	1.17	109	95	1.528	496
		W	93	97	88	1.10	129	128		

TABLE E. 4.4
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 4 Town	Poll-utant	S e n o n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/CR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
Strasbourg	Acid	A	43	32	54	0.59	41	68	184	323
		W	57	36	78	0.46	49	101		
	Smoke	A	48	-	48	-	-	57	-	214
		W	65	-	65	-	-	77	-	
Teeside	Acid	A	42	48	42	1.14	61 -	61	376 -	376
		W	47	53	47	1.12	77 -	77		
	Smoke	A	20	29	20	1.45	44 -	44	455 -	455
		W	26	40	26	1.53	68 -	68		
SUMMARY	SO ₂	%	40	39	45		40	47		
	Acid	%	18	10	21		15	21		
	Both	%	26	17	34		21	35		
	Smoke	%	27	29	27		32	35		
	SPM	%	21	20	10		35	11		
	Both	%	27	28	19		32	24		
	ALL	%	26	21	28		25	30		

TABLE E. 5a1
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 5 Town	Pollutant	S on town	Averaged medians for :						Maxima of daily values at stations in			
			All stations in			Ratio I/CR	Highest polluted station in					
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone	I-zone	CR-zone
Aschaffenburg	SO_2	A	*	-	29	-	-	29	-	-	-	-
		W	*	-	45	-	-	45	-	-	-	220
	SPM	A	*	-	33	-	-	33	-	-	-	110
		W	*	-	34	-	-	34	-	-	-	-
Ascoli Piceno	SO_2	A	*	13	13	1	13	13	126	126	126	126
		W	*	26	26	1	26	26	126	126	126	126
		A	*	75	75	1	75	75	134	134	134	134
		W	*	90	90	1	90	90	134	134	134	134
Bussum	SO_2	A	*	-	25	-	-	25	-	-	-	-
		W	*	-	34	-	-	34	-	-	-	118
Den Bosch	SO_2	A	*	-	36	-	-	36	-	-	-	-
		W	*	-	50	-	-	50	-	-	-	216
Hilversum	SO_2	A	*	-	27	-	-	27	-	-	-	-
		W	*	-	35	-	-	35	-	-	-	113
Kelheim	SO_2	A	26	-	26	-	-	36	-	-	-	-
		W	33	-	33	-	-	48	-	-	-	170
	SPM	A	*	-	35	-	-	35	-	-	-	-
		W	*	-	42	-	-	42	-	-	-	180
Maastricht	SO_2	A	*	-	27	-	-	27	-	-	-	-
		W	*	-	29	-	-	29	-	-	-	132
Middelburg	SO_2	A	*	-	21	-	-	21	-	-	-	-
		W	*	-	32	-	-	32	-	-	-	196
Pistoia	SO_2	A	*	-	63	-	-	63	-	-	-	-
		W	*	-	116	-	-	116	-	-	-	468
	SPM	A	*	-	60	-	-	60	-	-	-	-
		W	*	-	79	-	-	79	-	-	-	300
Verdeilli (incomplete)	SO_2	A	-	-	-	-	-	-	-	-	-	-
		W	(*)	-	149	-	-	149	-	-	-	679
	SPM	A	-	-	-	-	-	-	-	-	-	-
		W	(*)	-	149	-	-	149	-	-	-	491
Zwolle	SO_2	A	*	-	23	-	-	23	-	-	-	-
		W	*	-	33	-	-	33	-	-	-	123

TABLE E. 5.2.
SUMMARY OF SEASONAL POLLUTION PARAMETERS

CLASS 5 Town	Pollutant	S e n s o n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in Whole town			Ratio I/CR	Highest polluted station in			
			I zone	CR zone	I-zone		CR-zone	I-zone	CR-zone	
Luxembourg	Acid	A	52	-	52	-	-	61	-	426
		W	60	-	60	-	-	73	-	
	Smoke	A	25	-	25	-	-	27	-	85
		W	29	-	29	-	-	30	-	
Martigues	Acid	A	*	-	30	-	-	30	-	238
		W	*	-	38	-	-	38	-	
	Smoke	A	14	-	14	-	-	23	-	224
		W	16	-	16	-	-	27	-	
Barnsley (incomplete)	Acid	A	91	102	91	1.12	102	102	425	459
		W	135	130	135	0.96	130	147		
	Smoke	A	55	67	55	1.21	67	67	650	650
		W	95	99	95	1.04	99	99		
Bath	Acid	A	*	-	43	-	-	43	-	149
		W	*	-	50	-	-	50	-	
	Smoke	A	*	-	15	-	-	15	-	115
		W	*	-	21	-	-	21	-	
Bedford	Acid	A	*	62	62	1	62	62	214	214
		W	*	82	82	1	82	82		
	Smoke	A	*	21	21	1	21	21	117	117
		W	*	28	28	1	28	28		
Brugge	Acid	A	*	-	73	-	-	73	-	578
		W	*	-	112	-	-	112	-	
	Smoke	A	*	-	15	-	-	15	-	132
		W	*	-	24	-	-	24	-	
Calais	Acid	A	19	17	25	0.68	27	25	615	228
		W	22	15	40	0.37	34	40		
	Smoke	A	*	-	17	-	-	17	-	195
		W	*	-	27	-	-	27	-	
Esch/Alzette	Acid	A	*	11	11	1	11	11	62	62
		W	*	16	16	1	16	16		
	Smoke	A	*	9	9	1	9	9	72	72
		W	*	14	14	1	14	14		

TABLE E.5.3
SUMMARY OF SEASONAL POLLUTION PARAMETERS

STATE 5 Town	Poll-utant	S- e- n- o- n	Averaged medians for :						Maxima of daily values at stations in	
			All stations in			Ratio I/GR	Highest polluted station in			
			Whole town	I zone	CR zone		I-zone	CR-zone	I-zone	CR-zone
Bister	Acid	A	*	-	32	-	-	32	-	-
		W	*	-	34	-	-	34	-	131
	Smoke	A	*	-	9	-	-	9	-	-
		W	*	-	13	-	-	13	-	214
Galway	Acid	A	*	-	11	-	-	11	-	-
		W	*	-	14	-	-	14	-	66
	Smoke	A	*	-	9	-	-	9	-	-
		W	*	-	12	-	-	12	-	38
Kortrijk	Acid	A	105	-	105	-	-	142	-	451
		W	102	-	102	-	-	121	-	357
	Smoke	A	32	-	32	-	-	40	-	-
		W	36	-	36	-	-	44	-	203
Libramont	Acid	A	*	-	45	-	-	45	-	133
		W	*	-	38	-	-	38	-	165
	Smoke	A	*	-	6	-	-	6	-	33
		W	*	-	6	-	-	6	-	28
Lumela	Acid	A	46	50	46	1.08	50	56	-	-
		W	58	66	58	1.13	66	73	238	238
	Smoke	A	22	18	22	0.81	18	35	-	-
		W	30	26	30	0.86	26	47	118	230
Steinfort	Acid	A	*	-	24	-	-	24	-	-
		W	*	-	15	-	-	15	-	120
	Smoke	A	*	-	17	-	-	17	-	54
		W	*	-	13	-	-	13	-	44
SUMMARY	SO ₂	%	27	100	47		100	48		
	Acid	%	20	25	21		33	20		
	Both	%	21	38	32		44	31		
	Smoke	%	30	45	32		45	30		
	SPM	%	-	20	19		20	19		
	Both	%	30	40	29		40	27		
	All	%	25	39	31		42	30		

Chapter IX

GENERAL DISCUSSIONS, CONCLUSIONS AND RECOMENDATIONS

The discussions, conclusions and recommendations about the data of 1976 are, to a large extent, still valid for the 1977 data. They will therefore not be repeated.

In this chapter, only new conclusions and recommendations will be discussed.

1. Classification

1.1. Classification of zones.

Some very general characteristics can be deduced about the two zones: industrial and commercial and/or residential.

The pollution levels in the industrial zones seem to be higher, while the seasonal fluctuations seem to be larger in the C/R zones. This is the only significant difference between the zones. The validity of this difference is reduced by the fact that there are very few stations which lie exclusively in an I zone.

Just as last year it can therefore be concluded that the classification of zones as I or C/R is unsatisfactory.

1.2. Different phases in classifying phenomena.

In a first phase, classification of natural phenomena of which the ambient pollution patterns is one, have to be based on artificial characteristics such as industrial versus commercial and/or residential zoning. It is assumed in the selection of these artificial characteristics that they correspond with some distinct differences in the ambient pollution patterns.

As the second phase, one can conclude that these artificial characteristics do not reflect the ambient pollution patterns and it might be useful to proceed to a classification based on natural phenomena.

A few suggested phenomena by which to classify stations are:

1. the same dominant pollutant.
2. high levels of pollutions throughout the year.
3. large seasonal fluctuations.
4. distinct levels of pollution.

Stations can either be classified by one or a combination of these characteristics.

In a third phase, it might be possible to decide if the distinct differences in pollution patterns appearing through classification by natural phenomena correspond with distinct differences in production processes, sources of energy or other specific characteristics of our current society. To establish this correspondence could be difficult because the relationship between emissions and ambient levels is distorted by climatological, meteorological and topographical factors.

1.3. Classification by data processing and analysis.

Since all the data about the different pollutants and their pollution levels are available, classification can be done by the computer. Moreover, given classification by natural phenomena, more characteristics to classify stations effectively can be determined through analysis of pollution data with the computer.

Analysis of data is most often done via a set of parameters which identifies each set of data. Even if countries do not report any data for particular stations, the address of the data can still be carried on in the computer programme and consequently useful analyses can be done.

Classification of stations can be done either per parameter such as location of the measuring station or per value of the level of pollution. In this way, the computer can make a complete analysis to find a correspondence between measured pollution levels and the type of station.

Out of this analysis, it might become clear that, in particular sections of a town or area, there is one dominant pollutant. Distinct levels of pollution could therefore be a useful classification.

Norms for these pollution levels could then be more efficiently set, since one could discuss these norms with the industries emitting large quantities of a particular pollutant.

In this way, levels of pollution of all pollutants can be brought back to acceptable levels, rather than levels for a whole area or town.

It might also become clear that stations would change classification from year to year. However this would only limit the area in which the dominant pollutant was always noticed.

It is also possible that there are no distinct differences between stations or even between towns. In that case, there is no need to classify stations, since classification is not useful as an analytical tool. This lack of differentiation between pollution patterns measured at different places, does not, however, negate the requirements for control.

Increasing the number of stations would allow a more precise definition of isopletes. However, such an increase might incur prohibitively high costs. Besides the advantage of having a natural classification, there is also an administrative advantage. In the exchange of data, one parameter or more may be eliminated per station. Since in the exchange there are 380 stations reporting pollution levels and all these data have to be selected, sorted and in general processed per parameter, the elimination of parameter(s) per station could imply large savings in data processing. The means to apply these savings might need adapting the computer programmes in existence. This matter has therefore to be discussed with a programming expert to evaluate the validity of these savings.

2. Pollution levels at single stations.

From the analysis of this years data it became apparent that the three maximum values measured in a town were very often found at the same station. This confirms first of all that norms for maximum pollution levels at various stations in a town are very effective in controlling the overall pollution level of a town or more generally of an area.

The fact that the highest measured values in a town are often found at a single station implies that the overall pollution level in a town can efficiently be reduced if pollution at the sources influencing measurements at single stations can be decreased.

As a first step in this direction, but only for the highest polluted station in a given town or area, it would be advantageous to examine the sources which influence the levels and to prepare an inventory.

Since it is often the different sorts of energy : electricity, oil, coal etc, which influence the pollution levels , it might be useful to concentrate in this first phase on the energy sources for the inventory.

In order to increase the effectiveness of the pollution control, it might be useful to consider placing more stations in highly polluted areas. This will allow a better location of the emission sources. Of course, placing more stations will have financial consequences, which might prohibit the expansion of the measuring network. However, these stations could be temporary or even mobile, since they would only be necessary to locate emission source

3. Comparability of data.

For the moment, data are not comparable between different areas. Data are only comparable if not only the same sampling and analytical methods are used, but also the same laboratory standards.

Data could be made comparable if one authority could make a quality control of the different sets of data with a validation method to relate the different sampling and analytical methods and the utilisation of a reference laboratory to relate the different calibration procedures and standards.

The remarks about harmonisation and intercomparison made last year in Chapter X point 3, page 85 are still valid and intercomparison programmes are continuing.

CHAPTER X

BACKGROUND STATIONS

The purpose of background stations is to assess the base levels for atmospheric pollution; they are sited in rural areas where the pollution levels are presumably low and not under the direct influence of any local source of pollution. They differ from the definition of background stations as being remote from all sources of pollution or habitation which is used in other studies.

Given that the pollution levels are likely to be low it will be necessary to instal equipment that has a sensitivity sufficiently high to be able to measure these low levels with a reasonable degree of accuracy. This implies that the equipment may differ from that used in the 'normal' stations of the rest of the network which will be measuring much higher levels.

The following discussion has been divided into sections following the same order as the chapters in this report.

1. Descriptive Tables.

The background stations stations have been placed in a separate class, number 6, which has been defined as that for background stations rather than as a class for rural areas. This is to isolate the information and data from the rest and also because a code - 3 - has already been allocated to define a rural area within the first digit of the 'situation' code. They are listed in the Descriptive Tables in Annex B.

2. Measured pollutants.

Table F shows the distribution of the types of measurements made at the background stations. It is at once clear that the distribution is fairly even but that more stations measure the SO₂ by a specific technique. This follows logically from the fact that the OECD-type technique is not very sensitive at low levels and would not produce a very meaningful reading.

3. Station Classification.

Since all these stations (Table G) are in a rural area it is presumed that there can be no industry, commerce or residences within the vicinity. They are, therefore, implicitly described as 'unclassified'. In a similar way all the stations have been placed in the 'minimum' class for pollution level.

4. Sampling and Measurement Techniques.

Only the stations of the Umweltbundesamt (Federal Republic of Germany) use high-volume samplers for the direct measurement of suspended particulates; all the other stations are equipped with low-volume samplers.

For specific SO₂ there are three techniques in use; the Federal Republic of Germany uses the pararosaniline technique and another technique known as Isotope Dilution Analysis (IVA or IDA); the Netherlands use an automatic coulometric technique.

Strong acidity is measured by France, Ireland, Luxembourg and the United Kingdom using one or other variation of the OECD method.

The measurement of suspended particulates by black smoke is used in Ireland, Luxembourg and the United Kingdom; the stations in France are not equipped to measure this pollutant.

5. Discussion of the results.

The monthly values for background stations are summarised in Table H, which follows, and in more detail in Annex C to this volume.

The highest averaged median for each country and each pollutant are found in the winter except in the Federal German Republic for SPM as last year and this year for SO₂, as well, for the highest polluted station. The highest daily maxima pollution levels occur in the summer in the Federal German Republic for both pollutants measured. The acidity levels in France and Luxembourg also reach the highest daily maxima in the summer.

The winter medians are generally between 6 and 50% higher than the annual medians, a situation which has not changed from last year as could be expected from background stations. The percentage increases in winter are still higher for smoke than for acidity. This was also noticed in previous classes. The smoke increases range from 0 to 44% and those of acidity from 5 to 40%. In the Federal German Republic, last year the SO₂ levels increased with about 50% in the winter. This year they still show a slight increase in the averaged medians but a drop of 50% for the highest polluted stations. SPM levels still decrease slightly this year.

It is interesting to note that the highest daily maxima in all countries are lower this year than last year, except in Luxembourg, which has had twice an incomplete set of data.

6. CONCLUSIONS.

There is no background station data from Belgium, Denmark or Italy for either pollutant or from France for suspended particulates. It is desirable to have data if the stations exist so that the background levels in different regions can be considered as well as differences between background and other stations in the same region, subject to the usual caution if the sampling and/or measurement techniques are different.

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Tables F to G

As A + B + C + E except:

Ann = Annual

Win = Winter

Acidity = Strong Acidity

TABLE F.SUMMARY OF MEASURED POLLUTANTSClass: 6 Background Sites

<u>Country</u>	<u>no. of measuring locations for</u>			
	<u>SO₂</u>	<u>Acid</u>	<u>Smoke</u>	<u>SPM</u>
Belgique/België	0	0	0	0
Bundesrepublik Deutschland	16	0	0	15
Denmark	0	0	0	0
France	0	2	0	0
Ireland	0	1	1	0
Italia	0	0	0	0
Luxembourg	0	1	1	0
Nederlands	7	0	0	0
United Kingdom	0	9	10	0
	—	—	—	—
Total	23	13	12	15
AS % of pollutants	64	36	44	56
total percentage	37	21	19	24

TABLE G.STATION CLASSIFICATIONTown Class : 6 - Background stations.

<u>Country</u>	<u>Pollution Level</u>			
	<u>High</u>	<u>Med</u>	<u>Low</u>	<u>U/C</u>
Belgique/België	-	-	-	-
Bundesrepublik Deutschland	-	-	15	-
Danemark	-	-	-	-
France	-	-	2	-
Ireland	-	-	1	-
Italia	-	-	-	-
Luxembourg	-	-	1	-
Nederland	-	-	7	-
United Kingdom	-	-	10	-
 TOTAL	-	-	36	-
 as %	-	-	100	-

TABLE H.SUMMARY OF SEASONAL POLLUTION PARAMETERS

Class: 6

<u>Country</u>	<u>Pollutant</u>	<u>Season</u>	<u>Medians</u>			<u>Highest daily maxima</u>
			<u>Averaged medians for all stations</u>	<u>Averaged medians for highest polluted stations</u>	<u> </u>	
B.R.D.	SO_2	Ann.	14	24		442
		Win.	15	18		247
	SPM	Ann.	39	70		357
		Win.	37	74		234
Nederland	SO_2	Ann.	15	29		
		Win.	21	43		258
France	Acidity	Ann.	6	10		72
		Win.	8	14		70
	Smoke	Ann.	*	38		
		Win.	*	40		146
Luxembourg	Acidity	Ann.	*	9		
		Win.	*	13		87
	Smoke	Ann.	*	20		87
		Win.	*	21		71
United Kingdom	Acidity	Ann.	*	8		
		Win.	*	8		32
	Smoke	Ann.	23	41		
		Win.	25	53		233
		Ann.	6	13		
		Win.	9	18		127

CHAPTER XI

FURTHER DEVELOPMENTS

1. Refined analyses

The development of improvements and extensions to the data treatment and storage programmes has continued as foreseen in Chapter XII, §1 of the report for 1976 and most should be available in time to facilitate the preparation of the report for 1978 as well as the summary report for 1976-1978.

These improvements, effected at the same time as a change of computer, will, it is expected, shorten considerably the delay between receipt of the final data for a year and the preparation and publication of the annual report.

Additionally, several graphical presentations are being programmed but may not be available until late in 1980.

2. Comparison studies.

The pilot intercomparison programme on particulates is to continue up to the end of March 1980; a preliminary report is expected by the middle of 1980. A more comprehensive analysis of the results is foreseen for completion by the end of 1980.

A critical over-view of all available intercomparison studies for particulates and smoke has been completed and this will be published in the EUR series some time in 1980.

A full analysis of the results for both smoke/particulates and strong acidity/ SO_2 , collected in parallel with the epidemiological study into respiratory diseases in children (DG XII) has been completed. The report will not be published in its present form but will be used in critical planning of other campaign. In general the agreement between a locally measured pollution level and that obtained from a standardized reference station, where samples were analysed centrally, is very variable, does not demonstrate a significantly reliable correlation and is not therefore open to a definitive interpretation.

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Responsible National Authorities

Responsable National Authorities

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Coordinator: Dr. D. Jost

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DANMARK

Coordinator: Dr. E. Sørensen

Hiljøstyrelsen
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DK - 1401 - KØBENHAVN

FRANCE

Coordinator: M. J.M. Biren

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Direction de la Prévention des Pollutions et Nuisances
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IRELAND

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ITALIA

Coordinator: Ing. E. Sapienza

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1 a, rue Auguste Lumière
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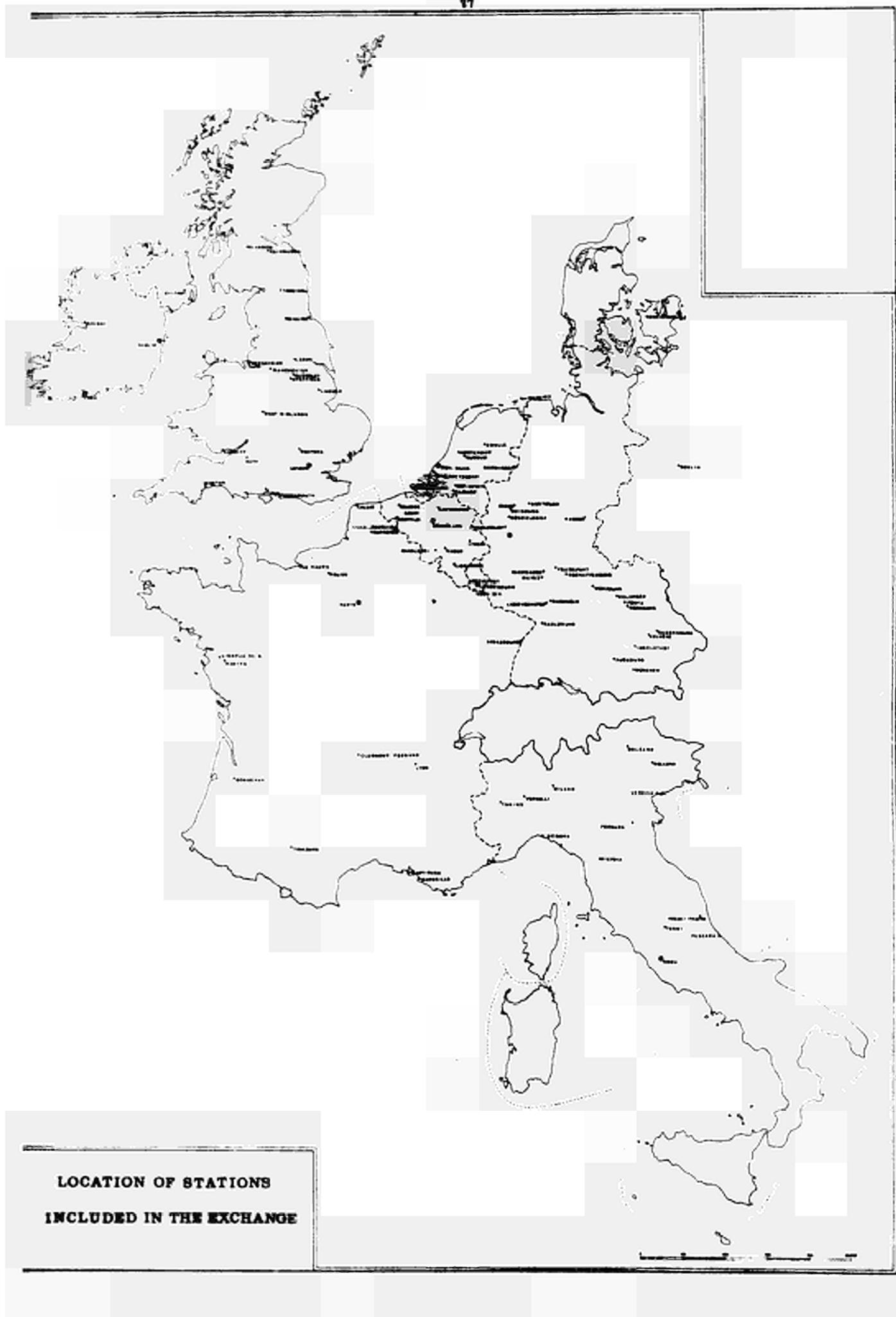
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MAP OF ALL TOWNS



RECIPROCAL EXCHANGE OF INFORMATION

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ANNEX A

Council Decision 75/441/EEC and Site Description Form

COUNCIL DECISION

of 24 June 1975

establishing a common procedure for the exchange of information between the surveillance and monitoring networks based on data relating to atmospheric pollution caused by certain compounds and suspended particulates

(75/441/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);

Having regard to the Opinion of the Economic and Social Committee;

Whereas the programme of action of the European Communities on the environment (²) makes provision for the establishment of a procedure for the exchange of information between the pollution surveillance and monitoring networks;

Whereas this procedure is necessary to combat pollution and nuisances, this being one of the Community objectives concerning the improvement of the quality of life and the harmonious development of economic activities throughout the Community; whereas the specific powers necessary to this end are not provided by the Treaty;

Whereas the exchange of the results of pollution level measurements provides one way of keeping abreast of long-term trends and improvements resulting from national legislation or from possible Community legislation;

Whereas the transport of pollutants over long distances necessitates surveillance at regional, national, Community and global levels;

Whereas the results of such measurements constitute essential information for carrying out epidemiological surveys to provide a better understanding of the harmful effects of pollutants on health;

(¹) OJ No C 76, 7. 4. 1975, p. 40.

(²) OJ No C 112, 20. 12. 1973, p. 3.

Whereas since only certain sulphur compounds and suspended particulates are systematically and intensively monitored in the Member States;

Whereas the measurements to be carried out must enable the daily average concentrations of the pollutants recorded to be determined, this basis having been chosen as being the common denominator for most of the currently existing stations in the Community;

Whereas on the basis of current studies on the comparability of the measurement methods, the Commission shall, at the earliest opportunity submit proposals on the harmonization of the methods so that the data obtained by the various stations referred to in this Decision may be directly compared;

Whereas the exchange of information provided for in this Decision, limited to three years and two atmospheric pollutants will have to serve on one hand as a pilot study for the elaboration of a complete system for the exchange of data answering the specific needs of the European Communities in the area of environmental protection, and on the other hand will form an important element in the 'global environmental monitoring system' which is part of the United Nations environmental programme,

HAS ADOPTED THIS DECISION:

Article 1

A common procedure is hereby established for the exchange of information, by surveillance and monitoring networks, based on data relating to atmospheric pollution. This procedure is to be considered as preliminary and applies to the results of atmospheric measurements of certain sulphur compounds and suspended particulates obtained by fixed stations sampling continuously.

Article 2

For the purposes of this Decision:

- (a) measurement of certain sulphur compounds means:
- measurement of sulphur dioxide,
 - or measurements of strong acidity in the atmosphere expressed as sulphur dioxide;
- (b) measurements of suspended particulates means:
- gravimetric measurements,
 - or measurements of black smoke.

Each Member State shall, using the description form defined in Annex II, inform the Commission of the physico-chemical nature of the data measured.

Article 3

Each Member State shall, after consulting the Commission and applying the parameters defined in Annex I, select, within six months after the adoption of this Decision, from existing or planned sampling or monitoring stations those which are to supply the data for the exchange of information. It shall inform the Commission of its selection by means of the description form set out in Annex II.

