



**COUNCIL DIRECTIVE**

**of 15 July 1980**

**on air quality limit values and guide values for sulphur dioxide and suspended particulates**

(80/779/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

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

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Parliament<sup>(1)</sup>,

Having regard to the opinion of the Economic and Social Committee<sup>(2)</sup>,

Whereas the European Communities' programmes of action on the environment of 1973<sup>(3)</sup> and 1977<sup>(4)</sup> provide that priority is to be given to measures against sulphur dioxide and suspended particulates because of their toxicity and the current state of knowledge of their effects on human health and the environment;

Whereas, since any discrepancy between the provisions already applicable or being prepared in the various Member States with regard to sulphur dioxide and suspended particulates could give rise to unequal conditions of competition and could consequently directly affect the functioning of the common market, the legislative provisions in this area should be harmonized as prescribed in Article 100 of the Treaty;

Whereas one of the basic tasks of the European Economic Community is to promote throughout the Community a harmonious development of economic activities and a continued and balanced expansion; whereas such an achievement is inconceivable without measures to combat pollution, improve the quality of life and protect the environment; whereas, since the Treaty has not provided the necessary powers in this field, Article 235 of the Treaty must be invoked;

Whereas, in order to protect human health in particular, it is necessary to set for these two pollutants limit values which must not be exceeded in the territory of the Member States during specified periods; whereas these values should be based on the findings reached in the framework of the WHO, particularly with regard to the dose/effect relationships established for sulphur dioxide and suspended particulates taken together;

Whereas, despite the measures taken, it may not be possible to comply with these limit values in certain zones; whereas the Member States must therefore be allowed temporary derogations on condition that they forward to the Commission plans for the progressive improvement of the quality of the air in those zones;

Whereas guide values should also be set to serve as long-term precautions for health and the environment and as reference points for the establishment of specific schemes within zones determined by the Member States;

Whereas the measures taken pursuant to this Directive must be economically feasible and compatible with balanced development;

Whereas it is necessary to establish suitable monitoring of air quality and particularly of observance of the limit values; whereas the Member States should therefore be obliged to establish measuring stations to supply the data necessary for the application of the Directive;

<sup>(1)</sup> OJ No C 83, 4. 4. 1977, p. 44.

<sup>(2)</sup> OJ No C 204, 30. 8. 1976, p. 34.

<sup>(3)</sup> OJ No C 112, 20. 12. 1973, p. 1.

<sup>(4)</sup> OJ No C 139, 13. 6. 1977, p. 1.

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Whereas since different sampling and analysis methods are applied in the Member States, it is necessary to permit, under certain conditions, the use of sampling and measurement methods other than the reference methods laid down in the Directive;

Whereas, since some Member States use particular methods of sampling and analysis which cannot easily be correlated with the reference methods, it is necessary that the Directive specify different limit values which are to be respected where such methods are used; whereas the Member States concerned should also carry out parallel measurements at a series of representative stations using the reference methods in addition to their own methods of measurement; whereas the Commission must make further proposals in the light of these parallel measurements and of the need to avoid discriminatory provisions;

Whereas the subsequent development of reference methods of sampling and analysis referred to in this Directive may be desirable in the light of technical and scientific progress in this area; whereas in order to facilitate implementation of the work necessary to this end, a procedure should be set up to establish close cooperation between the Member States and the Commission within a Committee on Adaptation to Scientific and Technical Progress,

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

The purpose of this Directive is to fix limit values (Annex I) and guide values (Annex II) for sulphur dioxide and suspended particulates in the atmosphere and the conditions for their application in order to improve:

- the protection of human health,
- the protection of the environment.

*Article 2*

1. 'Limit values' means:

- the concentrations of sulphur dioxide and suspended particulates considered simultaneously in accordance with Table A in Annex I, and
- the concentrations of suspended particulates considered separately in accordance with Table B in Annex I,

which, in order to protect human health in particular, must not be exceeded throughout the territory of the Member States during specified periods and under the conditions laid down in the following Articles.

**▼M4****▼B***Article 3*

1. Member States shall take appropriate measures to ensure that as from 1 April 1983 the concentrations of sulphur dioxide and suspended particulates in the atmosphere are not greater than the limit values given in Annex I, without prejudice to the following provisions.

**▼M4****▼B***Article 9*

Application of the measures taken pursuant to this Directive must not bring about a significant deterioration in the quality of the air where the level of pollution by sulphur dioxide and suspended particulates at the time of implementation of this Directive is low in relation to the limit values set out in Annex I.

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*Article 15*

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within 24 months of its notification and shall forthwith inform the Commission thereof.

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

*Article 16*

This Directive is addressed to the Member States.

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## ANNEX I

## LIMIT VALUES FOR SULPHUR DIOXIDE AND SUSPENDED PARTICULATES

(As measured by the black-smoke method)

TABLE A

Limit values for sulphur dioxide expressed in  $\mu\text{g}/\text{m}^3$  with the associated values for suspended particulates (as measured by the black-smoke method <sup>(1)</sup>) expressed in  $\mu\text{g}/\text{m}^3$ 

Reference period	Limit value for sulphur dioxide	Associated value for suspended particulates
Year	80 (median of daily mean values taken throughout the year)	> 40 (median of daily mean values taken throughout the year)
	120 (median of daily mean values taken throughout the year)	$\leq$ 40 (median of daily mean values taken throughout the year)
Winter (1 October to 31 March)	130 (median of daily mean values taken throughout the winter)	> 60 (median of daily mean values taken throughout the winter)
	180 (median of daily mean values taken throughout the winter)	$\leq$ 60 (median of daily mean values taken throughout the winter)
Year (made up of units of measuring periods of 24 hours)	250 <sup>(2)</sup> (98 percentile of all daily mean values taken throughout the year)	> 150 (98 percentile of all daily mean values taken throughout the year)
	350 <sup>(2)</sup> (98 percentile of all daily mean values taken throughout the year)	$\leq$ 150 (98 percentile of all daily mean values taken throughout the year)

<sup>(1)</sup> The results of the measurements of black smoke taken by the OECD method have been converted into gravimetric units as described by the OECD (see Annex III).