Article 4

1. Each Member State shall designate the person or persons, body or bodies responsible for the collection and transmission to the Commission of the data referred to in paragraph 2 and shall inform the Commission thereof within six months from the adoption of this Decision.
2. The daily average concentrations of the pollutants recorded at each of the selected stations shall be transmitted monthly by the persons or bodies referred to in paragraph 1 to the Commission within six months following the measurements.

Amounts shall be expressed in microgrammes per cubic metre of air at standard temperature and pressure.

3. The first data to be exchanged as information will be those obtained during the seventh month following the adoption of this Decision.

4. Each quarter the Commission shall prepare full tabular reports of the data to be forwarded for verification by the Member States concerned.

5. An annual report, to include different types of data evaluation, shall be prepared by the Commission, in consultation with national experts, on the basis of the data referred to in this Decision and of further information deemed appropriate by Member States and made available to the Commission. This report will be distributed to Member States.

Article 5

On the basis of its proposals concerning the harmonization of methods of measurement to be submitted at the earliest opportunity and in the light of experience gained in the course of the exchange of information referred to in this Decision, the Commission shall, within a period of three years following receipt of the first data, submit appropriate proposals on the establishment of a new procedure for the exchange of information to the Council.

Article 6

This Decision is addressed to the Member States.

Done at Luxembourg, 24 June 1975.

For the Council
The President
G. FITZGERALD

ANNEX I**SELECTION OF SAMPLING OR MONITORING STATIONS**

1. The selection of sampling or monitoring stations shall be based mainly on geographic and demographic parameters (urban and rural areas, size of cities, residential or predominantly industrial zones) and on pollution levels (maximum, average and minimum).

2. Demographic parameters

Five categories shall be considered:

- cities or urban areas with more than two million inhabitants,
- cities or urban areas having between one and two million inhabitants,
- cities or urban areas having between 0·5 and one million inhabitants,
- cities or urban areas having between 0·1 and 0·5 million inhabitants,
- cities or urban areas with less than 0·1 million inhabitants.

Each Member State shall specify a maximum of five cities or urban areas in each of the categories representative of the different types of urbanization and the various topographic and climatic conditions.

In each of the first four categories, two types of zone shall be considered:

- residential zones, including business districts where the main stationary source of pollution is heating,
- predominantly industrial zones.

The distinction between residential and predominantly industrial zones shall be based on the topography and the type of activity, and not on the origin of the existing or measured pollution.

In the case of the fifth category, only residential zones shall be considered.

3. Parameters relating to pollution levels

In each city or urban area in the first four categories for which there is a sufficient number of representative sites, three sampling or monitoring stations shall be specified for each of the two zones on the basis of the pollution levels (maximum, average and minimum) measured by the existing networks. For the fifth category, only maximum and average pollution sites shall be taken into consideration.

The stations designated must be representative of the conditions obtaining around the sampling point and not be under the direct and immediate influence of a pollution source.

4. Geographic parameters

Each Member State shall specify, according to the size of its surface area, sampling stations, outside the urban areas, distributed as evenly as possible throughout its territory.

Member States with a surface area of less than 100 000 km² shall specify up to five sites and Member States with a larger surface area up to 15 sites.

ANNEX II**DESCRIPTION FORM**

(to be filled in for each sampling or monitoring station)

1. Name of the Member State:
2. Name of the city or rural area:
3. Name of the urban area (where appropriate):
4. Name of the station plus code where appropriate):
5. Organization responsible for measurements, including address, telephone number and name of the person responsible:
6. Geographic parameters:
Station situated in a
 city or urban area
 non-urban area
Tick as appropriate.
7. Demographic parameters:
If the station is situated in a city or urban area, classify it as one of the following five categories:
 cities or urban areas with more than two million inhabitants
 cities or urban areas having between one and two million inhabitants
 cities or urban areas having between 0·5 and one million inhabitants
 cities or urban areas having between 0·1 and 0·5 million inhabitants
 cities or urban areas with less than 0·1 million inhabitants
Place a tick in the appropriate box.
8. Location of the station (e.g. address):
- For stations situated in urban areas:
 predominantly industrial zone
 predominantly commercial or residential zone
Place a tick in the appropriate box.
9. Notes on the location and characteristics of the station (state whether it is part of a network and, if so, the sampling height above ground, the distance from the main road, the distance from the main pollution sources etc.):
10. Estimated area of the zone for which the station is representative of the pollution level (if possible):

11. Atmospheric pollutants sampled or monitored at the station:

- sulphur dioxide
- high level of acidity
- suspended particulates
- black smoke
- others (specify):

Tick as appropriate

12. Other parameters (meteorological, etc.) measured at the same station:

.....
.....
.....
.....

Pollutant: sulphur dioxide

13.1. Sampling methods used:
.....
.....
.....

14.1. Analytical methods used:
.....
.....
.....

15.1. Duration and frequency of sampling:
Normal time of start of sampling:
Normal time of end of sampling:
Duration of each sampling (⁽¹⁾):

16.1. Method and frequency of calibration:
.....
.....
.....

17.1. Date when monitoring of this pollutant began at this station:
.....

Pollutant: high level of acidity

13.2. Sampling methods used:
.....
.....
.....

⁽¹⁾ Indicate non-integrating continuous analyses by C.

14.2. Analytical methods used:

Normal time of start of sampling:

Normal time of end sampling:

Duration of each sampling (⁽¹⁾):

16.2. Method and frequency of calibration:

17.2. Date when monitoring of this pollutant began at this station:

Pollutant: suspended particulates**13.3. Sampling methods used:****14.3. Analytical methods used:****15.3. Duration and frequency of sampling:**

Normal time of start of sampling:

Normal time of end of sampling:

Duration of each sampling (⁽¹⁾):

16.3. Method and frequency of calibration:

17.3. Date when monitoring of this pollutant began at this station:

Pollutant: black smoke**13.4. Sampling methods used:**

(¹) Indicate non-integrating continuous analyses by C.

14.4. Analytical methods used:

.....
.....
.....

15.4. Duration and frequency of sampling:

Normal time of start of sampling:

Normal time of end of sampling:

Duration of each sampling (¹):

16.4. Method and frequency of calibration:

.....
.....
.....

17.4. Date when monitoring of this pollutant began at this station:

(¹) Indicate non-integrating continuous analyses by C.

COMMISSION OF THE EUROPEAN COMMUNITIES

Environment and
Consumer Protection
Service

Exchange of Information between
Surveillance and Monitoring Networks
of the European Community

Description of a sampling/monitoring station
to be included in this exchange

NOTES

A separate description form is to be used for each sampling/monitoring station.

Both the general part and the specific pollutant part (1 set per pollutant) are to be completed.

Point 5. Depending on the national, regional and local structures, the name of the organization can be that in charge of the measurements at the local, regional or national levels, of the treatment of data or of the coordination at one of the various levels.

Point 6. In the comments topographic parameters where appropriate should be included.

In the case of non-urban areas indications should be given if the station is to be considered as open country (still under the influence of a specific city) or remote (similar to a true background site).

Point 9.

9.3 is intended to indicate the possible magnitude of the effect of traffic on the results of that station.

9.4 will provide information on the main sources of pollution in the area.

9.5 will provide indications on the sources likely to affect directly the measurements.

Point 11. The change in classification of pollution levels from *maximal, average and minimal* to *high, average and low* reflects the need to select stations for inclusion in the network on the basis of the relative concentration levels of more than one pollutant.

GENERAL

1. Name of the Member State:
2. Name of the city or rural area:
.....
3. Name of the urban area (where appropriate):
.....
4. Name of the station:
Code Number (where appropriate):
- 5.* Name of organization responsible for measurements for this station:
.....
.....
- 6.* Geographic Parameters. Station situated in a

City or urban area

Non-urban (rural) area

Tick as appropriate

Comments (where appropriate):
.....
.....
7. Demographic parameters. If the station is situated in a city or urban area, classify it as one of the following five categories:

Cities or urban areas with	> 2 million inhabitants	<input type="checkbox"/>
" " " "	1 - 2 "	<input type="checkbox"/>
" " " "	0.5 - 1 "	<input type="checkbox"/>
" " " "	0.1 - 0.5 "	<input type="checkbox"/>
" " " "	< 0.1 "	<input type="checkbox"/>

Tick as appropriate

* See Notes

8. Location of the station:

8.1. Address:

.....

Longitude: } Sufficiently accurate to locate
 Latitude: } the station to within 50 metres

8.2 Situated in a zone which is predominantly:

Industrial
 Commercial/residential

Tick as appropriate

Additional notes (where appropriate):

.....

9. Notes on the location:

9.1 Is this station part of a network? Yes
 No
 Is it part of a Local network
 or a National network

Date when first operational:

9.2 Height of air intake above ground/street level ... metres

9.3* The influence of traffic in the vicinity of this station.

- a) distance of air intake from road metres
- b) is the intake located directly on the street-Yes
 No
- c) traffic flow is
 - very light
 - light
 - moderate
 - heavy

* See Notes

9.4 * Type of pollution sources in the zone covered by the station.

Main/principal source(s) of pollution	Distance in metres from this station
.....
.....
.....
.....
.....

9.5 * Local pollution sources

Closest source(s) of pollution	Distance in metres from this station
.....
.....
.....
.....
.....

10. Estimated area of the zone for which the station is representative of the pollution level (if possible):
-
-
-
-

11. Atmospheric pollutants

11.1 Sampled or monitored at the station

sulphur dioxide
strong acidity
suspended particulates
black smoke
others (specify)

Tick as appropriate

[] [] [] []

.....
.....
.....
.....

* See Notes

11.2 Within the context of Annex I, paragraph 3 of the Council Decision the overall level of pollution at this station, derived from all the pollutants measured there, can be classified as: *

high

average

low *Tick as appropriate*

12. Other parameters

12.1 Meteorological measurements are made at this station

Yes
No

or at a station kms away.

Meteorological measurements made (please specify)

.....
.....
.....
.....
.....
.....

12.2 Any other important information about this station and/or the surrounding area:

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

(Please include a map of the area with the station(s) marked on it).

* See Notes

SPECIFIC POLLUTANTS

City or rural area:

Station Name: Code Number (where appropriate):

Please use a separate sheet for each of the pollutants measured at the above station.

11.1 Pollutant (tick only one)

- | | |
|------------------------|--------------------------|
| Sulphur dioxide | <input type="checkbox"/> |
| Suspended particulates | <input type="checkbox"/> |
| Strong acidity | <input type="checkbox"/> |
| Black smoke | <input type="checkbox"/> |
| Other (specify) | |

11.3 Within the context of Annex I, paragraph 3 of the Council Decision
the level of pollution from the above pollutant at this station
can be classified as: *

- | | |
|---------|--------------------------|
| High | <input type="checkbox"/> |
| Average | <input type="checkbox"/> |
| Low | <input type="checkbox"/> |

Tick as appropriate

13. Sampling methods used:

.....

14. Analytical method, with reference if published:

.....

* See Notes

15. Sampling schedules:

Normal duration of sampling hours/minutes
(indicate continuous, non-integrating analyses by "C")
Normal number of samples per day
Usual period of the day when the first sample is taken
Usual period of the day when the last sample is taken

16. Calibration

16.1 Method of calibration, with reference if published:
.....
.....
.....
.....
.....
.....

16.2 Frequency of calibration months/weeks/days/hours

17. Date when monitoring of this pollutant began at this station

.....

Was the technique used then the same as that used now?

.....
.....

If not, when was the change-over made?

.....
.....

and what was the previous technique?

.....
.....
.....
.....
.....
.....

RECIPROCAL EXCHANGE OF INFORMATION

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ANNEX B

Complete Descriptive Tables

See Report EUR 6472 EN

RECIPROCAL EXCHANGE OF INFORMATION

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ANNEX C

Summary of Monthly Values for each Station

NOTES: The station column includes both local or national number and the official name.

Type: I, C, R, = Industrial, Commercial, Residential
H, M, L, = High, Medium or Low pollution levels

Winter 1 = January to March

Winter 2 = October to December

Annual and winters medians are the arithmetic average of the true monthly medians.

T A B L E 1.1/1

MONTHLY VALUES

Town Class: 1

P o l l u t a n t : SO_2

Type of Value: MEAN

TABLE I.1/2

MONTHLY VALUES

TEN CLASSES

P o l u t a n t : SO_2

Type of Value: MEDIAN

TABLE 1/1/3

MONTHLY VALUES

T o w n C l a s s : 1

P o l l u t a n t : SO_2

Type of Value: MAXIMUM

TABLE 1.2/1

MONTHLY VALUES

T 11 Class 1

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOON Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>GREATER LONDON</u>																	
Barking 15	IR/M	95	61	73	76	80	-	-	0	0	0	0	87	76	46	29	80
Carmarthen 4	R/L	62	-	-	-	-	-	-	-	-	-	-	-	62	-	-	(59)
Deptford 3	ICR/H	126	79	78	73	74	63	54	54	71	67	77	132	94	79	92	104
Hackney 4	GR/M	156	105	83	81	60	27	25	37	43	74	63	106	115	72	81	115
Homerton 4	I/L	130	103	86	85	59	35	52	105	72	120	104	145	106	91	123	109
Stepney 5	ICP/H	158	134	100	110	78	65	81	89	107	111	135	209	131	115	152	139
Carmarthen 6	R/L	51	41	38	37	57	45	39	24	27	19	41	39	43	38	33	43
<u>GREATER MANCHESTER</u> , EN																	
Cheshire/Catley 2	R/L	127	73	66	65	75	59	52	60	47	55	69	72	89	68	65	89
Manchester 11	G/H	226	196	163	121	113	111	105	90	108	134	182	194	195	145	170	197
Manchester 15	IR/M	185	169	169	110	111	120	112	110	101	155	160	106	174	134	140	182
Oldham 13	IR/H	198	128	106	87	89	65	56	59	70	85	119	171	144	103	125	147
Oldham 15	CR/M	157	125	96	72	76	56	51	53	56	75	99	133	126	87	102	133
Stockport 10	ICR/L	140	93	76	79	82	72	46	58	60	66	98	77	103	79	80	111
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	185	140	118	86	73	55	58	55	75	110	94	205	148	105	136	124
17 Bouches	R/H	244	167	165	142	106	62	65	60	100	125	138	267	192	137	177	157
19 Providence	R/M	203	124	118	108	68	47	42	40	58	94	105	201	148	101	133	125
51 Hillancourt	ICR/M	198	143	139	119	85	63	62	56	96	149	118	235	160	122	167	132
99 Laboratoire	CR/M	159	89	86	69	49	29	23	26	49	77	84	179	111	77	113	99
<u>WEST MIDLANDS</u>																	
Birmingham 10	IC/M	78	55	44	40	40	34	29	29	33	36	68	100	59	49	68	61
Oldbury 10	R/M	106	73	66	55	71	68	66	63	57	46	86	83	82	70	72	87
Solihull 9	ICR/L	174	60	59	52	54	72	60	59	71	54	98	37	98	71	63	98
Walsall 17	IR/H	135	107	89	71	81	64	62	55	64	84	79	117	110	84	93	110
Walsall 18	CR/H	99	68	62	65	64	61	55	50	58	92	119	115	83	77	109	83
Walsall 19	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
West Bromwich 12	IR/L	137	1.0	96	65	66	57	47	41	45	53	73	108	114	75	78	114

TABLE 1.2/2

MONTHLY VALUES

T O W N C l a s s : 1

P o l l u t a n t : A C I D I T Y / $\mu\text{g}/\text{m}^3$ T y p e o f V a l u e s : M E D I A N

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANNU- AL	WIN- TER 2	WIN- TER
<u>GREATER LONDON</u>																	
Barking 15	IR/M	86	67	73	80	78	-	-	0	0	0	0	95	75	47	32	7
Carshalton 4	R/L	68	-	-	-	-	-	-	-	-	-	-	-	68	-	-	5
Deptford 3	ICR/H	121	71	72	65	76	60	56	51	67	47	52	103	88	70	67	9
Hackney 4	CR/M	141	104	67	80	61	24	25	38	35	70	50	77	104	64	66	10
Romford 4	I/L	133	89	72	88	66	36	47	118	98	134	91	105	98	87	110	10
Stepney 5	ICR/H	40	136	90	94	78	62	84	88	105	108	123	203	122	109	145	13
Carshalton 6	R/L	45	31	25	32	51	34	24	16	24	17	27	26	34	29	23	3
<u>GREATER MANCHESTER</u>																	
Cheadle/Gatley 2	R/L	79	61	60	68	75	45	51	56	40	53	54	65	67	59	57	7
Manchester 11	C/H	197	183	151	112	108	107	100	92	105	120	158	191	177	135	156	17
Manchester 15	IR/M	182	143	149	100	97	115	97	100	94	142	145	93	158	121	127	16
Oldham 13	IR/H	154	113	96	95	93	57	51	56	62	80	100	162	121	93	114	12
Oldham 15	CR/M	126	118	95	67	74	44	43	50	48	78	83	128	113	80	96	11
Stockport 10	ICR/L	137	77	73	74	81	69	47	62	53	61	75	57	96	72	64	95
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	181	117	109	83	65	50	57	55	64	93	80	166	136	93	113	11
17 Bauches	R/H	209	147	161	138	94	62	56	58	96	122	108	194	172	120	141	14
45 Providence	R/M	191	113	105	103	66	44	35	39	52	80	79	159	136	89	106	11
65 Billancourt	ICR/M	179	131	119	107	83	61	53	54	92	137	98	179	143	108	138	11
99 Laboratoire	CR/M	154	76	77	67	43	29	18	23	48	77	64	133	102	67	91	9
<u>WEST MIDLANDS</u>																	
Birmingham 19	IC/M	71	52	46	34	37	30	24	29	27	33	43	104	56	44	60	5
Oldbury 10	R/M	93	68	55	45	65	68	55	61	45	37	43	71	72	59	50	1
Solihull 9	CR/L	162	57	51	44	51	69	57	56	57	52	60	45	90	63	52	9
Walsall 17	IR/H	112	112	97	69	78	58	60	54	66	79	79	118	107	82	92	10
Walsall 18	CR/H	83	91	56	57	56	56	50	48	51	95	88	106	77	70	96	7
Walsall 19	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
West Bromwich 13	IR/L	145	109	78	57	70	52	39	35	48	41	55	103	111	69	66	11

TABLE 1.2/3

MONTHLY VALUES

Town Class: 1

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WINTER 1	ANNUAL	WINTER 2	WINTER
<u>GREATER LONDON</u>																	
Barking 15	IR/M	198	130	162	129	144	-	-	0	0	0	0	163	198	198	163	292
Carsington 4	R/L	108	-	-	-	-	-	-	-	-	-	-	(108)	-	-	-	264
Dartford 3	ICR/H	276	231	158	218	131	112	80	108	145	223	219	458	276	458	458	
Hackney 4	CR/M	348	196	214	141	135	85	105	76	152	152	134	483	348	483	483	
Romford 4	I/L	232	217	188	135	108	58	95	137	156	219	237	360	232	360	360	551
Stepney 5	ICR/H	407	248	249	220	143	123	108	140	226	259	271	329	407	407	329	714
Carsington 6	R/L	173	178	119	127	136	102	141	82	56	50	143	123	178	178	143	
<u>GREATER MANCHESTER</u>																	
Cheadle/Gatley 2	R/L	393	170	146	107	149	116	102	146	97	101	227	225	393	393	227	
Manchester 11	C/H	409	415	315	255	214	211	220	153	181	207	722	640	409	640	640	
Manchester 15	IR/M	391	331	284	192	189	292	211	195	187	271	344	226	391	391	344	515
Oldham 13	IR/H	377	258	312	133	221	173	145	125	211	183	400	395	377	400	400	476
Oldham 15	CR/M	320	268	212	103	151	160	153	106	126	157	320	319	320	320	320	441
Stockport 10	ICR/L	265	197	112	149	158	121	81	86	123	163	289	396	265	396	396	463
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	387	311	288	204	161	121	137	102	214	265	222	496	387	496	496	
17 Bauches	R/H	443	326	279	259	209	105	136	109	232	250	497	761	443	761	761	
45 Providence	R/M	388	252	262	245	137	87	114	73	125	201	253	428	388	428	428	
65 Billancourt	ICR/M	432	347	247	261	144	128	138	132	170	851	404	680	432	851	851	
99 Laboratoire	CR/M	336	233	208	159	124	50	75	51	129	215	265	431	336	431	431	
<u>WEST MIDLANDS</u>																	
Birmingham 19	IC/M	148	85	84	77	66	76	57	61	73	73	348	310	148	348	348	
Oldbury 10	R/M	260	148	161	155	139	151	161	121	148	92	406	319	260	406	406	
Solihull 9	CR/L	406	140	126	111	84	124	126	107	146	107	477	82	406	477	477	
Walsall 17	IR/H	338	202	167	198	139	155	155	108	109	183	149	272	338	338	272	
Walsall 18	CR/H	212	145	124	264	135	136	113	139	134	187	431	210	212	431	431	
Walsall 19	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
West Bromwich 13	IR/L	253	172	248	170	102	137	107	88	121	119	360	230	253	360	360	

TABLE 1.3/1

MONTHLY VALUES

Town Class: 1

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ROMA</u>																	
Romano	I/L																
Scienze	R/H																
Caravita	R/M																
<u>GREATER LONDON</u>																	
Barking 15	IR/M	36	24	82	25	37	0	0	0	0	0	0	33	47	20	11	44
Carshalton 4	R/L	14	-	-	-	-	-	-	-	-	-	-	-	(14)	-	-	15
Deptford 3	ICR/H	29	19	15	15	14	15	13	15	19	26	21	26	21	19	24	25
Hackney 4	CR/M	50	35	27	22	16	12	13	15	23	33	23	47	37	26	34	40
Romford 4	I/L	34	22	17	20	15	12	12	24	14	85	16	31	24	25	44	28
Stepney 5	ICR/H	56	32	25	29	15	16	12	19	23	31	24	45	38	27	33	45
Carshalton 6	R/L	21	10	9	8	10	10	7	9	13	13	19	17	13	12	16	13
<u>GREATER MANCHESTER</u>																	
Cheadle/Gatley 2	R/L	41	22	18	13	13	14	11	12	14	22	44	46	27	23	37	34
Manchester 11	C/M	63	39	31	21	22	20	18	20	22	31	47	60	44	33	46	50
Manohester 15	IR/M	78	59	42	29	28	27	20	25	31	41	74	88	60	45	68	71
Oldham 13	IR/H	60	45	30	24	20	13	15	14	22	30	39	49	45	30	39	52
Oldham 15	CR/M	63	51	35	22	18	11	15	16	20	37	37	59	50	32	44	55
Stockport 10	ICR/M	51	28	19	16	21	31	16	17	19	23	55	50	33	29	43	38
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	55	46	46	26	29	25	20	21	53	88	35	104	49	46	76	71
17 Bauches	R/M	45	32	37	26	29	26	24	23	51	49	32	71	38	37	51	71
45 Providence	R/M	52	37	40	30	29	28	26	26	53	57	33	74	43	40	55	71
65 Billancourt	ICR/M	37	38	24	27	23	21	21	45	56	31	79	40	37	55	71	
99 Laboratoire	CR/M	60	50	47	31	35	32	30	26	58	60	43	83	52	46	62	71
<u>WEST MIDLANDS</u>																	
Birmingham 19	IC/M	51	32	25	24	20	17	16	20	21	25	38	25	36	26	29	39
Oldbury 10	R/M	32	17	15	16	10	9	7	13	12	14	27	20	21	16	20	24
Solihull 9	CR/L	31	13	10	15	14	12	7	12	14	13	18	17	18	15	16	18
Walsall 11	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Walsall 17	IR/H	55	38	35	25	20	19	13	19	23	35	35	50	43	31	40	46
Walsall 18	CR/H	40	26	17	17	12	13	9	14	23	29	46	40	28	24	38	30
West Bromwich 13	IR/L	55	39	34	27	17	19	12	19	22	28	50	50	43	31	43	41

TABLE 1.3/2

MONTHLY VALUES

Town Class: 1

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
ROME																	
Norano	I/L																
Scienze	R/H																
Caravita	R/M																
<u>GREATER LONDON</u>																	
Barking 15	IR/M	30	23	90	22	39	0	0	0	0	0	0	40	48	20	13	43
Carslton 4	R/L	6	-	-	-	-	-	-	-	-	-	-	-	6	-	-	12
Deptford 3	ICR/H	26	18	12	14	10	12	11	15	16	20	18	18	19	16	19	22
Hackney 4	CR/M	41	35	22	20	15	12	12	14	22	31	20	43	33	24	31	36
Romford 4	I/L	36	18	15	19	13	12	12	12	16	28	13	30	23	19	24	25
Stepney 5	ICR/H	44	29	19	22	13	15	14	16	20	31	22	45	31	24	33	39
Carslton 6	R/L	16	7	8	7	8	9	7	9	11	10	22	13	10	11	15	10
<u>GREATER MANCHESTER</u>																	
Cheadle/Uatley 2	R/L	33	20	16	12	12	13	11	13	13	17	17	31	23	17	22	28
Manchester 11	C/M	55	37	30	19	22	17	18	17	20	29	26	44	41	28	33	43
Manchester 15	IR/M	66	52	37	25	27	25	18	22	32	42	40	73	52	38	52	61
Oldham 13	IR/H	56	45	28	23	19	13	13	12	20	31	33	40	43	28	35	49
Oldham 15	CR/M	62	55	31	20	16	11	15	14	19	32	31	49	49	30	37	52
Stockport 10	ICR/M	45	25	15	21	18	27	17	17	18	22	26	35	28	24	28	33
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	50	31	38	21	25	23	16	17	42	72	26	57	40	35	52	56
17 Bauches	R/M	40	29	30	25	25	26	22	19	43	53	24	46	33	32	41	74
45 Providence	R/M	49	33	27	29	30	27	22	22	43	60	29	50	40	36	46	67
65 Billancourt	ICR/M	40	27	31	22	26	22	21	19	41	63	26	47	33	32	45	66
99 Laboratoire	CR/M	57	42	45	30	34	33	29	23	50	65	37	62	48	42	55	66
<u>WEST MIDLANDS</u>																	
Birmingham 19	IC/M	53	33	22	21	21	16	15	17	18	21	27	26	36	24	25	37
Oldbury 10	R/M	25	16	13	14	10	9	6	12	10	12	12	16	18	13	13	21
Solihull 9	CR/L	26	10	8	13	14	10	5	10	12	9	9	15	15	12	11	15
Walsall 11	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Walsall 17	IR/H	42	39	33	25	19	20	14	16	20	35	31	46	38	29	37	40
Walsall 18	CR/H	35	26	18	15	12	12	9	11	21	27	30	37	26	21	31	27
West Bromwich 13	IR/L	53	39	30	27	16	17	11	18	19	25	31	47	41	28	35	43

TABLE 1.3/3

MONTHLY VALUES

Town Class : 1

Pollutant : SMOKE / ug/m³ Type of Value : MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WI TE
<u>ROMA</u>																	
Homano	I/L																
Scienze	R/H																
Caravita	R/M																
<u>GREATER LONDON</u>																	
Barking 15	IR/M	105	49	211	57	71	0	0	0	0	0	0	50	211	211	50	
Carshalton 4	R/L	32	-	-	-	-	-	-	-	-	-	-	(32)	-	-	-	9
Deptford 3	ICR/H	95	52	35	33	33	26	34	34	48	52	63	70	95	95	70	15
Hackney 4	CR/M	146	89	84	47	46	26	29	33	43	67	64	136	146	146	136	15
Romford 4	I/L	73	60	36	45	49	37	23	53	30	245	71	70	73	245	245	
Stepney 5	ICR/H	186	105	72	52	52	36	18	36	54	72	49	117	186	186	117	23
Carshalton 6	R/L	61	30	33	21	20	70	14	27	36	44	49	58	61	61	58	
<u>GREATER MANCHESTER</u>																	
Cheadle/Gatley 2	R/L	79	53	53	27	22	25	25	27	36	58	371	223	79	371	371	
Manchester 11	C/M	190	70	73	43	41	42	36	39	42	53	410	438	190	438	438	
Manchester 15	IR/M	156	137	120	49	45	64	43	55	67	86	650	446	156	650	650	
Oldham 13	IR/H	136	110	71	44	38	21	28	27	48	76	195	139	136	195	195	21
Oldham 15	CR/M	129	87	86	41	32	26	27	30	33	88	171	152	129	171	171	20
Stockport 10	ICR/M	123	64	75	27	58	84	34	26	48	61	272	319	123	319	319	
<u>PARIS</u>																	
11 Gennevilliers	ICR/M	147	107	99	65	72	57	60	60	170	627	153	306	145	627	627	43
17 Bauohes	R/M	121	73	77	58	75	69	64	59	143	84	105	322	121	322	322	53
45 Providence	R/M	139	92	79	68	58	58	60	70	144	139	92	262	139	262	262	36
65 Billancourt	ICR/M	110	100	74	64	50	43	52	63	111	106	103	422	110	422	422	41
99 Laboratoire	CR/M	159	124	91	58	83	57	74	74	140	128	119	274	159	274	274	31
<u>WEST MIDLANDS</u>																	
Birmingham 19	IC/M	113	64	68	62	32	40	26	45	42	53	174	84	113	174	174	
Oldbury 10	R/M	85	35	43	38	19	21	16	29	32	34	121	85	85	121	121	13
Solihull 9	CR/L	87	40	28	35	33	37	19	33	35	47	122	64	87	122	122	
Walsall 11	CR/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Walsall 17	IR/H	169	66	97	91	51	35	25	48	57	79	143	160	169	169	160	23
Walsall 18	CR/H	110	51	56	56	26	35	26	62	62	74	277	151	110	277	277	
West Bromwich 13	IR/L	116	70	78	47	42	34	24	48	51	60	232	159	116	232	232	

TABLE 1.4/1

MONTHLY VALUES

Town Class: 1

Pollutant: PARTICLES / $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

<u>TOWN</u> Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MILANO</u>																	
10 Juvara	R/-																
15 Liguria	CR/-																
<u>ROMA</u>																	
Regina Elena	C/M	177	144	125	107	123	102	97	93	93	156	149	188	149	130	164	146

TABLE 1.4/2

MONTHLY VALUES

T o w n C l a s s e : 1

P o l l u t a n t : PARTICLES /ug/m³ T y p e o f V a l u e : M E D I A N

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MILANO</u>																	
10 Juvara	R/-																
15 Liguria	CR/-																
<u>ROMA</u>																	
Regina Elena	C/M	146	143	119	110	121	95	85	97	83	154	131	161	136	120	149	136

TABLE 1.4/3

MONTHLY VALUES

Town Classes:

Pollutant: PARTICLES / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 2.1/1

MONTHLY VALUES

Town Class : 2

Pollutant : SO_2 $\mu\text{g}/\text{m}^3$

Type of Value : MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	69	70	58	51	37	32	22	29	45	49	414	43	66	46	44	63
1215 Bela	CR/H	88	-	72	52	41	28	13	26	28	40	33	46	80	43	40	74
1330 Hvid	CR/M	40	43	29	33	32	18	13	20	19	26	42	40	38	30	36	43
1331 Glos	CR/M	68	62	49	42	31	18	13	22	19	24	29	38	59	35	30	58
1334 Glad	I/H	81	72	94	46	38	21	8	22	27	37	33	51	82	44	40	76
1335 Lyng	CR/H	60	73	59	41	32	19	10	19	26	49	39	53	64	40	47	53
<u>MÜNCHEN</u>																	
Leuchtenberg	CR/M	43	20	32	21	11	22	9	0	0	0	0	0	32	13	0	34
Schwabinger K'haue	CR/M	26	26	20	0	0	0	0	0	0	0	0	0	24	6	0	27
Landshuterallee	CR/M	74	55	51	41	35	45	20	23	28	41	22	54	60	41	39	69
Eichstätterstr.	CR/M	31	32	27	31	17	29	7	8	13	24	30	57	30	26	37	31
Aidenbachstr.	CR/L	0	0	0	0	0	0	0	0	0	0	0	0				6
Mullerstr.	CR/M	100	0	36	27	16	26	13	11	15	30	20	40	45	28	30	44
Deutsches Museum	CR/M	40	24	31	33	16	24	9	16	21	31	18	54	32	26	34	33
Pasing	CR/M	63	40	50	34	20	13	20	14	33	14	34	88	51	35	45	47
Fernsehturm	CR/-	35	7	32	25	32	0	0	36	0	0	0	0	25	14	0	31
<u>TORINO</u>																	
1 Consolata	-	-	-	-	-	-	-	-	-	-	-	-	-				
3 Rebaudengo	-	-	-	-	-	-	-	-	-	-	-	-	-				
Domenico	I/H	-	-	-	97	-	-	-	-	-	-	-	-				
Zerbini	-	-	-	-	-	-	-	-	-	-	-	-	-				

TABLE 2.1/2

MONTHLY VALUES

Tutor Class: 2

P o l l u t a n t : SO_2 $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TABLE 2.2/1.1

MONTHLY VALUES

T o w n C l a s s : 2

P o l l u t a n t : A C I D I T Y $\mu\text{g}/\text{m}^3$ T y p e o f V a l u e : M E A N

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- U A L	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	207	188	167	132	101	70	70	107	111	123	0	171	187	121	98	191
008 Cortenbach	IR/M	111	89	21	45	42	48	46	76	65	51	71	74	74	62	65	77
014 Karnberg	C/L	35	62	29	35	25	30	23	33	36	24	45	36	42	34	35	37
022 Overdekte	IR/M	42	60	92	54	70	99	100	129	114	67	63	35	65	77	55	62
026 Couronne	CR/M	139	111	90	82	62	42	31	56	72	66	93	98	113	79	86	114
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	119	139	94	75	78	65	64	66	66	78	168	118	117	94	121	119
Glasgow 44	R/M	48	55	50	38	51	49	44	38	37	54	114	96	51	56	88	51
Glasgow 61	R/L	73	63	59	47	60	80	110	123	108	122	104	93	65	87	106	66
Glasgow 68	IR/M	120	92	92	65	76	58	61	63	71	85	146	99	101	86	110	102
Glasgow 73	IR/L	96	109	69	53	64	59	56	58	47	53	121	91	91	73	88	91
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	60	76	12	68	38	72	39	51	75	20	36	91	49	53	49	45
1215 Bela	CR/H	15	-	14	10	13	29	15	52	40	30	18	75	15	28	41	17
1330 Hvid	CR/M	55	63	18	24	38	30	36	58	24	28	10	57	45	37	32	39
1331 Glos	CR/M	15	90	34	12	37	16	23	59	12	18	14	58	46	32	30	41
1335 Lynge	CR/H	59	94	27	59	20	74	54	58	82	29	67	89	60	59	62	55
1334 Glad	I/H	-	-	0	0	0	0	0	-	-	0	0	0	-	0	0	-
LYON																	
1 Mairie Centrale	C/M	139	133	96	76	41	28	26	16	50	72	121	160	123	80	118	120
8 Etats-Unis	ICR/M	118	109	95	67	43	40	20	19	51	66	99	141	107	72	102	109
10 Croix-Rousse	R/H	141	150	88	69	38	23	18	8	28	47	102	165	126	73	105	125
11 Fins Techniques	I/M	110	78	112	71	51	61	40	26	45	116	109	163	100	82	129	102
18 Pierre-Baudis	I/M	113	116	79	58	37	30	32	20	44	70	82	128	103	67	93	101
19 Venissieux	I/L	77	64	56	38	40	46	49	19	37	46	53	93	66	52	64	75
<u>MARSEILLE</u>																	
Alston	CR/H	85	114	116	136	63	59	66	-	108	76	81	123	105	93	93	105
Chartreux	CR/M	80	111	70	124	55	64	74	-	93	67	93	102	87	85	87	87
Valmonte	CR/L	56	81	60	82	46	50	75	-	99	55	82	100	66	71	79	66
Pinede	I/L	59	77	81	82	50	51	62	-	62	56	63	106	72	68	75	68
St. Maroel	I/M	43	56	52	64	61	47	22	-	129	62	63	88	50	63	71	58
Usine-Gaz	I/H	111	120	126	138	90	109	81	-	133	111	129	164	119	119	135	120

TABLE 2.1/3

MONTHLY VALUES

Town Class: 2

P o l l u t a n t : SO_2 $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TABLE 2.2/2.1

MONTHLY VALUES

Town Class : 2

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	176	191	158	122	102	72	62	99	122	115	0	151	175	114	89	180
008 Cortenbach	IR/M	91	86	14	42	40	46	37	67	62	44	62	59	64	54	55	66
014 Karnberg	C/L	29	55	33	32	19	27	20	32	35	26	30	32	39	31	29	34
022 Overdekte	IR/M	42	59	65	57	68	98	97	130	113	74	59	34	55	75	56	56
026 Couronne	CR/M	139	104	81	84	58	34	29	54	69	63	69	87	108	73	73	107
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	113	104	86	78	80	65	57	66	68	70	92	100	101	82	87	103
Glasgow 44	R/M	47	47	46	39	46	47	39	39	39	47	56	72	47	47	58	46
Glasgow 61	R/L	60	53	53	47	58	87	106	119	114	128	108	98	55	86	111	56
Glasgow 68	IR/M	99	81	86	61	74	56	56	57	71	82	84	83	89	74	83	89
Glasgow 73	IR/L	86	89	55	49	61	62	50	54	39	47	59	71	77	60	59	76
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	61	74	10	46	33	53	41	53	83	18	0	107	48	48	42	42
1215 Bela	CR/H	16	-	10	10	12	33	15	50	44	27	11	73	13	27	37	16
1330 Lyng	CR/M	12	67	12	15	33	27	35	59	21	19	7	44	30	29	23	26
1331 Glos	CR/M	17	90	20	9	36	9	18	57	11	10	9	65	42	29	28	36
1335 Lyng	CR/H	58	93	25	55	18	61	56	61	80	25	58	85	59	56	56	52
1334 Glad	I/H	-	-	0	0	0	0	0	-	-	0	0	0	-	0	0	0
<u>LYON</u>																	
1 Mairie Centrale	C/M	113	127	87	76	36	27	23	12	42	67	111	128	109	71	102	106
8 Etats-Unis	ICR/M	120	114	80	66	40	35	17	13	40	69	82	111	105	66	87	105
10 Croix Rouge	R/H	135	121	72	65	33	24	16	3	18	39	92	120	109	62	84	106
11 Fons Technologie	I/M	93	79	84	58	43	53	44	22	42	102	80	154	85	71	112	88
18 Pierre Benite	I/M	98	112	66	50	36	29	28	20	45	56	67	108	92	60	77	88
19 Venissieux	I/L	78	62	48	36	33	35	47	19	40	43	46	81	63	47	57	68
<u>MARSEILLE</u>																	
Aletem	CR/H	76	100	93	140	48	56	69	-	99	70	70	122	90	86	87	93
Chartreux	CR/M	75	100	57	99	50	69	70	-	80	65	80	103	77	77	83	78
Valmante	CR/L	63	70	51	82	40	50	65	-	100	47	76	91	61	67	71	59
Pinede	I/L	47	82	72	71	49	49	63	-	63	59	48	76	67	62	61	63
St. Marcel	I/M	32	56	54	61	57	42	22	-	144	62	63	68	47	61	64	54
Usine-Gaz	I/H	103	107	124	123	73	82	80	-	135	85	116	139	111	106	113	111

TABLE 2.2, 1.2

M O N T H L Y V A L U E S

Four classes: 2

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
WIRRAL/YSIDE AREA																	
Birkenhead 4	R/L	0	-	0	0	0	-	-	0	-	-	-	-	0	0	-	2
Bootle 2	IR/H	171	146	150	111	135	135	93	77	64	-	87	134	156	120	111	176
Ellesmere Port 8	I/L	65	66	58	45	70	107	74	30	54	38	55	45	63	59	46	58
Liverpool 22	IR/H	156	132	115	80	91	74	91	68	71	96	96	136	134	101	109	143
Wallasey 4	R/M	90	82	62	26	47	39	50	51	42	67	42	91	78	57	67	83
Wallasey 6	IR/M	113	124	105	58	67	64	67	75	59	102	66	138	114	87	102	117

TABLE 2.2/2.2

MONTHLY VALUES

Town Class : 2

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MERSEYSIDE AREA</u>																	
Birkenhead 4	R/L	0	-	0	0	0	-	-	0	-	-	-	-	0	0	-	
Bootle 2	IR/H	174	146	142	105	131	120	74	71	57	-	64	141	154	113	103	169
Ellesmere Port 8	I/L	60	24	23	31	70	89	59	30	46	34	44	35	36	45	38	35
Liverpool 22	IR/H	134	128	107	74	80	55	81	61	67	102	74	143	123	92	106	130
Wallasey 4	R/M	53	68	67	21	46	36	26	37	35	52	29	102	63	48	61	68
Wallasey 6	IR/M	118	123	94	59	56	48	46	53	56	82	52	135	112	77	90	112

TABLE 2.2/3.1

MONTHLY VALUES

Town Class: 2

Pollutant: ACIDITY $\mu\text{g/m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	698	261	266	241	176	123	160	352	201	176	0	342	698	698	342	
008 Cortenbach	IR/M	242	206	58	142	133	147	114	159	163	212	210	224	242	242	224	281
014 Karnberg	C/L	93	183	67	93	68	81	55	73	75	54	186	126	183	186	186	
022 Overdakte	IR/M	71	100	331	101	169	196	184	184	223	121	111	62	331	331	121	
026 Couronne	CR/M	306	331	192	158	123	92	52	140	128	104	277	269	331	331	277	
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	279	694	251	130	140	129	119	119	128	158	787	618	694	787	787	
Glasgow 44	R/M	112	101	108	70	123	139	85	62	77	126	560	525	112	560	560	213
Glasgow 61	R/L	239	243	194	170	96	138	192	168	155	175	165	149	243	243	175	264
Glasgow 68	IR/M	327	188	200	96	101	119	107	140	103	164	897	375	327	897	897	598
Glasgow 73	IR/L	252	478	289	104	131	132	150	131	103	115	614	517	478	614	614	
<u>KØBENHAVN</u>																	
1102 Stein	CR/H	110	109	31	188	119	192	74	92	126	80	165	127	110	192	165	133
1215 Høje	CR/H	40	-	53	22	27	79	47	99	74	61	86	164	53	164	164	123
1330 hvidt	CR/M	595	150	73	178	70	90	75	177	71	105	47	126	595	595	126	
1331 Gløn	CR/H	35	137	159	35	110	52	57	97	39	81	60	85	159	159	85	
1335 Lynne	CR/H	127	150	64	139	69	164	119	127	134	76	163	318	150	318	318	195
1334 Glad	I/H	-	-	0	0	0	0	0	-	-	0	0	0	-	0	0	
<u>LYON</u>																	
1 Marie Centrale	C/M	277	227	216	144	150	63	49	77	142	156	231	400	277	400	400	381
8 Etats-Unis	ICR/M	246	193	271	119	98	93	99	60	158	137	282	456	27	456	456	582
10 Croix Rousse	R/H	298	391	286	138	112	37	43	77	121	118	185	478	39	478	478	433
11 Fons Technique	I/M	351	226	388	170	112	194	71	119	99	288	229	318	388	388	318	
18 Pierre Baudin	I/M	256	225	243	139	81	111	91	49	82	312	252	316	256	316	316	311
19 Vénissieux	I/L	125	131	110	72	100	109	69	29	85	95	167	319	131	319	319	456
<u>MARSEILLE</u>																	
Alstom	CR/H	265	25	265	222	176	116	95	-	187	168	204	200	265	265	200	
Chartreux	CR/M	162	225	179	224	108	90	109	-	215	116	187	167	225	225	187	
Valminte	CR/L	106	211	140	201	120	93	228	-	176	123	204	153	211	228	204	
Puget	I/L	138	172	173	185	84	88	91	-	98	121	212	269	173	269	269	
9 ^e Marcel	I/M	144	144	104	143	130	89	24	-	184	141	172	232	144	232	232	
Uoline-Gas	I/H	223	219	235	238	254	335	134	-	241	298	274	324	235	335	324	

TABLE 2.2/3.2

MONTHLY VALUES

Town Class : 2

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MERSEYSIDE AREA</u>																	
Birkenhead 4	R/L	6	-	0	0	0	-	-	0	-	-	-	-	0	0	-	57
Bootle 2	IR/H	271	305	320	170	273	264	228	140	132	-	262	258	320	320	262	660
Ellesmere Port 8	I/L	224	363	299	115	179	305	217	30	135	94	42	116	363	363	116	
Liverpool 22	IR/H	345	227	187	133	201	215	201	167	125	157	328	341	345	345	341	659
Wallasey 4	R/M	434	298	96	111	167	128	167	128	137	199	226	219	434	434	226	
Wallasey 6	IR/M	303	199	207	153	181	252	183	144	168	304	236	262	303	304	304	365

TABLE 2.3/1.1

MONTHLY VALUES

TOWN CLASS: 2

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSELS/BRUXELLES</u>																	
001 Kolonmarkt	CR/H	14	15	20	19	17	20	11	22	24	18	0	22	16	17	13	19
018 Cortenbach	IR/M	12	16	10	18	15	17	12	19	23	16	25	32	13	18	24	17
014 Karnberg	C/L	9	11	13	11	10	13	10	15	17	16	10	17	11	13	14	12
022 Overdekte	IR/M	6	11	28	13	7	15	9	16	18	18	12	14	15	14	15	15
026 Gouronne	CR/M	13	17	23	16	15	15	11	16	19	24	16	29	18	18	23	21
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	78	75	40	26	27	25	19	22	26	31	104	59	64	44	65	69
Glasgow 44	R/M	57	51	30	13	21	14	10	16	19	23	68	45	46	31	45	52
Glasgow 61	R/L	48	32	21	9	10	9	6	11	11	14	47	28	34	21	30	38
Glasgow 68	IR/M	92	56	34	16	17	12	7	14	21	22	89	45	61	35	52	65
Glasgow 73	IR/L	63	48	29	15	15	18	10	14	17	16	72	49	47	30	46	51
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	20	15	15	11	11	11	10	15	18	21	11	15	17	14	16	16
1215 bela	CR/H	13	-	8	6	6	7	4	7	7	11	7	11	11	8	10	11
1330 Hvid	IR/M	12	10	7	6	5	9	4	6	7	10	7	11	10	8	9	10
1331 Glos	CR/M	12	10	8	6	6	5	4	7	7	12	8	10	10	8	10	11
1345 Lynge	CR/H	18	14	12	8	9	7	6	10	11	17	10	14	15	11	14	15
1334 Glad	I/H	15	12	10	6	7	6	5	9	8	12	9	13	12	9	11	13
<u>LYON</u>																	
1 Mairie Centrale	C/M	90	102	87	71	57	52	49	40	80	87	102	137	93	80	109	93
8 Etatn-Unin	ICR/M	62	68	57	44	36	25	20	19	35	43	52	81	62	45	59	65
10 Croix Rouge	R/H	74	75	62	43	32	27	24	22	49	51	71	108	70	53	77	71
11 Pons Technique	I/M	39	27	41	43	36	33	32	28	56	51	60	104	36	46	72	41
18 Pierre Bontle	I/M	46	54	44	29	23	18	18	15	35	38	54	111	48	40	68	48
19 Venissieux	I/L	42	37	33	14	12	14	19	12	21	16	29	48	37	25	31	44
<u>MARSEILLE</u>																	
Aintom	CR/H	169	152	147	136	109	95	123	-	125	120	135	187	156	135	147	157
Chartreux	CR/M	89	95	89	118	53	46	65	-	70	85	93	95	91	81	91	92
Valante	CR/L	51	52	45	43	32	31	38	-	55	36	47	75	49	45	53	50
Pinede	I/L	79	74	64	52	40	38	41	-	58	63	56	83	72	58	67	74
St.Michel	I/M	86	74	75	60	56	60	36	-	92	79	103	110	78	74	97	85
Volne-Gaz	I/H	147	145	112	116	86	80	84	-	103	73	123	173	135	111	123	142

TABLE 2.3/1.1

MONTHLY VALUES

Town Class: 2

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	14	15	20	19	17	20	11	22	24	18	0	22	16	17	13	19
008 Cortenbach	IR/M	12	16	10	18	15	17	12	19	23	16	25	32	13	18	24	17
014 Karnberg	C/L	9	11	13	11	10	13	10	15	17	16	10	17	11	13	14	12
022 Overdekte	IR/M	6	11	28	13	7	15	9	16	18	18	12	14	15	14	15	15
026 Couronne	CR/M	13	17	23	16	15	15	11	16	19	24	16	29	18	18	23	21
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	78	75	40	26	27	25	19	22	26	31	104	59	64	44	65	69
Glasgow 44	R/M	57	51	30	13	21	14	10	16	19	23	68	45	46	31	45	52
Glasgow 61	R/L	48	32	21	9	10	9	6	11	11	14	47	28	34	21	30	38
Glasgow 68	IR/M	92	56	34	16	17	12	7	14	21	22	89	45	61	35	52	65
Glasgow 73	IR/L	63	48	29	15	15	18	10	14	17	16	72	49	47	30	46	51
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	20	15	15	11	11	11	10	15	18	21	11	15	17	14	16	16
1215 Bela	CR/H	13	-	8	6	6	7	4	7	7	11	7	11	11	8	10	11
1330 Hvid	CR/M	12	10	7	6	5	9	4	6	7	10	7	11	10	8	9	10
1331 Glos	CR/M	12	10	8	6	6	5	4	7	7	12	8	10	10	8	10	11
1345 Lyng	CR/H	18	14	12	8	9	7	6	10	11	17	10	14	15	11	14	15
1334 Glad	I/H	15	12	10	6	7	6	5	9	8	12	9	13	12	9	11	13
<u>LYON</u>																	
1 Mairie Centrale	C/M	90	102	87	71	57	52	49	40	80	87	102	137	93	80	109	93
8 Etats-Unis	ICR/M	62	68	57	44	36	25	20	19	35	43	52	81	62	45	59	65
10 Croix Rousse	R/H	74	75	62	43	32	27	24	22	49	51	71	108	70	53	77	71
11 Fons Technique	I/M	39	27	41	43	36	33	32	28	56	51	60	104	36	46	72	41
18 Pierre Benite	I/M	46	54	44	29	23	18	18	15	35	38	54	111	48	40	68	48
19 Vénissieux	I/L	42	37	33	14	12	14	19	12	21	16	29	48	37	25	31	44
<u>MARSEILLE</u>																	
Alphonse	CR/H	169	152	147	136	109	95	123	-	125	120	135	187	156	135	147	157
Chartreux	CR/M	89	95	89	118	53	46	65	-	70	85	93	95	91	81	91	92
Vaucluse	CR/L	51	52	45	43	32	31	38	-	55	36	47	75	49	45	53	50
Pinede	I/L	79	74	64	52	40	38	41	-	58	63	56	83	72	58	67	74
St. Marcel	I/M	86	74	75	60	56	60	36	-	92	79	103	110	78	74	97	85
Usine-Gaz	I/H	147	145	112	116	86	80	84	-	103	73	123	173	135	111	123	142

TABLE 2.3/1.2

MONTHLY VALUES

Town Class : 2

Pollutant : SMOKE / $\mu\text{g}/\text{m}^3$ Type of Value : MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MERSEYSIDE AREA</u>																	
Birkenhead 4	R/L	17	13	10	0	0	-	-	0	-	-	-	-	13	7	-	15
Bootle 2	IR/H	85	67	30	33	33	18	22	22	54	-	32	47	61	41	40	76
Ellesmere Port 8	I/L	21	25	26	17	25	16	20	14	14	21	35	43	24	23	33	28
Liverpool 22	IR/H	94	75	63	49	38	29	31	30	32	34	97	54	77	52	62	87
Wallasey 4	R/M	31	29	14	3	11	12	6	6	14	13	20	35	25	16	23	29
Wallasey 6	IR/M	38	36	24	9	13	10	10	9	19	18	21	39	33	21	26	37