<sup>(2)</sup> Member States must take all appropriate steps to ensure that this value is not exceeded for more than three consecutive days. Moreover, Member States must endeavour to prevent and to reduce any such instances in which this value has been exceeded.

TABLE B

Limit values for suspended particulates (as measured by the black-smoke method <sup>(1)</sup>) expressed in  $\mu\text{g}/\text{m}^3$ 

Reference period	Limit value for suspended particulates
Year	80 (median of daily mean values taken throughout the year)
Winter (1 October to 31 March)	130 (median of daily mean values taken throughout the winter)
Year (made up of units of measuring periods of 24 hours)	250 <sup>(2)</sup> (98 percentile of all daily mean values taken throughout the year)

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- (1) The results of the measurements of black smoke taken by the OECD method have been converted into gravimetric units as described by the OECD (see Annex III).
  - (2) Member States must take all appropriate steps to ensure that this value is not exceeded for more than three consecutive days. Moreover, Member States must endeavour to prevent and to reduce any such instances in which this value has been exceeded.
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*ANNEX III*

**REFERENCE METHODS OF SAMPLING AND ANALYSIS TO BE  
EMPLOYED WITHIN THE CONTEXT OF THIS DIRECTIVE**

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**B. SUSPENDED PARTICULATES**

For the determination of black smoke and its conversion into gravimetric units, the method standardized by the OECD working party on methods of measuring air pollution and survey techniques (1964) is considered to be the reference method.

For the above-noted methods, standardized respectively by ISO and OECD, the linguistic versions published by these organizations will be regarded as authentic together with the other versions which the Commission will certify as being in conformity therewith.

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## ANNEX IV

**LIMIT VALUES FOR SULPHUR DIOXIDE AND SUSPENDED PARTICULATES (AS MEASURED BY A GRAVIMETRIC METHOD)  
APPLICABLE WITHIN THE CONTEXT OF ARTICLE 10 (2)**

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TABLE A

**Limit values for sulphur dioxide expressed in  $\mu\text{g}/\text{m}^3$ , and associated values for suspended particulates (measured by the gravimetric method) expressed in  $\mu\text{g}/\text{m}^3$**

Reference period	Limit value for sulphur dioxide	Associated value for suspended particulates
Year	80 (median of daily mean values taken throughout the year)	> 150 (median of daily mean values taken throughout the year)
	120 (median of daily mean values taken throughout the year)	$\leq$ 150 (median of daily mean values taken throughout the year)
Winter (1.10. — 31.3.)	130 (median of daily mean values taken throughout the winter)	> 200 (median of daily mean values taken throughout the winter)
	180 (median of daily mean values taken throughout the winter)	$\leq$ 200 (median of daily mean values taken throughout the winter)
Year (made up of units of measuring periods of 24 hours)	250 <sup>(1)</sup> (98th percentile of all daily mean values taken throughout the year)	> 350 (98th percentile of all daily mean values taken throughout the year)
	350 <sup>(1)</sup> (98th percentile of all daily mean values taken throughout the year)	$\leq$ 350 (98th percentile of all daily mean values taken throughout the year)

<sup>(1)</sup> Member States must take all appropriate steps to ensure that this value is not exceeded for more than three consecutive days. Moreover, Member States must endeavour to prevent and to reduce any such instances in which this value has been exceeded.

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TABLE B

**Limit values for suspended particulates (as measured by the gravimetric method described in (ii) below) expressed in  $\mu\text{g}/\text{m}^3$**

Reference period	Limit value for suspended particulates
Year	150 (arithmetic mean of daily mean values taken throughout the year)
Year (made up of units of measuring periods of 24 hours)	300 (95 percentile of all daily mean values taken throughout the year)

*The methods of sampling and analysis applicable within the context of Article 10 (2) are with respect to:*

## (i) Sulphur dioxide

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— *Method of sampling:*

The reference method in Annex III A.

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— *Method of analysis:* the reference method of Annex III. The procedure set out in Article 10 (1) applies.

**(ii) Suspended particulates**

— *Method of sampling:*

1. The suspended particulates are collected on a filter composed of either membrane or glass-fibre.
2. The sampling system consists of:
  - a filter,
  - a filter support,
  - a pump,
  - a volumetric gasmeter.
3. The sampling system does not include a fractionating device.
4. The sampling duration is 24 hours.
5. The filter is protected against direct deposition of particles by sedimentation and against the direct influence of atmospheric conditions.
6. The filters used should have an efficiency of more than 99 % for particles having an aerodynamic diameter of 0.3 µm.
7. The air velocity at the surface of the filter is between 33 and 55 cm/sec inclusive. The reduction in the speed throughout the sampling duration must not exceed 5 % if glass-fibre filters are used or 25 % if membrane filters are used.
8. The number of samplings made throughout the year must be at least 100, uniformly spread throughout this period.

— *Method of analysis:*

Analysis is by weighing.

- (b) 1. Membrane filters are to be conditioned, before and after sampling, by holding them at a constant temperature between 90 and 100 °C for two hours and subsequently storing them in a dessicator for two hours before weighing.
- (b) 2. Glass-fibre filters are to be conditioned, before and after sampling, by holding them for a period of 24 hours in an atmosphere at 20 °C and 50 % relative humidity before weighing.

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