TABLE 2.3/2.1

MONTHLY VALUES

Town Class: 2

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	13	15	19	19	17	18	11	21	24	20	0	23	16	17	14	17
008 Cortenbach	IR/M	11	17	10	18	15	17	12	18	22	17	20	25	13	17	21	15
014 Karnberg	C/L	10	11	12	12	10	13	11	15	17	17	7	12	11	12	12	11
022 Overdekte	IR/M	6	11	20	11	7	13	8	13	13	13	8	12	12	11	11	13
026 Couronne	CR/M	13	17	20	17	16	15	10	16	17	21	13	19	17	16	18	19
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	67	61	28	24	28	25	18	22	23	29	38	41	52	34	36	54
Glasgow 44	R/M	48	41	18	11	23	13	9	18	13	18	19	25	36	21	21	38
Glasgow 61	R/L	28	20	14	8	10	7	7	11	10	13	14	20	21	14	16	24
Glasgow 68	IR/M	55	45	28	15	15	11	7	11	19	19	20	30	43	43	23	46
Glasgow 73	IR/L	48	36	18	14	15	15	11	11	14	14	16	27	34	20	19	37
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	18	16	15	10	10	12	11	15	19	19	12	15	16	14	15	16
1215 Bela	CR/H	13	-	7	6	6	6	4	6	7	10	6	10	10	8	9	10
1330 Hvid	CR/M	12	10	7	5	5	5	4	5	6	9	6	10	10	7	8	10
1331 Glos	CR/M	11	8	8	6	6	6	5	6	6	11	6	10	9	7	9	9
1335 Lyng	CR/H	18	14	14	8	7	6	6	11	11	14	9	15	15	11	13	16
1334 Glad	I/H	15	11	9	7	7	7	5	7	7	13	7	10	12	9	10	12
<u>LYON</u>																	
1 Mairie Centrale	C/M	92	87	83	73	49	52	45	38	72	90	87	118	87	74	98	86
8 State-Unis	ICR/M	61	59	43	41	36	28	19	17	37	40	44	64	54	41	49	57
10 Croix Rousse	R/H	80	65	51	42	29	29	22	19	48	52	60	84	65	48	65	63
.. Pene Technique	I/M	38	22	35	37	31	32	29	23	52	45	45	92	32	40	61	37
18 Pierre Benite	I/N	39	48	27	30	25	18	17	14	34	37	45	83	38	35	55	39
19 Vénissieux	I/L	36	30	27	14	11	15	21	13	21	15	14	43	31	22	24	36
<u>MARSEILLE</u>																	
Alston	CR/H	173	134	142	122	96	76	105	-	142	117	99	190	150	125	135	145
Bartreux	CR/M	88	100	85	108	49	40	52	-	74	96	101	92	91	79	96	90
Valmonte	CR/L	50	48	43	39	31	26	34	-	49	31	41	74	47	42	49	47
Pinede	I/I	79	78	65	50	35	33	43	-	50	53	37	84	74	54	58	72
St. Marcel	I/M	86	83	79	58	58	54	34	-	99	78	62	96	83	71	79	87
Us no-Gas	I/H	148	141	106	127	87	70	79	-	113	53	120	176	132	110	116	136

TABLE 2.3/2.2

MONTHLY VALUES

Town Class : 2

Pollutant : SMOKE $\mu\text{g}/\text{m}^3$ Type of Value : MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MERSEYSIDE AREA</u>																	
Birkenhead 4	R/L	19	11	8	0	0	-	-	0	-	-	-	-	13	6	-	14
Bootle 2	IR/H	79	60	23	24	34	18	21	21	57	-	29	48	54	38	39	66
Ellesmere Port 8	I/L	18	24	23	17	22	13	18	15	14	22	22	36	22	20	27	25
Liverpool 22	IR/H	80	74	47	47	30	26	31	31	31	31	44	44	67	43	40	73
Wallasey 4	R/M	32	31	12	2	11	12	5	6	14	10	9	33	25	15	17	29
Wallasey 6	IR/M	40	34	23	8	13	9	9	9	18	13	8	32	32	18	18	34

TABLE 2.3/3.1

MONTHLY VALUES

Town Class : 2

Pollutant: SMOKE / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BRUSSEL/BRUXELLES</u>																	
001 Kolenmarkt	CR/H	40	34	67	33	33	34	16	72	48	27	0	75	67	75	75	102
008 Cortenbach	IR/M	25	37	24	38	27	30	22	43	71	35	79	129	37	129	129	105
014 Karnberg	C/L	23	27	35	23	21	24	21	24	35	34	42	91	35	91	91	44
022 Overdekte	IR/M	15	17	75	31	33	33	29	76	58	78	49	43	75	78	78	
026 Couronne	CR/M	27	38	74	24	27	29	19	34	48	58	73	126	74	126	126	94
<u>GLASGOW AREA</u>																	
Glasgow 20	C/H	242	349	186	49	57	67	38	41	53	60	529	405	349	529	529	495
Glasgow 44	R/M	295	204	215	48	48	42	29	35	55	56	405	298	295	405	405	334
Glasgow 61	R/L	196	206	164	27	22	32	15	35	41	43	289	180	206	289	289	352
Glasgow 68	IR/M	388	223	162	45	34	50	15	34	50	45	471	290	388	471	471	
Glasgow 73	IR/L	267	239	240	38	44	55	39	33	54	51	478	375	267	478	478	421
<u>KØBENHAVN</u>																	
1102 Stom	CR/H	37	28	24	20	17	17	19	31	31	48	20	25	37	48	48	
1215 Bela	CR/H	29	-	15	15	13	13	10	15	16	26	16	22	29	36	36	32
1330 Hvid	CR/M	30	29	16	12	10	9	7	20	18	25	20	22	30	30	25	32
1331 Glos	CR/M	37	25	15	15	9	8	8	14	15	27	25	19	37	37	27	
1335 Lynge	CR/H	42	26	22	18	16	16	14	18	24	37	25	27	42	42	37	
1334 Glad	I/H	37	26	21	15	13	16	13	21	17	26	32	41	37	41	41	
<u>LYON</u>																	
1 Mairie Centrale	C/M	151	227	226	120	126	89	88	88	151	175	279	417	227	417	417	335
8 Etate-Unie	ICR/M	128	124	211	87	65	43	49	44	75	85	196	370	211	370	370	330
10 Croix Rousse	R/H	139	149	222	81	71	46	40	55	89	102	208	399	222	399	399	425
11 Fons Technique	I/M	86	87	85	97	64	63	67	74	111	124	215	294	87	294	294	191
18 Pierre Benite	I/M	90	125	184	57	44	31	42	29	66	94	182	328	184	328	328	246
19 Venissieux	I/L	99	91	76	36	26	36	32	23	43	41	202	247	99	247	247	231
<u>MARSEILLE</u>																	
Alstrom	CR/H	321	300	247	224	213	183	206	-	194	209	325	261	321	325	325	
Chartreux	CR/M	146	171	162	213	103	105	125	-	115	103	156	136	171	213	156	
Valmonte	CR/L	102	116	101	76	74	80	91	-	136	106	129	127	116	136	129	
Pinade	I/L	143	161	113	108	74	84	69	-	172	172	230	145	161	230	230	
St. Maroel	I/M	118	100	83	81	65	95	39	-	99	145	635	193	118	635	635	
Usine-Gas	I/H	291	345	214	198	167	178	151	-	152	188	287	294	345	345	294	

TABLE 2.3/3.2

MONTHLY VALUES

Town Class : 2

Pollutant : SMOKE $\mu\text{g}/\text{m}^3$ Type of Value : MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MERSEYSIDE AREA</u>																	
Birkenhead 4	R/L	36	29	32	0	0	-	-	0	-	-	-	-	36	36	-	65
Bootle 2	IR/H	167	150	152	90	66	41	54	44	94	-	99	77	167	167	99	480
Ellesmere Port 8	I/L	56	55	54	38	47	38	42	16	44	50	162	182	56	182	182	152
Liverpool 22	IR/H	286	128	221	95	111	54	59	55	58	90	399	187	286	399	399	427
Wallasey 4	R/M	62	56	34	16	27	24	16	13	43	31	135	147	62	147	147	121
Wallasey 6	IR/M	84	62	53	26	27	33	25	18	55	47	124	124	84	124	124	162

TABLE 2.4/1

MONTHLY VALUES

Print Class: 2

Pollutant : PARTICLES / ug/m³ Type of Value : MEAN

TABLE 2.4/2

MONTHLY VALUES

T o w n C l a s s : 2

Pollutant: PARTICLES / $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TABLE 2.4/3

M O N T H L Y V A L U E S

T w n C l a s s : 2 .

Pollutant: PARTICLES / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 3.1/1

MONTHLY VALUES

Town Class: 3

Pollutant: $\text{SO}_2 \mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	MIN- TER 2	MIN- TER
<u>AMSTERDAM</u>																	
515 Breduistbad	I/-	43	35	28	25	35	23	20	15	1	45	28	46	35	27	40	37
516 Vegastraat	I/-	60	44	37	35	16	15	14	7	21	39	32	37	47	31	36	48
518 J. Cabeliaust.	CR/-	33	35	29	15	28	15	6	15	18	45	17	36	32	24	33	35
519 Einsteinweg	CR/-	54	46	36	20	19	18	15	20	16	50	26	49	45	31	42	40
520 Florapark	CR/-	39	38	27	19	11	14	8	12	15	33	14	0	35	19	16	35
521 Oud Voorburgw.	CR/-	65	48	36	30	22	21	10	16	19	22	0	41	50	28	21	48
523 Kamerlingh	CR/-	51	43	35	30	22	27	16	19	14	19	18	40	43	28	26	44
525 Buitenveldent	CR/-	40	27	22	14	15	19	14	18	20	27	22	32	30	23	27	30
<u>DEN HAAG</u>																	
404 Rebeoqueplein	CR/-	64	56	52	22	13	14	10	22	26	63	29	71	57	37	54	57
405 Beethovenlaan	CR/-	60	50	46	18	18	14	8	13	21	57	23	59	52	32	46	53
<u>DORTMUND</u>																	
Hövelstr.	CR/-	134	123	118	113	81	101	0	0	169	152	140	178	125	109	157	132
<u>DUISBURG</u>																	
Stadthuis	CR/-	105	139	150	84	157	55	0	0	151	146	138	140	131	105	141	124
<u>DUSSELDORF</u>																	
Akademiestr.	CR/-	167	128	121	67	57	90	0	0	114	122	77	148	139	91	116	128
<u>GENOVA</u>																	
1 Poste	-/-	143	160	125	81	33	29	29	63	143	82	-	-	143	95	(82)	114
2 Comune	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Sampierdarena	-/-	170	200	145	104	68	51	42	25	52	-	-	-	172	114	-	172
<u>FRANKFURT</u>																	
Mitte	ICR/M	105	105	78	0	0	28	24	26	38	0	47	57	96	42	35	93
Feuerwache	CR/-																
Nied (West)	CR/-	104	0	0	0	59	34	29	25	52	61	106	229	35	58	132	46
Pilotstation	CR/-	133	105	120	64	64	49	45	46	61	91	85	129	119	83	102	127
Hattersheim	-/-																
<u>NURNBERG</u>																	
8/1 Bahnhof	CR/M	101	74	57	52	54	14	21	7	35	55	56	104	77	53	72	80
8/2 Ziegelstein	CR/M	76	.52	42	34	28	22	16	15	33	40	46	76	57	40	54	53
8/3 Olgastrasse	CR/M	80	62	39	40	28	15	14	10	24	40	46	94	60	41	60	61
<u>ROTTERDAM</u>																	
418 Scheidamsevees	CR/-	77	67	56	34	24	42	23	11	40	61	58	75	67	47	65	66
423 Langerhout	CR/-	50	35	23	19	16	22	6	1	14	31	22	62	36	25	38	38

TABLE 3.1/2

MONTHLY VALUES

Town Class: 3

Pollutant: SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>AMSTERDAM</u>																	
515 Brediusbad	I/-	43	37	23	24	15	21	19	17	1	45	23	39	33	25	36	33
516 Verstraat	I/-	55	39	34	37	10	15	8	13	16	39	29	25	43	27	31	44
518 J. Cabeliaust.	CR/-	25	29	26	15	24	11	2	13	18	42	14	22	27	20	26	29
519 Einsteinweg	CR/-	42	46	28	21	15	12	15	20	15	48	20	43	39	27	37	34
520 Florapark	CR/-	30	35	26	20	8	12	8	12	10	36	15	0	30	18	17	31
521 Oud Voorburgw.	CR/-	59	48	30	31	21	18	10	16	18	23	0	45	46	27	23	45
523 Kamerlingh	CR/-	49	40	32	30	22	26	18	18	12	12	18	42	40	27	24	42
525 Buitenveldert	CR/-	37	23	19	13	13	20	13	17	18	26	18	25	26	20	23	27
<u>DEN HAAG</u>																	
401 Reboqueplein	CR/-	51	52	47	18	11	12	8	19	19	51	21	65	50	31	46	51
402 Beethovenlaan	CR/-	46	40	40	16	15	10	7	1	15	52	17	43	42	25	37	44
<u>DORTMUND</u>																	
HMvstr.	CR/-	150	105	120	110	80	95	0	0	170	170	100	180	125	107	150	127
<u>DULBURG</u>																	
Stadhuis	CR/-	90	130	155	70	110	50	0	0	130	145	140	120	125	95	135	116
<u>DUSSELDORF</u>																	
Akademiestr.	CR/-	175	140	110	65	35	85	0	0	110	130	65	150	142	89	115	128
<u>GENOVA</u>																	
1 Poste	-/-	130	156	104	78	26	26	26	130	78	-	-	130	85	'78)	101	
2 Comune	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3 Sampierdaren	-/-	156	182	130	104	76	51	52	26	52	-	-	-	156	108	-	156
<u>FRANKFURT</u>																	
Nitte	ICR/M	95	96	65	0	0	24	23	24	33	0	42	55	85	38	32	85
Feuerwache	CR/-																
Nied (Went)	CR/-	90	0	0	0	60	32	31	21	56	47	96	202	30	53	115	45
Pilotstation	CR/-	115	90	123	62	61	50	45	43	62	86	83	129	109	79	99	118
Hattersheim	-/-																
<u>GERMANY</u>																	
8/1 Bahnhof	CR/M	100	60	60	50	40	15	10	10	40	60	30	90	73	47	60	73
8/2 Ziegelstein	CR/M	70	40	35	30	30	10	10	10	30	30	40	70	48	34	47	46
8/3 Olgas'rasse	CR/M	80	50	40	30	20	10	10	10	20	40	30	80	57	35	50	56
<u>ROTTIRDM</u>																	
418 Scheidamseveen	CR/-	68	60	44	35	19	31	14	2	42	58	50	68	57	41	59	57
423 Langerhout	CR/-	44	36	24	24	16	13	5	1	8	37	16	61	35	23	36	35

TABLE 3.1/3

MONTHLY VALUES

Town Class: 3

Pollutant: SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>AMSTERDAM</u>																	
515 Brediusbad	I/-	124	100	77	60	41	76	38	46	7	94	97	95	124	124	97	
516 Vagastraat	I/-	133	129	93	79	57	41	70	43	56	86	102	98	133	133	102	
518 J. Cabeliaust.	CR/-	116	108	66	31	78	47	33	57	47	78	58	100	116	116	100	
519 Einsteinweg	CR/-	152	131	85	39	54	115	32	48	34	100	103	125	152	152	125	
520 Florapark	CR/-	127	106	99	44	38	55	17	36	65	69	37	0	127	127	69	
521 Oud Voorburgw.	CR/-	131	116	93	50	52	64	26	33	41	38	0	93	131	131	93	
523 Kamerlingh	CR/-	124	91	88	50	43	61	27	50	32	58	35	76	124	124	76	
525 Buitenveldent	CR/-	110	63	77	30	33	43	32	39	46	60	87	77	110	110	87	
<u>DEN HAAG</u>																	
404 Reboquerplein	CR/-	202	124	151	57	37	52	43	57	89	152	117	147	202	202	152	
405 Beethovenlaan	CR/-	218	143	146	63	47	58	42	102	80	134	91	143	218	218	143	
<u>DORTMUND</u>																	
Hövelstr.	CR/-	410	300	280	250	110	200	0	0	230	210	590	330	410	590	590	
<u>DUISBURG</u>																	
Stadthuis	CR/-	210	210	240	200	450	100	0	0	280	270	330	280	240	450	330	
<u>DÜSSELDORF</u>																	
Akademiestr.	CR/-	360	290	240	160	200	190	0	0	230	190	170	280	360	360	280	
<u>GENOVA</u>																	
1 Poste	-/-	234	312	260	130	104	78	104	182	338	234	-	-	312	338	(338)	
2 Comune	-/-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3 Sampierdarena	-/-	312	416	234	182	130	104	104	52	130	-	-	-	416	416	(130)	
<u>FRANKFURT</u>																	
Mitte	ICR/M	235	194	167	0	0	50	40	52	82	0	88	108	235	235	108	
Feuerwache	CR/-															180	
Nied (West)	CR/-	368	0	0	0	63	66	47	67	85	170	367	426	368	426	426	
Pilotstation	CR/-	364	253	187	163	93	78	63	112	122	180	281	244	364	364	281	
Hattersheim	-/-																
<u>NURNBERG</u>																	
8/1 Bahnhof	CR/M	150	190	100	100	170	50	110	20	90	90	270	240	190	270	270	
8/2 Ziegelstein	CR/M	130	200	80	90	60	60	40	50	70	100	200	150	200	200	260	
8/3 Olgastrasse	CR/M	140	180	90	10	70	40	40	50	60	80	250	270	180	270	240	
<u>ROTTERDAM</u>																	
418 Scheidamseveen	CR/-	168	222	140	97	60	150	104	79	94	121	217	145	222	222	217	
423 Langerhoust	CR/-	116	55	33	28	46	119	20	6	49	65	103	145	116	145	145	

TABLE 3.2/1.1

MONTHLY VALUES

Town Class: 3

Pollutant: ACIDITY $\mu\text{g/m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANTWERPEN/ANTWERPEN</u>																	
801 Politie	IR/H	117	93	143	107	61	75	55	40	139	116	151	139	118	103	135	120
809 Antwerpen Sch.	R/H	169	142	121	126	89	80	63	81	94	106	119	152	144	112	126	144
812 Linkeroever	R/L	106	114	89	69	50	55	42	55	61	75	73	126	103	76	91	105
813 Stadhuis	R/M	137	137	76	97	70	59	38	40	68	84	97	144	117	87	108	119
818 Omvormerijen	I/M	171	168	81	112	151	62	61	56	75	114	125	136	140	109	125	138
826 van Cauwelaert	I/L	90	72	73	61	53	69	66	72	84	77	97	78	74	84	80	
<u>BORDEAUX</u>																	
2 Cerf-Volant	C/M	73	54	47	35	30	14	5	-	24	10	48	52	58	34	37	57
4 Le Bouscat	C/M	96	81	74	54	57	60	53	-	69	60	82	93	84	70	78	87
7 Piscine Begles	I/M	55	36	40	40	40	32	18	-	42	24	44	50	44	38	39	45
8 Berthelot	I/M	52	40	40	34	27	23	22	-	26	11	27	25	44	29	21	47
9 Montaud	I/M	54	41	44	36	33	34	29	-	39	21	40	44	46	37	35	48
10 Gauderan	R/L	60	42	45	36	28	20	20	-	43	19	42	66	49	38	42	50
<u>DUBLIN</u>																	
2 Royal Dub. Soc.	CR/H	101	95	82	26	25	-	23	26	28	23	-	46	93	48	35	99
3 Eccles Street	CR/M	77	63	61	21	17	-	12	17	19	29	55	53	67	37	46	68
7 Hailing Office	I/H	75	55	45	22	22	9	9	11	14	14	29	48	58	29	30	57
10 Finglas	R/L	36	36	28	15	13	9	8	13	15	25	27	39	33	22	30	35
<u>EDINBURGH</u>																	
Leaden 18	CR/H	134	130	108	70	62	58	47	44	67	94	70	120	124	84	95	121
Leaden 30	R/M	71	80	71	41	36	39	36	45	36	83	43	103	75	57	76	75
Leaden 31	ICR/M	122	-	95	52	49	48	47	88	46	77	55	99	109	72	77	109
Leaden 32	IR/M	176	-	126	93	95	87	50	58	51	78	82	112	151	94	91	144
Leaden 33	IR/H	144	137	100	77	68	65	59	64	63	97	95	128	127	91	107	127
<u>LILLE, ROUBAIX - L'YON</u>																	
10 Hôtel de Ville	CR/M	90	81	64	45	56	27	20	21	31	50	70	93	78	54	71	79
12 Conservatoire	CR/M	0	42	45	39	38	16	15	14	17	44	52	89	29	34	62	29
13 Hôtel de Ville	I/M	187	173	121	103	121	69	58	27	46	69	56	80	160	93	68	156
14 Service Hyg.	CR/M	128	92	85	64	55	28	25	23	40	63	80	104	102	66	82	105
15 Cent. Mécén.	I/M	122	94	92	81	71	43	46	32	66	53	58	74	103	69	62	101
23 Hôtel de Ville	I/M	174	113	96	77	56	42	25	16	44	54	73	108	128	73	78	126
<u>SHIFFIELD</u>																	
Sheffield 2	C/M	180	109	108	82	94	79	68	58	66	68	88	211	132	101	122	134
Sheffield 36	IR/I	114	91	75	49	64	56	49	47	45	56	65	91	93	67	71	92
Sheffield 40	R/H	155	128	106	72	79	79	64	54	61	80	61	131	130	89	91	126
Sheffield 48	I/H	152	141	125	70	63	59	40	40	45	78	67	127	139	84	91	132

TABLE 3.2/1.2

MONTHLY VALUES

Town Class: 3

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
TOULOUSE																	
1 Côte Pavée	R/M	13	13	5	24	5	2	0	0	1	5	22	18	10	9	15	12
2 Nivot	R/M	34	45	25	21	19	11	9	0	6	3	23	30	35	19	19	37
3 Buisson	I/L	1	6	0	6	22	0	0	0	0	0	8	2	2	4	3	3
4 Pellegrin	R/H	45	50	54	45	36	34	27	29	54	46	63	64	50	46	58	53
5 St.Joseph	R/L	0	4	7	3	1	0	2	0	0	3	9	13	4	4	8	4
6 Teisseire	CR/H	50	52	24	21	22	29	38	0	54	47	51	50	42	37	49	46
TYNESIDE																	
Gosforth 1	IR/M	100	86	72	49	49	61	45	41	44	77	41	86	86	63	68	87
Newcastle/Tyne 31	I/-	138	136	108	104	86	68	63	56	67	116	77	135	127	96	109	124
Wallsend 6	CR/H	115	104	74	56	58	57	52	25	30	65	56	106	98	67	76	99
Whiteley Bay 4	CR/L	62	51	47	35	40	36	23	10	16	43	21	58	53	37	41	55

TABLE 3.2/2.1

MONTHLY VALUES

Town Class: 3

Pollutant: ACIDITY, $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANVERS/ANTWERPEN</u>																	
801 Politie	IR/H	107	85	147	95	63	75	50	39	121	111	142	147	113	99	133	115
809 Antwerpen Sch.	R/H	162	134	115	124	85	77	59	73	86	103	102	125	137	104	110	136
812 Linkeroever	R/L	96	113	91	74	45	51	34	45	48	73	58	117	100	70	83	99
813 Stadhuis	R/M	130	130	77	95	69	60	33	36	62	77	85	122	112	81	95	112
818 Onvarmings	I/M	172	151	76	87	131	64	57	52	60	111	115	127	133	100	118	131
826 van Cauwel	I/L	58	68	73	60	57	56	57	62	75	75	69	67	66	65	70	67
<u>BORDEAUX</u>																	
2 Gare-Volant	C/M	62	48	46	33	30	13	5	-	22	6	43	40	52	31	30	51
6 Le Bouscat	C/M	96	76	79	50	50	59	58	-	65	63	69	87	84	67	73	84
7 Piscine Begles	I/M	49	31	34	41	35	29	16	-	38	23	36	45	38	34	35	39
8 Berthelot	I/M	49	38	35	35	26	22	20	-	25	13	23	23	41	28	20	42
9 Montaud	I/M	53	38	48	31	28	32	27	-	40	20	35	44	46	36	33	46
10 Cauderan	R/L	55	41	47	39	23	20	20	-	37	19	38	54	48	35	37	47
<u>EDINBURGH</u>																	
1 Hailing Office	I/H	68	56	45	17	14	10	8	10	13	15	18	42	56	26	25	55
10 Finglins	R/L	33	33	26	11	13	10	9	13	14	24	16	29	31	19	23	32
<u>LEEDS</u>																	
Leeds 18	CR/H	123	120	123	66	61	47	46	39	64	89	57	113	122	79	86	119
Leeds 30	R/M	61	74	68	36	30	36	30	43	25	70	40	95	68	51	68	69
Leeds 31	ICR/M	102	-	82	46	40	40	45	56	40	73	49	90	92	62	71	95
Leeds 32	IR/M	147	-	109	95	94	78	46	52	52	66	67	113	128	85	82	127
Leeds 35	IR/H	127	129	95	76	62	55	54	54	62	86	76	122	117	83	95	119
<u>LILLE-ROUBAIX-TOUR</u>																	
10 Hôtel de Ville	CR/M	70	70	58	42	55	29	17	16	29	50	49	78	66	47	59	68
12 Conservatoire	CR/M	0	36	41	40	38	15	14	5	15	45	42	87	26	32	58	26
15 Hôtel de Ville	I/M	182	141	101	111	118	72	44	18	38	68	50	63	141	84	60	139
16 Service Hyg.	CR/M	122	86	71	61	45	26	24	23	36	69	52	89	93	59	70	96
19 Cent. Medico	I/M	125	85	73	77	68	36	46	25	62	48	41	59	94	62	49	93
23 Hôtel de Ville	I/M	167	111	88	80	60	46	21	16	41	53	68	93	122	70	71	120
<u>SHEFFIELD</u>																	
Sheffield 2	C/M	153	90	98	73	96	57	60	51	64	63	67	206	114	90	112	117
Sheffield 36	IR/L	113	89	69	47	61	45	46	37	47	50	85	90	60	61	86	76
Sheffield 40	R/H	151	125	104	63	72	52	58	42	51	66	44	117	127	79	76	122
Sheffield 48	I/H	155	118	99	55	57	37	38	30	44	82	57	123	124	75	87	115

TABLE 3.2/2.2

MONTHLY VALUES

Town Class: 3

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>TOULOUSE</u>																	
1 C8te Pavée	R/M	13	15	0	14	6	1	0	0	0	0	8	19	9	6	9	10
2 Nivot	R/M	21	23	27	21	11	8	14	0	0	0	10	30	24	14	13	27
3 Buisson	I/L	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
4 Pellegrin	R/H	50	47	52	39	37	36	23	34	53	41	65	57	50	45	54	51
5 St.Joseph	R/L	0	0	0	0	0	0	0	0	0	0	0	14	0	1	5	0
6 Teisseire	CR/H	40	44	19	19	20	27	38	0	43	38	38	44	34	31	40	39
<u>TYNESIDE</u>																	
Gosforth 1	IR/M	92	94	74	48	51	47	40	40	42	68	34	68	87	58	57	86
Newcastle/Tyne 31	I/-	112	141	111	100	80	62	55	50	56	105	67	137	121	90	103	119
Wallsend 6	CR/H	97	105	65	57	62	57	45	20	28	66	57	98	89	63	74	90
Whiteley Bay 4	CR/L	48	48	37	33	38	37	26	10	15	36	21	53	44	34	37	45

TABLE 3.2/3.1

MONTHLY VALUES

Town Class : 3

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANVERS/ANTWERPEN</u>																	
801 Politie	IR/H	264	171	315	224	125	125	145	92	382	305	409	274	264	409	409	435
809 Antwerpen Sch.	R/H	336	201	219	203	173	162	126	244	261	162	555	520	336	555	555	482
812 Linkeroever	R/L	271	175	135	115	101	112	125	147	192	140	304	325	271	325	325	374
813 Stadhuis	R/M	242	206	117	158	133	116	125	96	139	174	304	340	242	340	340	475
818 Omvermings	I/M	302	354	153	233	372	146	141	147	172	313	396	303	354	396	396	375
826 van Cauwel	I/L	350	261	144	120	95	150	183	137	221	197	302	192	350	350	302	370
<u>BORDEAUX</u>																	
2 Cerf-Volant	C/M	160	134	90	87	71	58	20	-	62	41	140	139	160	160	140	257
6 Le Bouscat	C/M	144	130	122	98	125	102	86	-	166	91	157	162	144	166	162	326
7 Piscine Begles	I/M	145	82	100	75	85	55	33	-	114	56	113	143	145	145	143	148
8 Berthelot	I/M	120	76	93	69	53	45	34	-	65	22	89	37	120	120	89	198
9 Montaud	I/M	86	81	102	93	63	54	55	-	64	48	108	93	102	108	108	303
10 Cauderan	R/L	155	86	87	87	82	47	47	-	98	75	121	216	155	216	216	202
<u>DUBLIN</u>																	
2 Royal Dub. Soc.	CR/H	229	199	257	43	49	-	42	48	69	62	-	253	257	257	253	273
3 Eccles Street	CR/M	149	103	140	57	40	-	26	35	46	60	293	210	149	293	293	202
7 Hailing Office	I/H	260	106	106	61	94	18	16	40	31	28	124	139	260	260	139	
10 Finglas	R/L	92	92	63	40	27	22	17	24	35	61	198	138	92	198	198	121
<u>LEEDS</u>																	
Leeds 18	CR/H	288	239	163	124	124	200	117	86	120	186	176	313	288	313	313	
Leeds 30	R/M	179	185	148	87	79	140	98	109	121	223	83	319	185	319	319	
Leeds 31	ICR/M	333	-	241	119	159	271	160	579	150	156	140	273	333	333	273	
Leeds 32	IR/M	370	-	337	155	278	176	124	164	125	167	317	304	370	370	317	385
Leeds 35	IR/H	291	243	238	114	170	306	155	138	180	176	293	285	291	293	293	300
<u>LILLE-ROUBAIX-TOUR</u>																	
10 Hôtel de Ville	CR/M	212	198	165	90	103	80	68	58	63	102	290	272	212	290	290	
12 Conservatoire	CR/M	0	136	90	68	75	43	48	60	53	77	173	258	136	258	258	
15 Hôtel de Ville	I/M	476	411	308	196	252	131	209	106	117	157	150	239	476	476	239	
16 Service Hyg.	CR/M	226	185	170	126	112	58	73	43	96	136	416	374	226	416	416	269
19 Cent. Medico	I/M	259	245	183	137	135	91	118	83	192	114	285	179	259	285	285	
23 Hôtel de Ville	I/M	484	261	186	163	117	75	63	42	109	120	217	224	484	484	224	
<u>SHEFFIELD</u>																	
Sheffield 2	C/M	314	161	198	155	158	193	176	179	152	119	339	398	314	398	398	373
Sheffield 30	IR/L	296	187	184	97	200	126	117	106	101	96	250	273	296	296	273	303
Sheffield 40	R/I	357	282	254	164	145	191	146	116	99	143	258	241	357	357	258	
Sheffield 48	I/H	301	276	277	214	135	188	108	100	84	141	201	216	301	301	216	

TABLE 3.2/3.2

MONTHLY VALUES

Town Class : 3

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>TOULOUSE</u>																	
1 Côte Pavée	R/M	28	31	30	204	13	16	0	0	22	19	126	56	31	204	226	101
2 Nivot	R/M	178	597	62	75	160	59	24	10	33	25	137	181	597	597	181	
3 Buisson	I/L	8	22	8	16	88	0	0	0	0	0	71	29	22	71	71	42
4 Pellegrin	R/H	90	207	93	128	74	60	66	82	85	139	106	143	207	207	143	
5 St.Joseph	R/L	0	15	35	15	6	1	13	0	0	21	49	40	35	49	49	54
6 Teisseire	CR/H	94	85	64	44	62	84	110	0	120	108	183	107	94	153	153	113
<u>TYNESIDE</u>																	
Gosforth 1	IR/M	234	129	188	106	105	155	123	88	86	181	118	308	234	308	308	278
Newcastle/Tyne 31	I/-	331	228	173	254	208	181	174	124	176	264	208	259	331	331	264	
Wallsend 6	CR/H	323	194	194	123	96	119	107	65	65	130	130	220	323	323	220	329
Whiteley Bay 4	CR/L	186	92	108	66	72	66	54	31	37	124	51	168	186	186	168	229

TABLE 3.3/1.1

MONTHLY VALUES

Town Class: 3

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANTWERPEN</u>																	
d'U Politie	IR/H	27	15	17	13	9	10	5	9	12	22	15	30	20	15	22	21
JOJ Antwerpen Soh.	R/H	64	58	55	52	37	46	31	45	53	60	49	68	59	52	59	61
B.2 Linkeroever	R/L	24	23	21	11	9	13	10	11	18	25	15	31	23	18	24	24
813 Stadhuis	R/M	28	31	20	19	13	17	5	9	18	28	19	37	26	20	28	28
818 Omvorminge	I/M	40	28	15	21	22	15	12	17	21	31	19	38	28	23	29	30
826 van Cauwel	I/L	20	19	16	11	15	17	10	13	18	26	12	24	18	17	21	19
<u>BORDEAUX</u>																	
2 Cerf-Volant	C/N	96	96	66	49	45	36	30	-	39	51	80	103	86	61	78	82
6 Le Juncat	C/M	136	138	114	73	84	79	73	-	70	117	140	159	129	105	139	132
7 Piscine Bogles	I/M	27	20	16	6	14	10	11	-	13	11	29	35	21	17	25	22
8 Berthelot	I/M	33	23	28	17	15	10	8	-	29	29	44	47	28	25	40	30
9 Montaud	I/M	25	26	20	13	12	14	12	-	25	26	42	53	24	24	40	26
10 Cauderan	R/L	37	25	30	18	16	14	11	-	32	34	56	67	31	30	52	33
<u>DUBLIN</u>																	
2 Royal Dub. Soc.	CR/H	57	38	29	101	85	-	56	55	62	67	143	84	41	71	98	49
3 Eccles Street	CR/M	52	43	33	48	49	31	34	38	27	36	47	68	43	42	50	47
7 Hailing Office	I/H	53	58	32	36	40	38	36	33	34	42	46	51	48	42	46	51
10 Finglas	R/L	29	28	20	29	27	17	21	21	17	20	24	39	26	24	28	29
<u>LEEDS</u>																	
Leeds 18	CR/H	62	46	36	16	16	12	9	10	18	39	30	45	48	28	36	50
Leeds 30	R/M	38	34	21	8	8	7	8	7	12	28	9	34	31	18	24	32
Leeds 31	ICR/M	54	-	34	13	15	14	13	14	18	130	15	38	44	34	61	46
Leeds 32	IR/M	91	-	48	22	22	21	14	11	16	35	24	45	70	33	35	69
Leeds 35	IR/H	74	58	36	17	13	14	14	13	19	43	26	52	56	32	40	58
<u>LILLE-ROUBAIX-TOUR</u>																	
10 Hôtel de Ville	CR/M	56	50	41	36	32	44	26	32	-	49	36	64	49	42	50	46
12 Conservatoire	CR/M	0	57	39	26	24	19	15	16	23	38	40	47	32	29	42	30
15 Hôtel de Ville	I/M	89	89	69	46	61	60	46	34	35	57	36	54	82	56	49	83
.6 Service Mén.	CR/M	45	30	30	32	24	21	16	15	23	32	28	36	35	28	32	39
19 Gare, Medico	I/M	48	37	33	26	25	20	17	26	39	32	27	38	39	31	32	41
23 Hôtel de Ville	I/M	59	36	34	24	20	16	12	14	25	33	26	84	43	32	48	50
<u>SHEFFIELD</u>																	
Sheffield 2	C/N	55	25	26	19	19	16	14	18	17	29	25	41	35	25	32	40
Sheffield 36	IR/L	39	39	23	14	19	15	12	14	13	27	20	33	34	22	27	36
Sheffield 40	R/H	56	44	34	18	22	18	16	17	16	34	23	48	45	29	35	47
Sheffield 48	I/H	69	61	44	24	29	29	19	22	22	42	34	65	58	38	47	61

TABLE 3.3/1.2

MONTHLY VALUES

Town Class: 3

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>TOULOUSE</u>																	
1 Côte Pavée	R/M	83	80	68	55	55	47	0	0	80	56	82	84	77	58	74	78
2 Nivot	R/M	90	88	78	68	64	58	53	50	69	56	88	76	85	70	73	89
3 Buron	I/L	36	35	26	19	12	12	11	11	21	20	31	24	32	22	25	32
4 Pellegrin	R/H	143	119	110	128	127	109	98	88	136	70	160	112	124	117	114	127
5 St.Joseph	R/L	24	20	19	14	10	8	6	8	19	14	22	17	21	15	18	24
6 Toulouse	CR/H	120	121	191	207	139	140	202	0	132	221	211	223	144	159	218	136
<u>TYNESIDE</u>																	
Gosforth 1	IR/M	67	48	34	13	18	11	12	15	15	-	15	45	50	28	30	52
Newcastle/Tyne 31	I/-	78	.58	37	19	23	20	18	21	22	46	33	69	58	37	49	61
Wallsend 6	CR/H	82	65	39	41	50	38	28	26	42	74	86	141	62	59	100	68
Whiteley Bay 4	CR/L	51	39	29	14	17	14	11	15	19	44	27	65	40	29	45	42

TABLE 3.3/2.1

MONTHLY VALUES

Town Class: 3

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANTWERPEN</u>																	
601 P little	IR/H	25	10	13	13	10	10	6	8	11	22	11	24	16	14	19	18
804 Antwerpen Sch.	R/H	60	61	52	52	32	46	29	42	50	65	47	61	58	50	58	60
812 Linkeroever	R/L	17	16	17	11	9	11	9	9	13	24	11	28	17	15	21	19
913 Stadhuis	R/M	21	23	17	20	14	14	5	9	16	26	15	33	20	18	25	23
618 Omvorminge	I/M	38	25	15	20	19	16	10	16	17	29	13	37	26	21	26	27
126 in Cauwel	I/L	15	14	17	9	12	16	10	12	13	23	10	21	15	14	18	16
<u>BORDEAUX</u>																	
2 Cerc-Volant	C/M	91	94	61	46	45	32	29	-	40	45	82	92	82	58	73	80
6 Le Houescat	C/M	137	126	114	71	77	76	66	-	67	121	142	152	126	102	138	128
7 Place Beugles	I/M	23	16	12	5	14	10	12	-	12	9	26	34	17	15	23	18
8 Berthelot	I/M	34	21	21	16	13	10	9	-	25	23	43	53	25	24	40	28
9 Montaud	I/M	26	27	15	11	9	12	12	-	24	22	37	55	23	22	38	23
10 Cauderon	R/L	36	20	23	17	17	13	11	-	29	28	57	67	26	28	51	29
<u>BIRMINGHAM</u>																	
2 Royal Dub. Soc.	CR/H	49	38	23	105	79	-	56	52	64	66	141	74	37	68	94	42
3 Eccles Street	CR/M	41	44	29	42	45	25	32	32	25	38	33	65	38	38	45	40
7 Mailine Office	I/H	40	50	25	34	34	32	39	32	32	39	45	52	38	38	45	39
10 Finslars	R/L	23	27	14	26	21	16	21	24	12	18	15	38	21	21	24	23
<u>LEEDS</u>																	
Leeds 18	CR/H	46	41	32	15	15	11	10	8	15	29	24	42	40	24	32	43
Leeds 30	R/M	19	26	15	6	6	5	9	6	9	19	4	31	20	13	18	21
Leeds 31	ICR/M	35	-	28	11	13	11	12	14	16	96	14	36	32	27	49	34
Leeds 32	IR/M	62	-	35	19	21	19	10	9	15	23	16	42	49	25	27	51
Leeds 35	IR/H	56	43	30	15	10	10	13	11	19	28	20	45	43	25	31	46
<u>LILLE-ROUBAIX-TOURCOING</u>																	
10 Hôtel de Ville	CR/M	48	44	35	32	32	41	19	35	-	44	29	51	42	37	41	41
12 Conservatoire	CR/M	0	55	35	25	24	19	14	16	18	34	30	44	30	26	36	29
15 Hôtel de Ville	I/M	80	75	58	46	57	60	39	27	27	53	29	42	71	49	41	72
16 Service Hyg.	CR/M	43	24	25	24	22	21	16	14	22	29	22	30	31	24	27	35
19 Cent. Medico	I/M	34	32	27	24	23	21	18	25	32	29	19	31	31	26	26	34
23 Hôtel de Ville	I/M	54	34	30	20	19	16	10	13	22	33	22	68	39	28	41	47
<u>SHEFFIELD</u>																	
Sheffield 2	C/M	51	19	26	20	18	14	12	16	17	22	17	36	32	22	25	35
Sheffield 36	IR/L	36	36	20	14	19	15	13	14	12	23	12	37	31	21	24	33
Sheffield 40	R/H	52	48	29	18	22	17	14	17	14	26	18	47	43	27	30	44
Sheffield 48	I/H	61	56	43	21	27	26	17	19	19	42	23	50	53	34	38	55

T A B L E 3.3/2.2M O N T H L Y V A L U E ST o w n C l a s s : 3P o l l u t a n t : S M O K E / ug/m³ T y p e o f V a l u e : M E D I A N

<u>TOWN</u> Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>TOULOUSE</u>																	
1 Côte Pavée	R/M	74	79	56	59	46	39	0	0	83	56	80	74	70	54	70	71
2 Nivot	R/M	76	80	70	65	61	55	49	48	69	54	88	65	75	65	69	79
3 Buisson	I/L	28	26	14	18	12	12	11	10	19	17	27	17	23	18	20	23
4 Pellegrin	R/H	132	110	78	128	122	117	100	102	133	42	177	94	107	111	104	113
5 St.Joseph	R/L	21	18	11	13	9	8	6	9	18	11	24	14	17	14	16	20
6 Teisseire	CR/H	109	115	168	210	115	104	180	0	124	196	205	194	131	143	198	125
<u>TYNESIDE</u>																	
Gosforth 1	IR/M	56	50	30	11	18	8	11	11	11	-	8	36	45	24	22	46
Newcastle/Tyne 31	I/-	56	57	33	15	24	14	13	18	20	34	18	49	49	29	34	50
Wallsend 6	CR/H	82	62	35	40	45	35	27	25	35	69	68	94	60	51	77	64
Whiteley Bay 4	CR/L	47	42	27	14	16	11	11	13	15	41	21	50	39	26	37	39

TABLE 3.3/3.1

MONTHLY VALUES

Town Classes:

Pollutant: SMOKE, mg/m^3 Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>ANTVERS/ANTWERPEN</u>																	
801 Politie	IR/H	64	57	50	25	17	17	11	22	29	50	96	79	64	96	96	72
809 Antwerpen Sch.	R/H	108	85	126	81	68	75	76	96	118	96	132	141	126	141	141	140
812 Linkeroever	R/L	68	63	78	21	18	29	31	28	63	54	88	85	78	88	88	94
813 Stadhuis	R/M	81	70	65	29	25	44	13	21	51	69	94	96	81	96	96	100
818 Omvormings	I/M	88	70	31	40	42	32	32	51	79	61	100	90	88	100	100	94
826 van Cauwel	I/L	69	54	38	38	37	37	29	38	47	65	60	78	69	78	78	88
<u>BORDEAUX</u>																	
2 Cerf-Volant	C/M	173	170	119	85	84	71	58	-	75	101	153	198	173	198	198	203
6 Le Bouscat	C/M	200	199	209	135	141	128	145	-	142	179	257	255	200	257	257	376
7 Piscine Begles	I/M	91	50	62	16	30	19	19	-	28	43	71	103	91	103	103	102
8 Berthelot	I/M	66	61	94	44	32	21	16	-	56	112	113	101	94	113	113	145
9 Montaud	I/M	41	36	61	53	27	24	27	-	56	91	86	93	61	93	93	206
10 Cauderan	R/L	61	64	86	48	37	32	27	-	74	112	126	151	86	151	151	159
<u>DUBLIN</u>																	
2 Royal Dub. Soc.	CR/H	160	101	83	183	167	-	112	128	121	211	336	211	160	336	336	441
3 Ecoles Street	CR/M	197	87	147	200	121	63	115	102	63	59	161	175	197	200	175	371
7 Hailing Office	I/H	149	156	99	67	90	84	52	58	97	129	129	110	156	156	129	494
10 Finglas	R/L	115	63	103	74	68	37	41	41	42	54	131	94	115	131	131	234
<u>LEEDS</u>																	
Leeds 18	CR/H	167	123	96	43	35	32	21	25	64	117	89	193	167	193	193	213
Leeds 30	R/M	154	114	80	37	27	29	18	18	45	95	36	155	154	155	155	
Leeds 31	ICR/M	189	-	83	56	34	52	32	32	46	359	40	142	189	359	359	257
Leeds 32	IR/M	268	-	174	73	49	64	161	23	59	112	131	191	268	268	191	
Leeds 35	IR/H	215	145	136	49	32	56	32	25	71	122	117	231	215	231	231	220
<u>LILLE-ROUHAIX-TOUR</u>																	
10 Hôtel de Ville	CR/M	120	125	106	73	71	98	75	56	-	112	102	309	125	309	309	
12 Conservatoire	CR/M	0	119	93	46	45	35	38	32	70	92	159	129	119	159	159	
15 Hôtel de Ville	I/M	239	246	142	91	145	150	125	133	104	124	127	235	246	246	235	
16 Service Hyg.	CR/M	108	100	73	219	98	35	28	28	53	75	119	131	108	219	131	150
19 Cent. Medico	I/M	141	144	90	61	44	35	33	52	115	78	114	135	144	144	115	161
23 Hôtel de Ville	I/M	183	94	77	61	41	39	29	33	70	64	79	239	183	239	239	247
<u>SHEFFIELD</u>																	
Sheffield 2	C/M	110	52	59	40	31	35	29	42	39	92	97	115	110	115	115	289
Sheffield 36	IR/L	143	98	62	29	42	33	37	35	30	77	84	76	143	143	84	279
Sheffield 40	R/H	149	118	89	34	45	45	57	34	41	90	112	102	149	149	112	328
Sheffield 48	I/H	194	213	135	45	66	55	50	51	47	107	205	182	213	213	205	311

TABLE 3.3/3.2

MONTHLY VALUES

Town Classes

Pollutants: SMOKE $\mu\text{g}/\text{m}^3$ Type of Values: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>Toulouse</u>																	
Côte Pavée	R/M	154	153	174	91	101	109	0	0	149	142	219	158	174	219	219	
Nivot	R/M	183	192	228	228	104	102	97	80	138	285	204	221	228	285	285	340
Buisson	I/L	82	133	106	34	30	25	29	26	53	61	104	89	133	133	104	197
Pellegrin	R/H	266	298	267	182	198	207	153	145	216	222	341	311	298	341	341	337
St. Joseph	R/L	57	43	89	31	18	30	14	20	40	37	70	52	89	89	70	171
Teisseire	CR/H	191	210	440	426	413	526	460	0	256	490	570	637	440	637	637	
<u>WESIDE</u>																	
Esforth 1	IR/M	186	114	137	47	48	37	31	35	56	86	50	203	186	203	203	
Newcastle/Tyne 31	I/-	353	126	159	58	43	72	48	52	62	120	106	413	353	413	413	
Albend 6	CR/H	214	150	116	80	101	68	46	71	123	123	232	512	214	512	512	252
Whitley Bay 4	CR/L	194	84	113	33	38	44	18	39	49	104	67	251	194	251	251	

TABLE 3.4/1

MONTHLY VALUES

Town Class: 3

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TABLE 3.4/2

MONTHLY VALUES

T o w n C l a s s : 3

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TABLE 3.4/3

M O N T H L Y V A L U E S

Town Class: 3

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 4.1/1.1

MONTHLY VALUES

Town Classes: 4

P o l l u t a n t : SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MEAN

TABLE 4.1/1.2

MONTHLY VALUES

Town Class: 4

Pollutant: SO_2 / $\mu\text{g/m}^3$

Type of Values: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
MAINZ																	
Rheinmiles																	
Prester																	
Leestaloszinschule																	
6	-/-																
7	-/-																
8	-/-																
MANNHEIM																	
110 Nord	I/M																
111 Mitte	R/M																
MONSCHA																	
Centro	CR/M	39	33	17	16	0	8	14	0	5	3	24	37	26	16	21	26
REGENSBURG																	
3/1 Regensburg	CR/M	50	8	42	43	29	19	17	18	0	39	49	72	50	36	53	45
TRIVENI																	
1 Comune	IR/M																
2 Cesi	IR/L																
MILANO																	
213 Spoorlaan	CR/-	83	13	53	40	32	25	24	32	40	53	55	66	66	47	58	67
214 Leypark	CR/-	38	11	26	24	22	17	20	22	24	30	40	51	32	29	40	35
VENEZIA																	
1 Morenzant	I/H	105	19	95	98	127	0	0	0	92	94	114	125	106	81	111	115
6 Malcontentia	I/H	0	0	0	0	0	21	66	24	34	0	71	88	0	25	53	40
9 Ca'Emiliani	IR/H	110	17	113	126	60	92	122	0	95	154	137	127	127	108	139	117
10 Murghera	IR/H	98	14	159	91	69	84	78	61	79	93	106	151	118	97	117	113
16 Stefaniini	IR/H	215	109	48	40	42	49	89	29	30	41	68	125	144	74	78	139
17 San Marco	IR/H	101	93	64	50	57	50	31	25	129	52	92	138	86	74	94	90
29 Porto	I/H	136	102	56	52	50	50	19	37	34	46	66	82	98	61	65	96
22 S. Alvise	CR/L	87	69	53	17	0	16	48	18	16	0	0	0	68	27	0	71
24	-/-	0	59	55	0	0	33	20	25	0	0	0	0	38	16	0	55

TABLE 4.1/1.3

MONTHLY VALUES

Town Class : 4

Pollutant : SO₂ /ug/m³Type of Value : MEAN

<u>TOWN</u> Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/H	132	109	115	65	58	31	27	28	57	124	81	156	119	82	120	121
<u>WURZBURG</u> 6/4 Würzburg	CR/M	63	44	41	26	36	22	23	19	27	40	32	53	49	36	42	48
6/5 Würzburg	CR/-	36	31	0	0	0	0	0	1	15	15	18	17	22	11	17	23
<u>FERRARA</u> 1 Giovecca	IR/M	144	138	81	43	19	25	-	-	53	134	94	117	121	77	115	101

TABLE 4.1/2.1

MONTHLY VALUES

Town Class: 4

P o l l u t a n t : SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TABLE 4.1/2.2

MONTHLY VALUES

Town Class: 4

Pollutant: SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MAINZ</u>																	
Rheinallee																	
Theater																	
Pestalozzischule																	
6	-/-																
7	-/-																
8	-/-																
<u>MANNHEIM</u>																	
110 Nord	I/M																
111 Mitte	R/M																
<u>PESCARA</u>																	
Centro	CR/M	41	22	16	13	0	2	16	0	6	3	23	35	26	15	20	26
<u>REGENSBURG</u>																	
3/1 Regensburg	CR/M	50	50	40	35	20	20	15	20	0	40	40	70	47	33	50	42
<u>TERNI</u>																	
1 Comune	IR/M																
2 Cesi	IR/L																
<u>TILBURG</u>																	
213 Spoorlaan	CR/-	79	57	47	37	31	24	23	29	40	52	46	65	61	44	54	61
214 Leypark	CR/-	30	26	23	19	20	14	17	19	22	30	32	44	26	25	35	29
<u>UTRECHT</u>																	
607 Marnixlaan	I/-	21	40	28	19	11	18	11	13	19	31	18	47	30	23	32	33
610 St. Jacobst.	CR/-	50	33	32	16	11	15	11	15	21	37	19	47	38	26	34	42
<u>VENEZIA</u>																	
2 Moranzani	I/H	88	110	89	92	113	0	0	0	84	79	105	132	96	74	105	105
6 Malocontenta	I/H	0	0	0	0	0	0	47	21	25	0	79	79	0	21	53	40
9 Ca'Emiliani	IR/H	103	147	100	111	71	83	121	0	89	158	119	132	117	103	136	106
10 Marghera	IR/H	87	97	171	86	63	65	84	58	77	105	105	132	118	94	114	111
16 Stefanini	IR/H	207	155	39	34	37	47	26	24	16	29	60	137	134	68	75	128
17 San Marco	IR/H	100	87	65	44	47	52	26	24	129	57	79	137	84	71	91	67
29 Porto	I/H	133	94	55	55	50	45	17	37	32	53	79	79	94	61	70	73
22 S. Alvise	CR/L	102	45	21	12	0	16	45	16	16	0	0	0	56	23	0	60
24	-/-	0	45	0	0	0	36	16	24	0	0	0	0	15	10	0	38

TABLE 4.1/2.3

MONTHLY VALUES

Town Class: 4

P o l l u t a n t : SO_2 $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

<u>TOWN</u> Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/H	135	.9	116	64	60	30	26	27	55	115	63	161	127	79	113	117
<u>WURZBURG</u> 6/4 Würzburg	CR/M	50	4	40	25	30	20	20	20	20	40	25	50	43	32	38	42
6/5 Würzburg	CR/-	30	2	0	0	0	0	0	0	10	10	10	10	17	8	10	16
<u>FERRARA</u> 1 Giovecca	IR/M	127	13	62	43	18	24	-	-	44	117	87	117	107	70	107	89

TABLE 4.1/3.1

MONTHLY VALUES

Town Classes: 4

P o l l u t a n t : SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TABLE 4.1/3.2

MONTHLY VALUES

Town Class: 4

Pollutant: $\text{SO}_2 / \mu\text{g/m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>MAINZ</u> Innenallee																	
Theater																	
Patrizienschule																	
6	-/-																
7	-/-																
8	-/-																
<u>MANNHEIM</u>																	
110 Nord	I/M																
111 Mitte	R/M																
<u>PESCARA</u>																	
Centro	CR/M	59	29	23	31	0	26	21	2	10	5	54	65	59	65	65	101
<u>REGensburg</u>																	
3/1 Regensburg	CR/M	70	120	70	120	120	60	50	100	0	80	130	200	120	200	200	200
<u>TERMI</u>																	
1 Comune	IR/M																
2 Cesi	IR/L																
<u>TELBURG</u>																	
213 Spoorlaan	CR/-	181	131	141	111	70	62	52	62	82	89	272	161	181	272	272	273
214 Leypark	CR/-	95	53	67	73	56	58	46	49	52	54	222	186	95	222	222	167
<u>UTRECHT</u>																	
607 Marnixlaan	I/-	81	95	102	42	36	59	47	39	63	120	102	124	102	124	124	145
610 St. Jacobst.	CR/-	125	97	85	45	40	55	34	45	68	125	96	124	125	125	125	212
<u>VIDEZZIA</u>																	
2 Moranzani	I/H	252	250	271	268	284	0	0	0	176	158	184	210	271	284	210	447
6 Maloontenta	I/H	0	0	0	0	0	21	331	63	74	0	105	210	0	331	210	237
9 Ca'Emi'iani	IR/H	205	315	342	392	179	229	271	0	213	316	263	316	342	392	316	
10 Marghera	IR/H	200	223	384	276	189	197	118	153	181	158	210	473	383	473	473	
11 Stefanini	IR/H	418	308	187	113	84	74	71	71	166	113	145	268	418	418	268	
12 San Marco	IR/H	205	174	181	110	132	89	129	58	145	153	176	308	205	308	308	289
20 Porto	I/H	318	234	102	79	82	76	71	63	63	79	105	132	318	318	132	
2. S. Alvise	CR/L	179	225	150	68	0	16	97	34	37	0	0	0	226	226	0	
24	-/-	0	145	55	0	0	82	55	42	0	0	0	0	145	145	0	(184)

TABLE 4.1/3a.3

MONTHLY VALUES

Town Class: 4

Pollutant: SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/H	262	190	209	105	86	58	52	55	118	223	304	283	262	304	304	386
<u>WURZBURG</u> 6/4 Würzburg	CR/M	150	200	80	60	60	50	40	30	90	70	110	120	200	200	120	
6/5 Würzburg	CR/-	90	190	10	0	0	0	0	20	80	40	90	90	190	190	190	90
<u>FERRARA</u> 1 Giovecca	IR/M	343	276	263	81	34	88	-	-	169	265	185	224	343	343	265	

TABLE 4.2/1.1

MONTHLY VALUES

Town Class: 4

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 1	IC/M	157	134	107	62	73	81	61	75	50	62	65	65	133	83	64	127
Belfast 12	R/H	110	108	86	82	71	80	0	0	0	0	0	0	101	45	0	102
Belfast 15	R/L	55	59	38	30	34	42	35	47	24	23	42	33	51	39	33	53
Belfast 33	IP/M	103	79	65	51	39	59	46	50	40	46	66	56	82	58	56	86
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	88	53	59	55	67	58	60	60	64	50	69	76	69	64	65	73
Cardiff 10	IR/M	78	53	61	39	43	43	34	41	49	45	63	56	64	50	55	68
Cardiff 11	R/L	50	35	39	26	35	28	28	29	34	31	30	48	42	35	36	42
Cardiff 12	R/H	88	71	71	49	54	50	41	56	57	57	70	91	78	63	73	81
<u>CHAMBERY</u>																	
501 Croix Rouge	R/H	66	29	42	52	62	41	48	75	42	35	43	99	46	53	59	46
504 Ecole Garçons	IR/L	40	23	35	30	45	28	22	40	39	27	50	52	34	36	43	33
505 Bureau C.A.P.	IR/M	74	60	69	61	57	56	62	59	51	47	80	84	68	63	70	66
509 Hôtel de Ville	IR/H	93	73	122	131	155	157	186	168	117	165	133	101	96	133	133	92
513 Maison Comm.	CR/L	88	77	69	58	51	52	36	48	62	66	59	95	78	63	73	78
511 Régie Elec/eau	CR/M	69	65	60	58	54	57	44	46	65	52	84	87	65	62	74	62
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/N	110	61	71	54	35	26	17	15	27	27	67	128	87	55	74	89
2 Gaz France	I/M	85	58	58	42	31	28	33	28	44	46	57	106	67	51	70	70
4 Royat	R/L	73	37	37	37	29	16	31	31	48	40	37	54	49	39	44	49
8 Aulnat	I/L	34	33	41	27	33	41	38	39	51	36	57	26	36	38	40	36
32 Service Mines	R/M	39	23	27	21	18	16	15	15	84	50	57	184	30	46	97	31
33 Buisson	IR/L	21	14	13	10	4	2	2	4	14	24	47	92	16	21	54	18
<u>CLERMONT</u>																	
Market	C/L	50	46	32	35	37	32	35	26	35	35	44	38	43	37	39	46
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	82	70	50	40	51	45	36	34	40	47	52	84	67	53	61	67
Edinburgh 17	R/L	53	48	28	25	34	35	26	29	26	32	36	55	40	35	41	38
Edinburgh 20	CR/H	107	9	65	49	55	41	31	39	39	50	49	81	84	57	60	86
Edinburgh 22	R/M	56	49	40	35	35	43	37	30	0	0	-	-	48	33	0	50
<u>GENT</u>																	
704 Kasteel	I/H	122	18	91	76	80	65	74	71	65	80	109	106	107	87	98	124
706 Grootenhof	I/M	100	94	91	56	64	51	79	70	64	58	325	80	95	94	154	97
707 Gemeenteplein	R/L	112	98	97	57	72	35	62	42	42	66	83	82	102	71	77	104
709 Abeelstraat	R/H	167	172	133	88	81	68	82	77	71	85	79	135	157	103	100	158
712 Zwembad	R/M	106	107	116	61	97	34	86	50	47	73	87	108	110	81	89	112
713 St. Kruidedorp	I/L	91	54	76	82	71	51	79	55	93	59	93	87	74	74	80	77

TABLE 4.2/1.2

MONTHLY VALUES

Town Class: 4

Pollutant ACIDITY / $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>LE HAVRE</u>																	
12 Ignaual	CR/M	44	22	85	45	18	11	23	23	53	143	7	192	50	56	114	50
21 A.T.O.	I/M	93	51	40	56	70	107	105	50	53	25	110	85	61	70	73	51
29 Renault	I/L	0	5	7	22	13	10	19	15	26	15	44	57	4	19	39	3
31 Presseuseuse	CR/M	175	258	134	128	104	54	30	43	87	160	100	256	189	127	172	166
32 E.D.F.	I/H	290	202	283	132	97	113	31	33	44	94	67	127	258	126	96	249
43 Frileusee	GR/H	330	152	103	85	114	34	31	51	121	192	32	205	195	120	143	173
<u>LIEGE/LUIK</u>																	
202 St.Sepulcre	R/H	71	57	80	75	76	52	62	51	54	54	89	86	69	67	76	72
205 Univ. Toxic.	R/M	146	118	109	95	91	89	91	70	111	117	145	129	124	109	130	126
215 Maison Comm.	IR/H	181	140	183	120	73	56	42	55	69	66	82	92	168	97	80	141
218 Caserne Pomp.	IR/M	44	28	63	52	45	21	30	31	38	52	74	130	45	51	85	49
229 Maison Comm.	IR/L	57	31	55	71	45	44	75	77	47	70	94	72	48	62	79	50
230 Cim. St.Tilman	R/L	62	32	66	56	54	53	43	46	44	49	78	72	53	55	66	55
<u>NANTES</u>																	
SMO Service Mines	-/M	0	0	0	0	52	0	72	0	0	46	136	71	0	31	84	0
SM3 Haute Indre	I/M	0	20	46	69	20	28	22	34	309	53	68	211	22	73	111	22
NO4 Théâtre Gras.	CR/M	47	45	16	22	17	11	13	12	46	2	57	82	36	31	47	36
NO6 Pilottièrè	CR/L	11	49	58	7	17	12	2	0	0	19	38	51	39	22	36	42
NO13 Cartron	I/-	36	7	30	36	40	15	51	16	31	8	14	22	24	26	15	24
NO15 Pompierre	I/-	21	30	77	25	11	25	3	4	1	12	2	44	43	21	19	36
<u>PORTESMOUTH</u>																	
Portsmouth 5	R/L	48	34	36	28	35	25	24	24	34	36	52	55	39	36	48	40
Portsmouth 8	R/M	65	42	45	37	40	32	32	31	43	57	55	63	51	45	58	52
Portsmouth 9	IR/M	43	92	67	66	114	122	149	144	122	98	91	61	67	95	73	63
Portsmouth 11	CR/M	80	61	62	75	58	54	54	51	62	74	114	79	68	69	89	70
<u>ROUEN</u>																	
1 Mairie	CR/M	112	76	62	41	32	27	21	24	73	90	61	100	83	60	84	80
4 Service Mines	CR/M	171	104	132	106	63	50	42	40	98	117	118	201	136	104	145	116
6 Lycée d'Etat	CR/M	71	41	50	76	44	32	40	32	66	87	81	125	54	62	98	53
7 Port Autonome	I/M	184	134	166	120	48	53	70	21	89	116	98	172	161	106	129	135
8 Ets.Socomac	I/M	87	29	61	41	25	41	26	11	43	56	60	174	59	55	97	52
11 Chateau d'Eau	I/H	264	120	59	274	84	98	126	269	105	76	192	248	147	160	172	133

TABLE 4.2/1.3

MONTHLY VALUES

Town Class: 4

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
E.D.F. 1	I/M	22	16	25	23	29	33	38	23	29	37	23	33	21	28	31	29
3 Elec. Strasbourg	CR/N	136	85	80	74	35	23	23	21	43	68	72	194	100	71	111	101
4 Cellulose	I/H																
5 Fao. Médecine	CR/H	80	49	57	38	35	26	25	13	21	44	26	110	62	44	60	65
10 Gaz Bureau	CR/M	94	57	59	45	83	31	27	15	44	31	33	53	70	48	39	66
R-4 Co. Rhen. Raffin.	I/M																
<u>TEESSIDE</u>																	
Eston 9	IR/H	128	-	92	63	54	46	47	53	44	58	61	80	110	68	66	113
Hartlepool 14	R/M	72	59	43	35	24	19	12	20	23	36	34	58	58	36	43	57
Hemlington 1	R/L	36	33	41	31	35	24	26	18	19	23	18	28	37	28	23	34
Middlesborough 29	IR/M	60	50	48	45	37	28	24	22	18	27	50	49	53	38	42	54
Stockton/Tees 6	IR/L	37	40	42	47	41	85	40	65	50	59	38	46	40	49	48	40
Stockton/Tees 10	CR/H	44	50	44	49	54	81	57	61	66	61	47	63	46	56	57	49

TABLE 4.2/2.1

MONTHLY VALUES

Town Class : 4

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 11	IC/M	127	132	107	63	69	60	57	71	47	60	44	67	122	75	57	118
Belfast 12	R/H	96	106	86	75	72	76	0	0	0	0	0	0	96	43	0	95
Belfast 15	R/L	52	52	36	26	29	42	30	43	26	20	23	28	47	34	24	48
Belfast 33	IR/M	84	72	67	50	36	57	46	52	40	37	42	48	74	53	42	78
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	85	54	56	55	67	57	58	54	59	53	55	63	65	60	57	69
Cardiff 10	IR/M	65	43	59	39	44	44	32	38	47	37	60	51	56	47	49	61
Cardiff 11	R/L	47	35	35	29	34	23	29	23	28	28	24	47	39	32	33	40
Cardiff 12	R/H	82	78	61	48	54	51	39	50	50	56	57	78	74	59	64	77
<u>CHARLEROI</u>																	
501 Croix Rouge	R/H	59	26	36	51	59	36	40	63	40	33	35	82	40	47	50	41
504 Ecole Garçons	IR/L	36	19	23	26	36	26	16	23	33	26	25	40	26	27	30	26
505 Bureau C.A.P.	IR/M	69	50	63	63	56	63	56	59	49	46	56	66	61	58	56	59
509 Hôtel de Ville	IR/H	96	60	112	134	145	162	175	165	106	164	132	109	89	130	135	87
513 Maison Comm.	CR/L	81	71	66	55	49	49	30	46	53	66	48	79	73	58	64	73
514 Régie Elec/eau	CR/M	63	59	56	55	47	53	46	46	59	53	79	82	59	56	71	56
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/M	106	81	66	51	31	29	19	16	28	28	62	106	84	52	65	82
2 Gaz France	I/M	83	57	50	42	31	35	33	26	47	45	50	90	63	49	62	64
4 Royat	R/L	51	33	35	36	29	21	32	31	48	33	30	44	40	35	36	39
8 Aulnat	I/L	32	35	37	27	32	41	36	36	49	37	34	24	35	35	32	34
32 Service Mines	R/M	35	17	29	23	19	16	15	13	28	49	50	133	27	36	77	28
33 Buisson	IR/L	20	13	12	11	0	0	0	1	14	26	35	61	15	16	41	16
<u>CORK</u>																	
Market	C/L	50	40	29	29	36	29	35	29	32	29	37	36	40	34	34	43
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	61	63	40	39	44	39	32	30	40	44	39	74	55	45	52	56
Edinburgh 17	R/L	45	39	30	21	29	33	19	25	24	33	31	54	38	32	39	37
Edinburgh 20	CR/H	103	68	60	47	48	32	29	30	38	48	39	82	77	52	56	78
Edinburgh 22	R/M	47	45	37	33	28	37	30	30	0	0	-	-	43	29	0	44
<u>GENT</u>																	
701 Kasteel	I/H	120	103	86	71	81	56	68	60	66	79	90	105	103	82	91	122
706 Grootehandelsm.	I/M	86	71	79	64	64	47	64	64	60	60	326	70	79	88	152	81
707 Gemeenteplein	R/L	98	85	90	64	68	34	60	41	40	60	60	60	91	63	60	95
709 Abeelstraat	R/H	150	154	120	98	83	68	71	79	64	86	15	130	141	93	77	144
712 Zwembad	R/M	90	98	101	64	83	34	71	53	41	68	60	83	96	71	70	100
715 St. Kruisdorp	I/L	86	60	71	79	64	47	79	53	79	57	83	90	72	71	77	74

TABLE 4.2/2.2

MONTHLY VALUES

Town Class: 4

Pollutant: ACIDITY mg/m^3 Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>LE HAVRE</u>																	
12 Ignaulval	CR/M	0	0	0	0	0	0	0	10	10	40	0	90	0	13	43	4
21 A.T.O.	I/M	70	50	30	40	70	110	90	50	50	25	110	55	50	63	63	40
29 Renault	I/L	0	0	0	20	10	0	10	10	20	0	10	35	0	10	15	0
31 Presseusse	CR/M	100	200	130	100	100	10	10	35	70	110	80	220	143	97	137	128
32 E.D.F.	I/H	180	130	210	120	60	30	10	20	40	80	50	100	173	86	77	173
43 Frileuse	CR/H	220	95	70	50	70	10	0	30	20	120	20	150	128	71	97	117
<u>LIEGE/LUIK</u>																	
202 St.Sepulcre	R/H	63	53	77	72	72	54	63	49	55	57	81	79	64	65	72	66
205 Univ. Toxic.	R/M	144	98	107	98	90	92	75	69	111	117	135	119	116	105	124	119
215 Maison Comm.	IR/H	175	143	145	118	69	53	46	58	64	66	82	92	154	93	80	130
218 Caserne Pomp.	IR/M	41	22	64	29	48	21	27	26	38	56	70	119	42	46	82	45
229 Maison Comm.	IR/L	58	28	41	58	38	43	74	69	47	70	91	59	42	56	73	46
230 Cim. St.Tilmar	R/L	57	31	64	54	50	52	39	46	44	50	81	66	51	53	66	52
<u>NANTES</u>																	
SNO Service Mines	-M	0	0	0	0	20	0	54	0	0	41	109	67	0	24	72	0
SM3 Haute Indre	I/M	0	10	33	15	2	13	9	17	302	50	49	194	14	58	98	14
NO4 Théâtre Gras.	CR/M	55	28	10	20	19	13	8	10	18	0	58	68	31	26	42	31
NO6 Pilotière	CR/L	9	21	57	6	16	11	0	0	0	15	37	45	29	18	32	33
NO13 Cartron	I/-	19	0	7	21	13	14	17	9	26	2	6	9	9	12	6	9
NO15 Pompiers	I/-	0	14	72	26	11	6	0	0	0	0	1	10	29	12	4	25
<u>PORPSMOUTH</u>																	
Portsmouth 5	R/L	46	29	35	29	34	23	23	21	30	37	45	52	37	34	45	38
Portsmouth 8	R/M	59	43	40	38	39	32	33	33	41	55	54	57	47	44	55	48
Portsmouth 9	IR/M	38	84	65	68	97	121	137	151	121	94	83	56	62	93	78	61
Portsmouth 11	CR/M	66	62	64	66	54	50	53	53	61	70	98	63	64	63	77	65
<u>ROUEN</u>																	
1 Mairie	CR/M	96	73	48	31	27	30	15	20	76	70	57	79	72	52	69	68
4 Service Mines	CR/M	161	101	109	90	55	44	42	37	103	121	111	164	124	95	132	104
6 Lycée d'Etat	CR/M	38	40	47	64	39	31	40	27	60	95	79	96	42	55	90	41
7 Port Autonome	I/M	166	118	128	90	42	50	62	16	82	118	98	147	137	93	121	116
8 Ets.Socomac	I/M	45	18	47	32	23	35	14	9	35	22	18	104	37	34	48	34
11 Chateau d'Eau	I/H	176	70	43	286	64	57	67	55	57	57	166	206	96	109	143	90

TABLE 4.2/2.3

M O N T H L Y V A L U E S

Town Class : 4

Pollutant : ACIDITY / $\mu\text{g}/\text{m}^3$ Type of Value : MEDIAN

<u>TOWN</u> Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
E.D.F. 1	I/M	21	11	18	18	23	25	30	20	25	34	23	33	17	23	30	23
3 Elec. Strasbourg	CR/M	129	70	79	73	34	25	23	21	37	67	56	201	93	68	108	95
4 Cellulose	I/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Fac. Médecine	CR/H	78	49	54	34	38	25	21	14	18	34	12	103	60	40	50	63
10 Gaz Bureau	CR/M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-4 Co. Rhen. Raffin	I/M	92	50	45	44	69	29	14	2	37	33	26	46	62	41	35	58
<u>TEESSIDE</u>																	
Eston 9	IR/H	110	-	84	61	56	40	45	48	43	60	55	53	97	61	56	102
Hartlepool 14	R/M	65	55	36	29	23	17	12	17	21	29	34	56	52	33	40	52
Hemlington 1	R/L	35	33	42	30	31	19	18	18	18	24	19	25	37	26	23	34
Middlesborough 29	IR/M	57	45	44	39	38	26	26	19	19	25	32	45	49	35	34	50
Stockton/Tees 6	IR/L	29	39	39	43	30	88	49	70	45	59	31	45	36	47	45	36
Stockton/Tees 10	CR/H	39	46	40	44	55	69	46	69	70	58	35	55	42	52	49	46

TABLE 4.2/3.1

MONTHLY VALUES

Town Class : 4

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 11	IC/M	447	198	205	142	153	228	151	132	80	128	244	205	447	447	244	
Belfast 12	R/H	332	220	162	265	126	203	0	0	0	0	0	0	332	332	0	388
Belfast 15	R/L	173	106	73	125	89	77	84	85	42	45	178	117	173	178	178	
Belfast 33	IR/M	288	167	102	86	96	138	90	93	66	122	254	128	288	288	254	
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	157	151	145	133	107	107	115	107	140	100	196	200	157	200	200	241
Cardiff 10	IR/M	176	146	140	63	87	100	57	94	113	104	144	134	176	176	144	223
Cardiff 11	R/L	94	69	93	53	63	58	69	57	74	63	118	150	94	150	150	118
Cardiff 12	R/H	180	132	146	94	98	96	85	104	109	140	186	210	189	210	210	258
<u>CHARLEROI</u>																	
501 Croix Rouge	R/H	142	76	92	92	122	82	208	251	106	79	307	211	142	307	307	
504 Ecole Gargone	IR/L	99	122	122	59	148	63	99	188	102	115	214	135	122	214	214	
505 Bureau C.A.P.	IR/M	191	195	119	125	112	86	165	119	89	102	304	211	195	304	304	
509 Hôtel de Ville	IR/H	188	191	221	185	224	300	406	386	247	294	267	181	191	386	294	214
513 Maison Comm.	CR/L	239	178	119	102	89	122	99	109	132	139	224	205	239	239	224	
514 Régie Elec/eau	CR/M	148	139	135	99	119	113	115	76	162	99	264	162	148	264	264	168
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/M	209	190	156	90	60	43	40	27	45	49	131	421	209	421	421	375
2 Gaz France	I/M	164	128	128	73	52	55	79	47	67	76	116	310	164	310	310	330
4 Royat	R/L	194	88	104	72	47	43	53	56	68	102	96	164	194	194	164	242
8 Aulnat	I/L	80	63	69	48	56	59	91	78	73	51	155	56	80	155	155	221
32 Service Mines	R/M	102	77	45	42	30	26	29	45	402	103	151	475	102	475	475	126
33 Buissone	IR/L	51	54	31	15	38	11	10	19	39	64	137	370	54	370	370	130
<u>CORK</u>																	
Market	G/L	112	107	65	106	86	50	57	43	86	85	116	130	112	130	130	146
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	235	140	121	66	121	98	74	83	66	99	148	208	235	235	148	253
Edinburgh 17	R/L	158	70	70	53	68	70	68	99	82	74	100	100	158	158	100	
Edinburgh 20	OR/H	250	160	139	66	102	90	73	90	79	108	229	164	250	250	229	
Edinburgh 22	R/M	117	130	96	89	78	97	88	45	0	0	-	-	130	130	-	166
<u>GENT</u>																	
701 Kasteel	I/H	210	210	158	146	154	195	158	161	139	315	405	206	210	405	405	330
706 Grootenhof	I/M	285	191	210	124	98	154	173	154	154	86	390	176	285	390	390	372
707 Gemeenteplein	R/L	248	221	161	101	128	68	143	90	120	128	308	240	248	308	308	308
709 Abeelstraat	R/H	484	345	221	139	128	146	191	154	180	116	289	315	484	484	289	
712 Zwembad	R/M	248	229	210	128	193	79	173	98	154	158	360	323	248	360	360	327
715 St. Kruindorp	I/L	165	79	158	236	120	146	221	135	195	109	248	176	165	248	248	195

TABLE 4.2/3.2

MONTHLY VALUES

Town Class : 4

Pollutant: ACIDITY /ug/m³ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>LE HAVRE</u>																	
12 Ignauval	CR/M	340	150	620	260	130	90	420	110	300	700	30	880	620	880	880	
21 A.T.O.	I/M	360	190	150	170	140	230	360	170	130	40	150	240	360	360	240	
29 Renault	I/L	130	50	50	70	60	80	70	4L	110	80	220	260	130	260	260	
31 Pressusse	CR/M	760	510	310	290	410	180	310	130	270	470	280	620	760	760	620	
32 E.D.F.	I/H	1400	730	990	410	370	750	240	120	150	330	290	380	1400	1400	380	
43 Frileuse	CR/H	1850	470	570	360	450	180	480	160	560	610	160	880	1850	1850	880	
<u>LIEGE/LUJK</u>																	
202 St.Sepulcre	R/H	161	135	188	182	160	116	130	77	71	79	126	152	188	188	152	214
205 Univ. Toxic.	R/M	233	271	183	161	164	162	339	121	174	178	249	231	271	271	249	303
215 Maison Comm.	IR/H	365	212	397	309	135	130	66	87	143	97	111	129	397	397	129	
218 Caserne Pomp.	IR/M	115	89	121	141	97	41	59	76	80	76	134	375	115	375	375	157
229 Maison Comm.	IR/L	99	78	157	286	152	129	139	285	82	107	120	162	157	286	162	
230 Cim. St.Tilman	R/L	179	60	141	135	94	107	91	65	59	89	114	111	179	179	114	
<u>NANTES</u>																	
SMO Service Mines	-/M	0	0	0	0	405	0	147	0	0	116	480	174	0	480	480	
SM3 Haute Indre	I/M	0	78	116	411	96	119	137	188	1215	96	323	376	116	1215	376	
NO4 Théâtre Gras.	CR/M	107	195	48	62	32	28	120	73	159	18	194	237	195	237	237	
NO6 Piloteière	CR/L	39	227	134	18	40	29	17	1	2	65	104	100	227	227	104	
NO13 Cartron	I/-	194	83	247	131	381	43	299	104	149	62	76	105	247	247	105	
NO15 Pompierre	I/-	215	105	263	60	56	25	18	123	10	141	12	370	263	370	370	
<u>PORSCHE</u>																	
Portsmouth 5	R/L	83	70	59	46	57	41	48	48	54	68	134	98	83	134	134	
Portsmouth 8	R/M	101	87	121	66	78	59	69	55	67	117	102	146	121	146	146	131
Portsmouth 9	IR/M	108	146	72	118	167	167	259	210	232	153	202	126	146	259	202	
Portsmouth 11	CR/M	226	142	141	155	119	112	112	98	125	181	216	202	226	226	216	
<u>ROUEN</u>																	
1 Mairie	CR/M	331	192	212	145	132	73	89	99	190	301	154	275	331	331	275	
4 Service Mines	CR/M	406	199	337	273	175	123	107	110	207	216	223	496	406	496	496	
6 Lycée d'Etat	CR/M	360	115	104	189	92	77	145	89	129	157	205	299	360	360	299	
7 Port Autonome	I/M	495	302	429	381	170	138	185	75	219	229	187	505	495	505	505	
8 Ets.Sooomac	I/M	510	103	221	127	90	152	87	62	138	236	453	659	510	659	659	
11 Chateau d'Eau	I/H	1528	434	304	1019	275	421	427	269	308	246	354	827	1528	1528	827	

TABLE 4.2/3.3

MONTHLY VALUES

Town Class : 4

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
B.D.F. 1	I/M	54	65	105	89	82	110	107	86	97	83	46	67	105	110	83	
3 Eleo.Strasbourg	CR/M	226	180	188	132	105	38	61	45	107	134	360	323	226	323	323	
4 Cellulose	I/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5 Fac.Médecine	CR/H	152	108	125	98	69	56	76	33	66	121	195	202	152	152	202	
10 Gaz Bureau	CR/M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-4 Co.Rhen.Raffin	I/M	184	118	131	112	253	70	108	124	94	92	131	123	184	184	123	
<u>TEESSIDE</u>																	
Eston 9	IR/H	376	-	173	157	122	95	96	104	75	125	162	201	376	376	201	
Hartlepool 14	R/M	204	146	138	96	46	68	23	56	76	69	91	97	204	204	97	
Hemlington 1	R/L	64	48	80	55	73	61	105	37	31	43	38	71	80	105	71	
Middlesborough 29	IR/M	119	89	89	77	58	71	58	45	32	64	196	116	119	196	196	
Stockton/Tees 6	IR/L	90	88	89	132	101	229	90	131	90	177	79	87	90	220	177	
Stockton/Tees 10	CR/H	100	90	89	95	138	221	139	118	160	190	109	158	100	221	190	

TABLE 4.3/1.1

MONTHLY VALUES

Town Class: 4

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 11	IC/M	177	111	67	37	40	29	37	31	58	59	166	145	118	80	123	136
Belfast 12	R/H	35	31	24	16	11	11	0	0	0	0	0	0	30	11	0	33
Belfast 15	R/L	110	99	61	27	37	25	23	24	41	41	120	67	90	56	76	101
Belfast 33	IR/M	147	99	70	46	33	27	29	31	47	61	156	106	105	71	108	122
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	78	47	41	33	28	23	24	28	30	36	41	39	55	37	39	63
Cardiff 10	IR/M	51	22	23	15	15	17	11	17	20	22	28	30	32	23	27	39
Cardiff 11	R/L	36	20	21	13	10	9	7	11	10	15	11	23	26	16	16	27
Cardiff 12	R/H	114	61	42	28	23	22	14	23	30	31	46	61	72	41	46	75
<u>CHARLEROI</u>																	
501 Croix Rouge	R/H	29	9	16	16	15	20	13	18	19	18	10	40	18	19	23	20
504 Ecole Garçons	IR/L	26	21	24	14	19	21	15	16	26	23	23	32	24	22	26	24
505 Bureau C.A.P.	IR/M	39	26	29	23	23	30	23	27	33	30	33	40	31	30	34	34
509 Hôtel de Ville	IR/H	25	19	12	9	9	8	7	15	17	17	26	32	19	16	25	20
513 Maison Comm.	CR/L	23	19	18	13	13	11	8	15	21	25	14	32	20	18	24	21
514 Régie Elec/eau	OR/M	20	14	17	14	13	18	7	16	18	25	18	30	17	18	24	18
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/M	36	43	31	32	29	15	14	26	41	28	32	67	37	33	42	36
2 Gaz France	I/M	33	25	29	31	26	16	23	18	33	32	33	68	29	31	44	31
4 Royat	R/L	18	9	14	16	14	10	8	10	18	15	14	27	14	14	19	15
8 Aulnat	I/L	13	9	20	13	11	8	9	8	15	9	8	21	14	12	13	13
32 Service Mines	R/M	41	31	28	34	20	18	15	15	19	23	19	40	33	25	27	37
33 Buisson	IR/L																
<u>CORK</u>																	
Market	C/L	54	45	20	18	18	18	10	11	14	20	35	35	40	25	30	44
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	63	57	35	26	31	20	12	17	23	33	43	87	52	37	54	52
Edinburgh 17	R/L	46	36	26	17	22	19	12	17	18	24	30	48	36	26	34	36
Edinburgh 20	CR/H	70	55	42	32	35	24	15	19	25	31	22	51	56	35	35	58
Edinburgh 22	R/M	65	46	31	20	15	16	11	15	0	0	-	-	47	24	0	53
<u>GENT</u>																	
701 Kasteel	I/H	23	18	15	8	11	12	8	9	12	21	16	25	19	15	21	18
706 Grootehandelsm	I/M	15	11	11	6	9	10	8	8	10	13	68	15	12	15	32	13
707 Gemeenteplein	R/L	20	18	16	9	17	14	12	12	14	21	15	21	18	16	19	19
709 Abeelstraat	R/H	22	20	18	11	15	13	10	8	10	15	27	21	20	16	21	21
712 Zwembad	R/M	25	18	17	7	19	11	9	7	11	20	11	23	20	15	18	21
715 St. Kruisdorp	I/L	11	4	10	5	7	8	7	4	5	10	8	12	8	8	10	9

TABLE 4.3/1.2

MONTHLY VALUES

Town Class: 4

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>LIEGE/LUX</u>																	
202 St.Sepulcre	R/H	16	17	23	13	10	9	8	8	15	13	21	28	19	15	21	21
205 Univ. Toxic.	R/M	45	29	31	16	6	9	7	14	16	26	29	36	35	22	30	37
215 Maison Comm.	IR/H	18	33	48	37	22	23	18	23	30	15	22	53	33	29	30	28
218 Caserne Pomp.	IR/M	9	8	15	15	17	14	13	11	13	8	22	40	11	15	23	12
229 Maison Comm.	IR/L	10	13	10	12	14	13	11	9	10	14	21	17	11	13	17	12
230 Cim. St.Tilman	R/L	16	7	15	9	7	8	6	5	11	13	19	20	13	11	17	14
<u>PORPSMOUTH</u>																	
Portsmouth 5	R/L	15	8	9	5	5	5	4	5	6	7	8	13	11	8	9	15
Portsmouth 8	R/M	24	12	11	7	8	6	5	8	10	8	9	20	16	11	12	17
Portsmouth 9	IR/M	27	95	16	9	8	9	5	6	10	8	13	16	46	19	12	41
Portsmouth 11	CR/M	18	12	12	8	8	7	5	8	7	9	7	12	14	9	9	15

TABLE 4.3/1.3

MONTHLY VALUES

Town Class : 4

Pollutant: SMOKE / $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
E.D.F. 1	I/M																
3 Elec.Strasbourg	CR/M	102	72	65	52	30	34	26	30	50	75	59	124	80	60	86	84
4 Cellulose	I/H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Fao.Médecine	CR/H	68	54	49	31	27	26	21	17	26	47	25	76	57	39	49	61
10 Gaz Bureau	CR/M	87	60	62	40	37	30	26	30	45	73	52	107	70	54	77	72
R-4 Co.Rhen.Raffin	I/M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>TEESSIDE</u>																	
Eaton 9	IR/H	130	-	60	33	31	28	18	19	24	42	60	78	95	50	60	104
Hartlepool 14	R/M	33	21	15	8	8	7	5	5	10	17	20	26	23	15	21	25
Hemlington 1	R/L	26	17	8	6	11	10	9	7	8	11	12	15	17	12	13	18
Middlesborough 29	IR/M	69	60	32	23	27	39	18	17	17	30	38	41	54	34	36	57
Stockton/Tees 6	IR/L	15	12	14	18	17	22	16	15	18	16	33	41	14	20	30	15
Stockton/Tees 10	CR/H	11	9	17	27	33	19	14	13	14	15	9	29	12	18	18	13

TABLE 4.3/2.1

MONTHLY VALUES

Town Class: 4

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 11	IC/M	174	111	58	34	31	24	21	23	45	58	71	94	114	62	74	125
Belfast 12	R/H	27	29	21	14	10	11	0	0	0	0	0	0	26	9	0	27
Belfast 15	R/L	102	91	59	24	25	27	17	23	32	34	51	44	84	44	43	86
Belfast 33	IR/M	127	88	60	38	28	26	26	24	45	51	84	72	92	56	69	101
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	63	47	37	31	26	25	25	26	28	25	32	32	49	33	30	55
Cardiff 10	IR/M	35	19	22	16	16	15	12	15	18	18	22	26	25	20	22	31
Cardiff 11	R/L	28	21	18	8	10	7	7	8	9	12	8	21	22	13	14	24
Cardiff 12	R/H	113	57	36	30	24	22	15	19	26	23	35	59	69	38	39	75
<u>CHARLEROI</u>																	
501 Croix Rouge	R/H	25	7	12	16	16	19	12	17	19	19	6	32	15	17	19	16
504 Ecole Garçons	IR/L	21	15	19	12	17	21	16	16	23	21	10	17	18	17	16	20
505 Bureau C.A.P.	IR/M	37	25	27	23	23	29	24	27	32	32	25	32	30	28	30	31
509 Hôtel de Ville	IR/H	23	17	12	7	7	9	7	16	18	16	18	29	17	15	21	19
513 Maison Comm.	CR/L	22	14	18	13	13	12	8	14	19	23	9	21	18	16	18	19
514 Régie Elec/eau	CR/M	19	14	17	15	14	15	7	16	18	25	15	25	17	17	22	17
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/M	33	38	25	27	26	17	13	20	38	23	23	40	32	27	29	31
2 Gaz France	I/M	30	18	30	32	28	17	26	18	33	25	20	49	26	27	31	27
4 Royat	R/L	13	5	14	15	13	10	9	11	20	13	7	20	31	13	13	12
8 Aulnat	I/L	13	7	17	11	11	9	9	9	15	7	6	16	12	11	10	11
32 Service Mines	R/M	38	26	28	34	20	20	17	14	20	25	17	40	31	25	27	34
33 Buissone	IR/L																
<u>CORK</u>																	
Market	C/L	43	33	19	20	19	13	10	11	14	19	26	28	32	21	24	36
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	61	51	37	25	31	17	11	18	22	25	27	60	50	32	37	49
Edinburgh 17	R/L	42	34	21	17	23	19	9	18	14	17	20	29	32	22	22	32
Edinburgh 20	CR/H	72	54	41	31	34	24	17	18	25	28	21	43	56	34	31	56
Edinburgh 22	R/M	49	42	24	20	15	14	12	14	0	0	-	-	38	21	0	41
<u>GENT</u>																	
701 Kasteel	I/H	22	18	16	8	8	12	8	10	10	20	10	24	19	14	18	18
706 Grootehandsdalem	I/M	12	8	10	7	10	10	8	8	8	10	69	8	10	14	29	11
707 Gemeenteplein	R/L	16	15	16	8	16	15	12	12	12	20	11	16	16	14	16	17
709 Abeelstraat	R/H	20	18	18	10	14	14	10	8	10	15	12	17	19	14	15	19
712 Zwembad	R/M	20	17	14	7	18	12	8	8	10	18	8	18	17	13	15	18
715 St. Kruisdorp	I/L	10	3	10	6	8	8	7	3	5	10	7	12	8	7	10	9

TABLE 4.3/2.2

MONTHLY VALUES

T o w n C l a s s : 4

P o l l u t a n t : SMOKE mg/m^3

Type of Value: MEDIAN

TABLE 4.3/2.3

MONTHLY VALUES

Town Class: 4

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
E.D.F. 1	I/M																
3 Elec.Strasbourg	CR/M	95	69	59	51	28	33	26	26	51	71	53	116	74	57	80	78
4 Cellulose	I/H																
5 Fao.Médeoine	CR/H	62	54	46	30	24	25	19	16	22	38	19	73	54	36	43	57
10 Gaz Bureau	CR/M	84	54	57	41	33	27	27	27	46	73	44	105	65	52	74	67
R-4 Co.Rhen.Raffin	I/M																
<u>TEESSIDE</u>																	
Eton 9	IR/H	120	-	60	31	30	29	21	20	22	33	49	52	90	44	45	99
Hartlepool 14	R/M	24	16	12	8	7	6	5	5	7	14	13	15	17	11	14	19
Hemlington 1	R/L	22	16	6	7	9	7	8	6	6	9	6	7	15	9	7	16
Middlesborough 29	IR/M	63	51	29	20	24	40	20	15	15	24	20	29	48	29	24	51
Stockton/Tees 6	IR/L	7	14	13	17	14	19	15	12	16	15	14	29	11	15	19	13
Stockton/Tees 10	CR/H	5	5	11	20	23	17	11	11	11	11	8	25	7	13	15	8

TABLE 4.3/3.1

MONTHLY VALUES

Town Class: 1

Pollutant: SMOKE / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BELFAST</u>																	
Belfast 11	IC/M	510	206	181	75	123	90	164	84	128	123	806	1174	510	1174	1174	925
Belfast 12	R/H	82	58	60	40	29	19	0	0	0	0	0	0	82	82	0	104
Belfast 15	R/L	343	178	222	86	194	42	58	57	79	123	625	507	343	625	625	977
Belfast 33	IR/M	512	313	223	95	107	78	60	64	79	186	753	530	512	753	753	922
<u>CARDIFF</u>																	
Cardiff 9	ICR/H	216	92	101	70	66	47	41	67	82	119	92	139	216	216	139	329
Cardiff 10	IR/M	184	50	60	33	28	50	21	53	53	55	78	82	184	184	82	331
Cardiff 11	R/L	120	42	69	65	20	30	17	28	36	46	45	83	120	120	83	126
Cardiff 12	R/H	268	112	95	49	38	40	25	60	78	118	109	121	268	268	121	455
<u>CHARLEROI</u>																	
501 Croix Rouge	R/H	81	27	45	32	25	42	25	45	39	37	103	147	81	147	147	89
504 Ecole Garçons	IR/L	108	58	77	32	39	42	27	32	89	54	140	155	108	155	155	103
505 Bureau C.A.P.	IR/M	98	77	65	51	39	61	39	48	61	69	147	155	98	155	155	103
509 Hôtel de Ville	IR/H	48	42	25	19	23	17	17	32	32	37	69	81	48	81	81	61
513 Maison Comm.	CR/L	79	65	47	25	29	21	19	32	45	58	73	126	79	126	126	126
514 Régie Elec/eau	CR/M	61	34	34	33	36	54	16	27	45	54	65	98	61	98	98	69
<u>CLERMONT FERRAND</u>																	
1 Ecole Commerce	R/M	76	114	88	83	87	27	28	134	95	57	101	290	114	290	290	167
2 Gaz France	I/M	79	81	85	93	49	40	36	35	67	73	127	246	85	246	246	196
4 Royal	R/L	71	42	34	38	30	20	17	22	34	38	51	112	71	112	112	116
8 Aulnat	I/L	36	46	42	30	25	16	19	16	28	20	28	108	46	108	108	108
32 Service Mines	R/M	83	83	68	68	51	36	25	34	44	38	57	116	83	116	116	158
33 Buisson	IR/L																
<u>CORK</u>																	
Market	C/L	127	119	36	30	30	128	24	22	28	43	143	92	127	143	143	200
<u>EDINBURGH</u>																	
Edinburgh 12	IR/M	163	138	109	40	48	51	27	37	52	76	138	338	163	338	338	212
Edinburgh 17	R/L	126	86	105	25	34	34	29	27	52	87	90	184	126	184	184	167
Edinburgh 20	CR/H	163	111	123	48	48	54	27	33	54	78	87	247	163	247	247	278
Edinburgh 22	R/M	193	111	128	48	33	40	22	31	0	0	-	-	193	193	-	377
<u>GENT</u>																	
701 Kasteel	I/H	78	42	45	20	31	18	16	20	28	42	129	62	78	129	129	48
706 Grootehandelsm.	I/M	42	36	26	16	20	16	12	16	28	26	83	42	42	83	83	48
707 Gemeenteplein	R/L	66	51	39	22	39	22	20	22	42	70	97	58	66	97	97	78
709 Abeelstraat	R/H	62	48	34	24	31	20	16	18	22	28	66	54	62	66	66	70
712 Zwembad	R/M	129	42	42	14	42	20	18	16	28	39	78	70	129	129	78	
715 St. Kruisdorp	I/L	26	8	18	10	20	14	12	10	14	20	36	31	26	36	36	31

TABLE 4.3/3.2

MONTHLY VALUES

Town Class: 4

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 4.3/3.3

MONTHLY VALUES

Town Class : 4

Pollutant: SMOKE / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>STRASBOURG</u>																	
E.D.F. 1	I/M																
3 Elec.Strasbourg	CR/M	179	129	160	98	78	75	53	57	106	171	195	214	179	214	214	191
4 Cellulose	I/H																
5 Fao.Médecine	CR/H	150	92	119	57	53	49	42	32	71	145	106	136	150	150	145	270
10 Gaz Bureau	CR/M	149	106	139	67	65	63	35	52	99	164	177	175	149	177	177	182
R-4 Co.Rhen.Raffin	I/M																
<u>TEESSIDE</u>																	
Eston 9	IR/H	455	-	126	79	53	59	41	27	49	82	178	242	455	455	242	619
Hartlepool 14	R/M	148	58	38	25	24	33	17	12	51	39	123	119	148	148	123	174
Hemlington 1	R/L	76	65	27	19	32	39	30	15	34	32	82	50	76	82	82	
Middlesborough 29	IR/M	187	168	122	51	51	100	40	45	56	90	190	141	187	190	190	285
Stockton/Tees 6	IR/L	58	19	38	41	76	59	52	45	52	38	269	115	58	269	269	63
Stockton/Tees 10	CR/H	45	38	89	92	131	62	38	38	46	43	63	75	89	131	75	

TABLE 4.4/1.1

MONTHLY VALUES

Town Class 14

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Values: MEAN

TABLE 4.4/1.2

MONTHLY VALUES

Town Class: 4

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/M	64	52	59	52	51	52	46	55	62	81	32	65	58	56	59	60
<u>WURZBURG</u> 6/4 Würzburg	CR/M	30	25	29	21	43	54	48	66	60	76	34	57	28	45	56	27
<u>REGENSBURG</u> 31 Regensburg	CR/M	18	19	17	0	0	0	0	0	0	119	59	93	18	27	90	15
<u>KARLSRUHE</u> 1 West 2 Mitte	CR/- CR/M																.
<u>MANNHEIM</u> Nord 110 Mitte 111	I/M R/M																
<u>BOLZANO</u> 1 Gries Est 2 Walther 3 Fiera 4 Don Bosco 5 Gadner	C/M I/H IR/H IR/- I/L	99	140	-	58	62	-	94	56	101	86	43	80	120	82	70	108
<u>PESCARA</u> Centro	CR/M	105	-	105	94	73	119	100	81	105	129	118	148	105	108	132	105

TABLE 4.4./2.1

MONTHLY VALUES

Town Class 4

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TABLE 4.4/2.2

MONTHLY VALUES

Town Class: 4

Pollutant: PARTICLES /ug/m³ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/M	60	44	58	51	50	50	44	46	56	89	30	63	54	53	61	56
<u>WURZBURG</u> 6/4 Würzburg	CR/M	30	20	30	20	40	50	40	60	60	80	30	50	27	43	53	26
<u>REGENSBURG</u> 31 Regensburg	CR/M	20	20	15	0	0	0	0	0	0	120	50	90	18	26	87	14
<u>KARLSRUHE</u> 1 West 2 Mitte	CR/- CR/M																
<u>MANNHEIM</u> Nord 110 Mitte 111	I/M R/M																
<u>BOLZANO</u> 1 Gries Est 2 Walther 3 Fiera 4 Don Bosco 5 Gadner	C/M I/H IR/H IR/- I/L	85	138	-	43	59	-	41	43	77	52	41	74	112	65	56	101
		85	57	-	59	64	-	137	140	67	46	103	126	71	88	92	74
		52	75	-	53	20	13	52	73	37	74	124	333	64	87	177	61
		62	93	-	61	61	-	46	56	44	79	32	81	78	62	64	68
		89	58	-	59	26	12	70	73	90	35	74	354	74	89	154	74
<u>PESCARA</u> Centro	CR/M	95	-	107	95	78	118	94	83	104	138	124	147	101	109	136	101

TABLE 4.4/3.1

MONTHLY VALUES

Town Classes

Pollutant: PARTICLES / $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 4.4/3.2

MONTHLY VALUES

Town Class: 4

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>WIESBADEN</u> Mitte	CR/M	139	158	150	96	110	92	98	122	113	126	81	133	158	158	133	165
<u>WURZBURG</u> 6/4 Würzburg	CR/M	50	70	50	30	70	110	130	120	170	150	100	130	70	170	150	
<u>REGENSBURG</u> 31 Regensburg	CR/M	40	30	30	0	0	0	0	0	0	160	130	190	40	190	190	
<u>KARLSRUHE</u> 1 West 2 Mitte	CR/- CR/M																
<u>MANNHEIM</u> Nord 110 Mitte 111	I/M R/M																
<u>BOLZANO</u> 1 Gries Est 2 Walther 3 Fiera 4 Don Bosco 5 Gadner	C/N I/H IR/H IR/- I/L	179 187 114 436 223	249 183 223 124 107	- - - - -	123 141 172 112 335	147 267 513 149 335	- - 144 - 101	309 277 217 254 420	166 318 386 138 156	317 600 341 162 216	163 258 563 154 169	95 695 903 151 521	164 958 951 198 986	249 187 223 436 223	317 958 951 436 986	164 958 951 198 263	
<u>PESCARA</u> Centro	CR/M	174	-	136	114	96	149	133	107	141	176	177	193	174	193	193	250

TABLE 5.1/1

MONTHLY VALUES

Town Class: 5

P o l l u t a n t : SO_2 $\mu\text{g}/\text{m}^3$

Type of Value: MEAN

TABLE 5.1/2

MONTHLY VALUES

Town Classes: 5

P o l l u t a n t : SO_2 /ug/m³

Type of Value: MEDIAN

TABLE 5.1/3

M O N T H L Y V A L U E S

Town Classes: 5

P o l l u t a n t : SO_2 / $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TABLE 5.2/1.1

MONTHLY VALUES

Town Class 5

Pollutant: ACIDITY / $\mu\text{g/m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNESLEY</u>																	
Barnsley 9	IR/M	171	151	120	91	98	87	67	69	76	92	118	187	147	111	132	149
Barnsley 10	CR/M	186	168	130	82	96	84	63	53	0	0	-	-	161	92	-	162
<u>BATH</u>																	
Bath 2	R/M	71	-	59	58	32	30	24	34	42	35	42	47	65	44	41	61
<u>BEDFORD</u>																	
Bedford 5	IR/M	109	101	97	61	43	43	38	32	44	70	71	92	102	67	78	100
<u>BRUGGE</u>																	
605 Min.Volksgez.	R/L	258	283	262	56	0	30	53	48	61	63	45	113	268	106	74	241
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	98	0	62	38	18	0	0	-	2	9	36	68	53	29	38	55
25 Contreplaques	I/M	7	7	18	34	60	90	18	46	33	17	15	7	11	29	13	10
26 Pont Trouille	I/M	69	21	21	39	21	14	6	6	6	12	17	10	37	20	13	39
31 Vieux Montagne	I/M	35	41	25	31	40	29	0	17	-	-	-	-	34	29	-	36
<u>ESCH/ALZETTE</u>																	
355 Ecole Brill	IR/H	28	22	33	33	0	0	0	0	0	0	0	0	28	10	0	27
<u>EXETER</u>																	
Exeter 7	CR/M	48	39	33	33	41	35	32	35	29	25	40	30	40	35	32	45
<u>GALWAY</u>																	
Borough Engineer	C/L	9	13	9	9	10	8	11	6	11	13	18	15	10	11	15	13
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	113	94	92	73	73	42	36	39	57	70	83	101	100	73	85	102
603 Politie Bureau	C/M	144	122	123	128	169	197	229	194	142	117	139	132	130	153	129	133
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	45	22	59	50	58	53	49	76	55	33	33	37	42	48	34	45
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	101	72	61	63	53	35	32	27	31	43	73	81	78	56	66	78
Lincoln 11	R/H	97	-	53	65	54	43	37	27	47	45	90	70	75	58	68	76
Lincoln 15	R/L	57	52	35	39	18	30	26	26	25	27	24	41	48	33	31	46
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	C/H	108	46	72	60	60	46	45	44	48	68	78	86	75	63	77	76
353 Laboratoire	R/L	58	47	46	55	62	29	40	39	29	33	51	44	50	44	43	52

TABLE 5.2/1.2

MONTHLY VALUES

Town Class 5

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TABLE 5.2/2.1

MONTHLY VALUES

Town Class: 5

Pollutant: ACIDITY / $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNSLEY</u>																	
Barnsley 9	IR/M	159	144	103	94	90	69	59	61	73	88	92	192	135	102	124	138
Barnsley 10	CR/M	157	163	122	77	92	71	51	0	0	0	-	-	147	80	-	144
<u>BATH</u>																	
Bath 2	R/M	69	-	49	60	32	29	26	33	43	35	41	47	59	43	41	57
<u>BEDFORD</u>																	
Bedford 5	IR/M	107	99	78	61	43	42	36	29	37	64	61	81	95	62	69	94
<u>BRUGGE</u>																	
605 Min. Volksgez.	R/L	216	246	0	32	0	32	49	43	54	63	37	109	154	73	70	153
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	93	0	58	38	11	0	0	-	1	4	23	59	50	25	29	53
25 Contreplaques	I/M	2	1	10	8	38	43	0	14	16	11	4	0	4	12	5	4
26 Pont Trouille	I/M	30	19	23	11	12	9	5	4	2	6	8	5	24	11	6	25
31 Vieux Montagne	I/M	36	42	23	29	32	27	0	17	-	-	-	-	34	27	-	35
<u>ESCH/ALZETTE</u>																	
355 Eole Brill	IR/H	35	20	38	33	0	0	0	0	0	0	0	0	31	11	0	29
<u>EXETER</u>																	
Exeter 7	CR/M	48	40	29	31	37	29	27	35	22	29	30	27	39	32	29	43
<u>GALWAY</u>																	
Borough Engineer	C/L	8	15	10	10	10	8	8	7	10	13	18	16	11	11	16	14
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	97	88	89	69	70	43	27	36	55	65	66	94	91	67	75	95
603 Politie Bureau	C/M	128	119	121	131	155	171	210	183	137	110	126	118	123	142	118	128
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	46	25	56	41	58	45	45	69	53	32	34	34	42	45	33	44
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	92	62	54	56	48	27	34	20	25	40	71	75	69	50	62	73
Lincoln 11	R/H	110	-	53	62	54	39	39	22	39	42	85	61	82	56	63	81
Lincoln 15	R/L	56	49	39	33	18	30	30	19	24	24	23	29	48	31	25	45
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	C/H	87	48	72	57	52	44	43	48	46	68	77	88	69	61	78	70
353 Laboratoire	R/L	62	33	54	53	47	29	40	36	29	30	54	42	50	42	42	52

TABLE 5.2/2.2

MONTHLY VALUES

Town Class: 5

Pollutant: ACTIVITY $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TABLE 5.2/3.1

MONTHLY VALUES

Town Class : 5

Pollutant : ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value : MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNESLEY</u>																	
Barnsley 9	IR/M	381	305	236	126	167	164	153	116	134	174	389	425	381	425	425	447
Barnsley 10	CR/M	459	327	316	177	181	177	172	53	0	0	-	-	459	459	-	
<u>BATH</u>																	
Bath 2	R/M	149	-	127	101	54	86	61	60	61	59	79	84	149	149	84	
<u>BEDFORD</u>																	
Bedford 5	IR/M	208	180	193	96	104	76	78	70	96	128	198	214	208	214	214	
<u>BRUGGE</u>																	
605 Min.Volksgas.	R/L	578	494	262	163	0	73	131	131	125	119	180	196	578	578	196	
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	223	0	128	104	51	0	0	-	16	38	193	228	223	228	228	
25 Contreplaques	I/M	118	76	93	314	286	362	161	250	181	54	69	51	118	314	69	210
26 Pont Trouille	I/M	615	59	77	316	139	101	31	48	45	82	77	43	615	615	82	
31 Vieux Montagne	I/M	63	59	45	54	127	72	0	52	-	-	-	-	63	127	-	169
<u>ESCH/ALZETTE</u>																	
355 Eoole Brill	IR/H	54	62	60	66	0	0	0	0	0	0	0	0	62	66	0	
<u>EXETER</u>																	
Exeter 7	CR/M	67	69	84	63	65	63	65	64	87	43	131	92	84	131	131	194
<u>GALWAY</u>																	
Borough Engineer	C/L	25	27	28	25	21	21	29	14	25	34	66	29	28	66	66	69
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	195	193	171	122	117	71	167	121	139	183	357	269	195	357	357	260
603 Politie Bureau	C/M	251	218	202	183	328	403	451	348	231	209	333	276	251	451	333	268
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	79	32	133	120	141	131	111	165	120	88	94	84	133	165	94	181
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	238	147	114	144	90	73	48	77	70	79	141	153	238	238	153	
Lincoln 11	R/H	181	-	96	125	106	75	70	71	104	83	193	151	181	193	193	
Lincoln 15	R/L	103	116	87	105	74	36	54	83	59	74	59	109	116	116	109	169
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	C/H	426	77	146	93	133	85	71	84	84	106	133	165	426	426	165	
353 Laboratoire	R/L	135	151	89	98	114	43	78	76	66	97	81	125	151	151	125	

TABLE 5.2/3.2

MONTHLY VALUES

Town Classes:

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 5.3/1.1

MONTHLY VALUES

Town Class: 5

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNESLEY</u>																	
Barnsley 9	IR/M	156	117	74	51	45	34	26	25	54	80	93	172	116	77	115	117
Barnsley 10	CR/M	125	102	82	32	41	25	15	18	0	0	-	-	103	50	-	105
<u>BATH</u>																	
Bath 2	R/M	42	29	20	21	12	10	4	8	8	9	15	25			16	29
<u>BEDFORD</u>																	
Bedford 5	IR/M	42	30	22	15	13	13	11	13	23	31	30	34	31	23	32	35
<u>BRUGGE</u>																	
605 Min.Volksgas.	R/L	23	38	38	10	0	8	6	12	11	18	11	29	33	17	19	33
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	54	40	29	21	10	-	0	-	5	19	19	40	41	21	26	44
25 Contreplaques	I/M																
26 Pont Trouille	I/M																
31 Vieux Montagne	I/M																
<u>ESCH/ALZETTE</u>																	
355 Ecole Brill	IR/H	33	33	27	25	0	0	0	0	0	0	0	0	31	10	0	31
<u>EXETER</u>																	
Exeter 7	CR/M	19	11	8	6	8	7	9	5	8	16	15	26	13	12	19	19
<u>GALWAY</u>																	
Borough Engineer	C/L	16	17	11	10	11	6	4	2	6	6	15	15	15	10	12	17
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	59	53	47	41	33	34	24	34	51	55	41	53	53	44	50	56
603 Politie Bureau	C/M	42	44	29	22	20	19	18	18	23	25	30	35	38	27	30	39
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	6	2	10	8	6	7	6	5	10	8	4	7	6	7	6	7
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	47	25	18	12	12	9	8	8	17	21	24	35	30	20	27	34
Lincoln 11	R/H	79	62	30	34	24	23	14	15	35	36	64	65	57	40	55	62
Lincoln 15	R/L	35	21	19	10	6	11	5	5	14	17	16	27	25	16	20	29
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	C/H	44	25	35	27	27	25	26	17	26	26	23	28	35	27	26	36
353 Laboratoire	R/L	35	32	24	13	12	15	18	18	28	19	35	35	30	24	30	32

TABLE 5.3/1.2

M O N T H L Y V A L U E S

Town Class 5

P o l l u t a n t : nox $\mu\text{g/m}^3$

Type of Value: MEAN

TABLE 53/2.1

MONTHLY VALUES

Town Class: 5

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNESLEY</u>																	
Barnsley 9	IR/M	145	99	73	48	39	35	24	23	46	73	69	131	106	67	91	108
Barnsley 10	CR/M	102	94	65	28	40	24	15	0	0	0	-	-	87	42	-	86
<u>BATH</u>																	
Bath 2	R/M	36	29	17	17	13	9	4	7	7	8	12	22	27	15	14	26
<u>BEDFORD</u>																	
Bedford 5	IR/M	43	25	21	15	13	13	11	12	21	21	23	35	30	21	26	33
<u>BRUGGE</u>																	
605 Min.Volksgaz.	R/L	22	33	34	7	0	8	6	12	9	19	9	25	30	15	18	29
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	51	33	25	19	6	-	0	-	6	11	13	28	36	17	17	40
25 Contreplaques	I/M																
26 Pont Trouille	I/M																
31 Vieux Montagne,	I/M																
<u>ESCH/ALZETTE</u>																	
355 Ecole Brill	IR/H	24	33	27	28	0	0	0	0	0	0	0	0	28	9	0	29
<u>EXETER</u>																	
Exeter 7	CR/M	22	10	7	5	9	6	10	6	3	15	6	14	13	9	12	17
<u>GALWAY</u>																	
Borough Engineer	C/L	18	17	8	10	10	6	4	3	5	5	12	13	14	9	10	16
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	52	44	42	36	33	36	26	32	50	55	31	41	46	40	42	50
603 Politie Bureau	C/M	38	31	27	21	20	18	19	18	20	24	22	29	32	24	25	33
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	6	2	7	7	6	7	7	5	9	8	3	7	5	6	6	6
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	52	19	18	14	10	7	8	7	15	18	20	26	30	18	21	32
Lincoln 11	R/H	69	34	30	36	22	22	14	16	30	36	44	47	51	35	42	55
Lincoln 15	R/L	32	19	13	10	4	11	5	5	14	14	10	25	21	14	16	24
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	O/H	39	23	33	28	28	26	26	17	25	27	23	30	32	27	27	33
353 Laboratoire	R/L	34	29	20	11	11	15	18	14	21	18	34	34	28	22	29	29

TABLE 58/22

MONTHLY VALUES

Town Classes: 5

P o l l u t a n t : ~~SO₂~~ $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TABLE 53/3.1

MONTHLY VALUES

Town Class: 5

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>BARNSLEY</u>																	
Barnsley 9	IR/M	432	351	180	89	81	58	57	47	236	218	427	650	432	650	650	581
Barnsley 10	CR/M	430	363	298	68	111	46	36	18	0	0	-	-	430	430	-	636
<u>BATH</u>																	
Bath 2	R/M	115	77	45	83	22	20	11	14	20	27	63	50	115	115	63	150
<u>HEDFORD</u>																	
Bedford 5	IR/M	87	80	60	25	26	22	19	23	58	76	88	117	87	117	117	139
<u>BRUGGE</u>																	
605 Min. Volksgez.	R/L	39	132	69	28	0	16	14	34	32	42	37	65	132	132	65	
<u>CALAIS</u>																	
24 Théâtre Muni.	CR/L	195	78	62	40	34	-	0	-	14	92	90	104	195	195	104	
25 Contreplaques	I/M																
26 Pont Trouille	I/M																
31 Vieux Montagne	I/M																
<u>ESCH/ALZETTE</u>																	
355 Ecole Brill	IR/H	58	72	62	38	0	0	0	0	0	0	0	0	72	72	0	
<u>EXETER</u>																	
Exeter 7	CR/M	30	29	31	17	15	13	18	13	51	43	48	214	31	214	214	345
<u>GALWAY</u>																	
Borough Engineer	C/L	38	35	30	25	34	17	8	7	21	20	60	37	38	38	37	53
<u>KORTRIJK</u>																	
602 St. Amand	CR/M	130	139	92	74	58	58	36	72	137	102	187	157	139	187	187	
603 Politie Bureau	C/M	111	203	64	40	35	34	27	51	60	57	138	113	203	203	138	
<u>LIBRAMONT</u>																	
302 I.H.E.	R/L	16	8	28	33	14	18	14	14	28	22	14	14	28	33	22	35
<u>LINCOLN</u>																	
Lincoln 5	ICR/M	117	74	53	22	29	16	19	16	34	41	104	118	117	118	118	172
Lincoln 11	R/H	174	109	74	59	50	35	25	27	71	76	230	209	174	230	230	227
Lincoln 15	R/L	97	69	77	17	17	13	14	14	36	40	120	94	97	120	120	172
<u>LUXEMBOURG-VILLE</u>																	
352 Monterey	C/H	83	85	58	48	39	34	39	31	58	45	55	45	85	85	55	106
353 Laboratoire	R/L	73	84	73	37	26	28	34	43	70	52	53	68	84	84	68	

TABLE 53/3.2

MONTHLY VALUES

Town Class: 5

Pollutant: ~~SO₂~~ $\mu\text{g/m}^3$

Type of Value: MAXIMUM

TABLE 5.4/1

MONTHLY VALUES

Town Class: 5

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TABLE 5.4/2

MONTHLY VALUES

Town Class: 5

Pollutant: PARTICLES $\mu\text{g/m}^3$ Type of Value: MEDIAN

TABLE 5.4/3

MONTHLY VALUES

Town Class: 5

Pollutant: PARTICLES $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 6.1/1

MONTHLY VALUES

Town Class : 6

Pollutant: $\text{SO}_2 / \mu\text{g/m}^3$

Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>B.R.D.</u>																	
1 Westerland	-/L	31	13	5	1	2	1	0	1	4	15	3	15	16	8	11	1
Ansbach	-/L	-	--	-	16	6	13	10	5	14	21	12	31	-	16	21	-
Bad Kreuznach	-/L	-	-	-	19	22	25	79	31	26	39	23	56	-	37	39	-
4 Deuselbach	-/L	27	15	21	9	16	9	7	9	12	15	15	21	21	15	17	2
Bassen	-/L	--	-	-	9	12	7	8	11	17	23	17	44	-	19	28	-
6 Brotjackelriegel	-/L	19	9	14	15	8	6	5	6	11	8	14	17	14	11	13	1
7 Sohauineland	-/L	8	3	5	8	3	3	3	2	8	2	7	6	5	5	5	-
Hohenwestedt	-/L	0	0	0	8	9	11	6	12	10	32	12	28	0	11	24	-
9 Waldhof	-/L	63	30	17	8	9	5	3	8	12	25	13	32	37	19	25	3
Meinershagen	-/L	-	-	-	30	23	192	23	18	21	29	26	33	-	40	29	-
Neuhaus	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rodenberg	-/L	-	-	-	14	19	8	16	13	21	34	27	52	-	26	38	-
Rottenburg	-/L	-	-	-	26	8	10	10	4	10	32	13	20	-	17	22	-
Starnberg	-/L	-	-	-	10	14	6	7	4	7	13	9	12	-	10	11	-
Usingen	-/L	-	-	-	16	30	18	17	17	22	54	15	46	-	29	38	-
24 Nord	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>NEDERLAND</u>																	
124 Oost Maarland	-/L	18	20	25	21	26	15	18	15	19	17	16	19	21	19	17	24
206 Mariaheide	-/L	32	21	24	14	8	9	9	8	15	29	23	38	26	19	30	27
312 Axel	-/L	57	48	39	20	17	22	12	16	14	38	43	78	48	34	53	49
501 De Koog	-/L	20	17	12	5	6	7	4	6	7	9	5	25	16	10	13	18
615 Biddinghuizen	-/L	36	29	14	6	0	0	0	0	0	21	14	30	26	13	22	26
815 Buurse	-/L	29	28	33	13	14	12	23	10	15	32	11	38	30	22	27	26
901 Kloosterburen	-/L	18	15	9	5	5	4	2	6	5	15	5	22	14	9	14	14

TABLE 6.1/2

MONTHLY VALUES

Town Class: 6

Pollutant: $\text{SO}_2 / \mu\text{g/m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>B.R.D.</u>																	
1 Westerland	-/L	29	11	3	0	0	0	0	0	1	12	2	12	14	6	9	13
Ansbach	-/L	-	-	-	9	5	8	8	4	12	19	7	20	-	12	15	-
Bad Kreuznach	-/L	-	-	-	9	17	7	24	9	20	29	10	50	-	22	30	-
4 Deuselbach	-/L	16	13	16	9	11	7	6	7	11	14	12	18	15	12	15	16
Bassum	-/L	-	-	-	6	6	6	7	10	10	26	16	20	-	14	21	-
6 Brotjackelriegel	-/L	14	5	12	10	6	3	3	3	9	5	7	8	10	7	7	10
7 Schauinsland	-/L	5	2	4	5	2	0	1	0	4	1	2	1	4	2	1	4
Hohenwestedt	-/L	0	0	0	5	7	7	4	11	7	25	10	13	0	8	18	0
9 Waldhof	-/L	27	20	13	4	6	3	3	6	8	18	10	20	20	12	16	21
Meinershagen	-/L	-	-	-	27	22	177	20	14	15	25	18	30	-	35	24	-
Neuhaus	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rodenberg	-/L	-	-	-	10	17	7	13	11	10	30	25	44	-	22	33	-
Rottenburg	-/L	-	-	-	15	7	7	5	4	6	9	10	15	-	9	11	-
Starnberg	-/L	-	-	-	7	13	5	6	2	6	8	11	7	-	8	9	-
Usingen	-/L	-	-	-	17	21	17	14	14	17	44	15	35	-	24	31	-
24 Nord	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>NEEDERLAND</u>																	
124 Oost Maarland	-/L	17	19	20	16	21	12	15	13	17	16	14	19	19	17	16	22
206 Mariaheide	-/L	27	19	20	13	4	7	9	6	14	25	19	29	22	16	24	20
312 Axel	-/L	37	42	36	17	15	18	11	14	14	39	21	83	38	29	48	40
501 De Koog	-/L	15	12	9	4	4	4	4	3	5	7	5	23	12	8	12	13
615 Biddinghuizen	-/L	35	30	13	3	0	0	0	0	0	19	11	22	26	11	17	24
815 Buurse	-/L	18	18	24	12	13	10	19	8	11	30	10	31	20	17	24	18
901 Kloosterburen	-/L	10	11	5	1	5	3	2	6	2	12	3	14	9	6	10	8

TABLE 6.1/3

MONTHLY VALUES

Town Class: 6

Pollutant: $\text{SO}_2 / \mu\text{g/m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>B.R.D.</u>																	
1 Westerland	-/L	84	35	17	7	8	11	11	12	30	39	14	46	84	84	46	
Ansbach	-/L	-	-	-	47	22	61	53	15	40	53	92	113	-	113	113	
Bad Kreuznach	-/L	-	-	-	85	56	204	442	288	165	142	137	163	-	442	163	
4 Deuselbach	-/L	63	68	58	22	41	31	21	27	33	32	59	71	68	71	71	
Bassum	-/L	-	-	-	33	34	35	28	35	82	51	40	197	-	197	197	
6 Brotjackelriegel	-/L	55	37	48	49	42	49	21	34	33	27	56	74	55	74	74	
7 Schauinsland	-/L	42	23	22	22	13	23	14	9	23	7	36	55	42	55	55	
Hohenwestedt	-/L	0	0	0	36	26	42	21	30	52	81	37	116	0	116	116	
9 Waldhof	-/L	247	86	100	36	28	26	13	35	47	93	61	147	247	247	147	
Meinershagen	-/L	-	-	-	73	78	422	67	59	53	73	73	80	-	422	80	
Neuhaus	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rodenberg	-/L	-	-	-	43	71	35	46	33	79	116	106	204	-	204	204	
Rottenburg	-/L	-	-	-	169	18	50	70	23	32	198	59	77	-	198	198	
Starnberg	-/L	-	-	-	47	34	51	23	29	26	108	52	44	-	108	108	
Usinken	-/L	-	-	-	33	103	37	50	56	67	237	30	127	-	237	237	
24 Nord	-/L																
<u>NEDERLAND</u>																	
124 Oost Maarland	-/L	56	55	71	69	64	48	51	36	41	63	36	45	71	71	63	
206 Mariënheide	-/L	76	48	83	40	43	47	22	40	55	77	126	114	83	126	126	
312 Axel	-/L	187	112	88	50	54	64	52	37	36	87	258	190	187	258	258	
501 De Koog	-/L	102	69	49	21	28	49	11	40	32	53	20	71	102	102	71	
615 Biddinghuizen	-/L	105	61	53	20	0	0	0	0	0	57	84	86	105	105	86	
815 Baarle	-/L	119	98	98	59	40	29	46	33	58	75	40	111	119	119	111	
901 Kloosterburen	-/L	130	53	48	40	13	21	10	16	33	57	24	105	130	130	105	

T A B L E 6.2/1

MONTHLY VALUES

T o w n C l a s s : 6

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

T A B L E 6.2/2

MONTHLY VALUES

Town Class: 6

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MEDIAN

TABLE 6.2/3

M O N T H L Y V A L U E S

T o w n C l a s s e : 6

Pollutant: ACIDITY $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TABLE 6.3/1

MONTHLY VALUES

Town Class: 6

Pollutants: SMOKE / $\mu\text{g}/\text{m}^3$

Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
IRELAND																	
Swords	-/L	18	14	14	7	8	6	2	6	6	9	22	21	15	11	17	17
LUXEMBOURG																	
Vianden	-/L	10	8	11	6	7	8	6	7	9	8	4	11	10	8	8	10
U.K.																	
Camborne 1	-/L	6	5	5	2	3	4	2	2	5	3	8	8	5	4	6	7
Cottam 27	-/L	34	15	10	9	7	7	6	5	10	14	13	18	20	12	15	23
Cuddington 1	-/L	17	6	6	3	4	3	4	2	6	7	7	8	10	6	7	12
Dean Moor	-/L	8	7	7	3	3	4	2	3	4	4	7	10	7	5	7	8
Drax 4	-/L	7	20	16	9	8	4	6	3	10	23	19	34	14	13	25	22
Helmshore 1	-/L	24	23	16	7	9	7	4	8	9	16	12	20	21	13	16	24
Ironbridge 26	-/L	17	17	8	4	7	7	5	5	4	7	12	14	14	9	11	15
Kirkby Underwood 1	-/L	22	2	0	0	0	0	0	0	0	4	10	0	8	3	5	10
Rhuddarneau 1	-/L	1	10	6	3	2	3	3	0	0	0	0	0	6	2	0	5
Eskalde muir 501	-/L	6	6	4	2	3	0	1	1	2	4	2	6	5	3	4	6

TABLE 6.3/2

MONTHLY VALUES

Town Class: 6

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
<u>IRELAND</u>																	
Swords	-/L	13	14	11	5	9	5	1	6	6	9	13	15	13	9	12	14
<u>LUXEMBOURG</u>																	
Vianden	-/L	9	8	8	6	7	9	7	7	10	8	5	10	8	8	8	8
<u>U.K.</u>																	
Camborne 1	-/L	2	4	3	1	3	4	1	2	4	2	3	7	3	3	4	4
Cottam 27	-/L	29	14	6	9	8	7	6	5	10	13	8	17	16	11	13	19
Cuddington 1	-/L	13	6	4	3	3	4	3	2	4	5	4	6	8	5	5	10
Dean Moor	-/L	9	7	6	3	4	3	2	3	4	4	6	8	7	5	6	8
Drax 4	-/L	7	21	13	8	7	4	6	2	9	24	16	26	14	12	22	20
Helmshore 1	-/L	25	24	15	6	9	7	5	7	7	14	9	22	21	13	15	22
Ironbridge 26	-/L	15	15	5	3	7	8	5	4	2	5	3	10	12	7	6	13
Kirkby Underwood 1	-/L	19	1	0	0	0	0	0	0	0	4	9	0	7	3	4	9
Rhydargeau 1	-/L	1	6	1	1	1	1	2	0	0	0	0	0	3	1	0	3
Eskaldemuir 501	-/L	5	6	3	1	3	0	1	1	1	3	2	4	5	3	3	5

TABLE 6.3.3

MONTHLY VALUES

Town Class: 6

Pollutant: SMOKE $\mu\text{g}/\text{m}^3$

Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WI- TE
<u>IRELAND</u>																	
Swords	-/L	59	44	51	17	24	19	13	12	14	22	87	72	59	87	87	112
<u>LUXEMBOURG</u>																	
Vianden	-/L	23	26	26	9	18	12	14	14	15	22	18	32	26	32	32	52
<u>U.K.</u>																	
Camborne 1	-/L	33	18	23	10	8	13	7	7	20	14	55	26	33	55	55	81
Cittam 27	-/L	119	55	32	23	20	18	22	15	26	28	85	55	119	119	85	127
Cuddington 1	-/L	58	22	18	14	10	13	29	7	20	39	35	24	58	58	39	204
Dean Moor	-/L	16	21	28	17	8	12	12	15	14	15	23	32	28	32	32	32
Drax 4	-/L	11	39	56	24	26	18	23	13	32	51	59	127	56	127	127	175
He'mshore 1	-/L	78	52	34	21	17	18	12	19	24	40	43	54	78	78	54	116
Ironbridge 26	-/L	62	60	25	13	17	17	10	20	16	24	65	73	62	73	73	
Kirby Underwood 1	-/L	81	11	0	0	0	0	0	0	0	15	30	0	81	81	30	
Rhymargau 1	-/L	7	35	30	21	12	30	15	0	0	0	0	0	35	35	0	
Eskaldemuir 501	-/L	17	18	22	11	7	0	8	5	14	16	8	20	22	22	20	

TABLE 6.4/1

MONTHLY VALUES

Town Class: 6

Pollutant: S.P.M. $\mu\text{g}/\text{m}^3$ Type of Value: MEAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
B.R.D.																	
W Westerland	-/L	72	54	65	68	42	53	98	58	105	104	105	66	64	74	92	66
Insbach	-/L	47	29	45	32	44	41	38	40	53	52	24	43	40	41	40	41
Bad Kreuznach	-/L	52	41	60	37	75	54	84	69	88	67	26	59	51	59	51	52
Deuselbach	-/L	28	25	44	30	47	49	43	46	45	41	21	25	32	37	29	33
Bassum	-/L	63	51	56	33	57	52	39	53	67	67	29	71	57	53	56	56
Brotjackelriegel	-/L	17	15	40	28	41	32	34	36	39	32	15	13	24	29	20	23
Schauinsland	-/L	10	9	26	21	37	30	33	32	34	23	11	7	15	23	14	15
Hohenwestedt	-/L	63	48	45	26	34	37	26	36	36	60	20	45	52	40	42	53
Waldhof	-/L	61	59	51	29	42	41	32	49	48	71	25	55	57	47	50	58
Weinerzhagen	-/L	33	34	56	39	48	55	47	50	56	54	26	37	41	45	39	41
Neuhaus	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rodenberg	-/L	-	42	53	32	46	52	38	50	60	64	30	53	48	47	49	47
Rottenburg	-/L	-	22	40	30	47	37	41	38	43	30	23	37	31	35	30	33
Starnberg	-/L	20	22	34	25	45	31	33	28	39	35	19	28	25	30	27	26
Naunus	-/L	36	33	53	30	51	22	42	47	52	50	20	45	41	40	38	46

TABLE 6.4/2

MONTHLY VALUES

Town Class: 6

Pollutant: S.P.M.₁₀ µg/m³ Type of Value: MEDIAN

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2
B.R.D.																
1 Westerland	-/L	69	51	55	71	39	55	85	43	105	100	112	59	58	70	90
Ansbach	-/L	49	20	38	30	41	38	39	33	55	51	21	39	36	38	37
Bad Kreuznach	-/L	43	32	56	34	59	50	59	58	70	68	25	58	44	51	50
4 Deuselbach	-/L	30	24	38	26	38	39	38	42	42	37	18	27	31	33	27
Bassum	-/L	39	42	51	28	64	52	37	47	59	64	31	57	44	48	51
6 Brotjackelriegel	-/L	15	14	37	20	38	30	32	35	41	31	16	11	22	27	19
7 Schauinsland	-/L	8	8	17	18	39	37	30	28	28	19	9	6	11	20	11
Hohenwestedt	-/L	64	46	42	19	29	37	27	32	29	58	19	37	51	37	38
9 Waldhof	-/L	57	45	42	21	39	38	32	38	41	74	22	44	48	41	47
Meinershagen	-/L	33	30	56	38	37	50	42	41	52	56	22	34	40	41	37
Neuhauß	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rodenberg	-/L	-	30	46	30	42	46	36	41	53	55	27	44	38	41	42
Rottenburg	-/L	-	16	35	30	47	33	40	42	39	33	16	35	26	33	28
Starnberg	-/L	17	14	28	21	43	33	32	26	38	34	14	20	20	27	23
Taunus	-/L	34	23	49	29	41	21	39	39	48	50	17	46	35	36	38

TABLE 6.4/3

MONTHLY VALUES

Town Class 6

Pollutant: S.P.M. $\mu\text{g}/\text{m}^3$ Type of Value: MAXIMUM

TOWN Station	TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	WIN- TER 1	ANN- UAL	WIN- TER 2	WIN- TER
B.R.D.																	
1 Westerland	-/L	155	130	146	108	86	100	206	132	198	194	185	141	155	198	194	173
Ansbach	-/L	83	105	110	63	75	83	84	78	93	120	83	107	110	120	120	114
Bad Kreuznach	-/L	147	100	155	80	214	116	357	196	250	139	82	150	155	357	150	166
4 Deutzenbach	-/L	58	56	103	59	118	110	87	118	72	82	50	45	103	118	82	
Bassum	-/L	234	127	200	74	115	83	92	126	165	150	95	207	234	234	207	
6 Brotjackelriegel	-/L	40	41	96	78	82	59	65	85	67	69	49	31	96	96	69	
7 Schapinsland	-/L	34	22	86	49	87	66	78	81	73	78	35	32	86	87	78	
Hohenwestedt	-/L	190	134	109	62	78	61	52	83	95	134	44	111	190	190	134	
9 Waldhof	-/L	134	190	191	75	94	80	64	127	120	136	59	126	191	191	136	
Meinerzhagen	-/L	67	98	122	68	146	128	134	122	113	108	75	68	122	146	108	
Neuhaus	-/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rodenberg	-/L	-	119	164	83	130	94	74	160	136	166	83	161	164	166	166	
Rottenburg	-/L	-	68	92	65	153	76	98	76	77	45	67	84	92	153	84	
Starnberg	-/L	53	81	106	60	88	76	57	89	70	66	56	70	106	106	70	
Taurus	-/L	75	121	123	58	118	90	93	135	123	110	45	96	123	135	110	

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