

**MINISTRY OF ENVIRONMENT AND WATER**  
**MINISTRY OF HEALTH**

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**REGULATION No: 8 from May 3, 1999**

on  
*AMBIENT AIR QUALITY LIMIT VALUES FOR OZONE*

**Chapter One**  
*GENERAL PROVISIONS*

**Article 1.** This Regulation sets forth provisions concerning:

1. the establishment of limit values for concentrations of ozone in ambient air designed to avoid, prevent or reduce the possible harmful effects of this pollutant on human health and the environment as a whole, in the event of prolonged pollution episodes;
2. the establishment of alert thresholds for concentrations of ozone in ambient air designed to avoid, prevent or reduce the possible harmful effects of this pollutant on human health, including in the event of short pollution episodes;
3. implementation of the state policy in the field of ambient air quality assessment and management concerning ozone levels, in accordance with article 19 of the Clean Air Act, including - reduction of ozone ambient air levels in areas exceeding the established limit values and its maintenance in the rest of the areas;
4. uniform conditions for ambient air quality assessment concerning ozone levels, including the use of common measuring methods and equipment, and procedures for validation of the primary information;
5. obtainment and storage of adequate information on ambient air ozone levels, its dissemination to the population and ensuring that it is made available to the public, including, through the use of ozone alert threshold system.

**Article 2.** The General Director of the National Centre on Environment and Sustainable Development shall be responsible for co-ordination and implementation of the following procedures on:

1. ensuring uniform conditions for assessment of ozone levels in ambient air throughout the territory of the Country, including in the procedure for obtainment, validation and storage of results and data from the assessment, performed by the National and Local Ambient Air Quality Monitoring and Control Systems;
2. information exchange concerning ambient air ozone levels with the European Environmental Agency, within the framework of the mutual agreements between the Ministry of Environment and Water and the Agency;
3. informing and warning the population in case of exceeding of established alert thresholds.

## **Chapter Two**

### *LIMIT VALUES AND ALERT THRESHOLDS FOR OZONE IN AMBIENT AIR*

**Article 3.** The concentrations of ozone in ambient air shall not exceed the limit values set out in items 1 and 2 of Annex 1 to this Regulation.

**Article 4.** The alert thresholds for concentrations of ozone in ambient air are set out in items 3 and 4 of Annex 1 to this Regulation<sup>2</sup>.

## **Chapter Three**

### *ASSESSMENT OF AMBIENT AIR OZONE LEVELS*

**Article 5.(1)** The National and the Local Monitoring and Control Systems shall ensure the necessary ambient air quality assessment in order to determine the ozone levels in the relevant areas throughout the territory of the Country, as well as the exceeding of the ozone limit values referred to in article 3 and the alert thresholds, referred to in article 4 of this Regulation.

**(2)** The monitoring sites within the monitoring and control systems referred to in above paragraph 1, shall perform discontinuous measurements of ozone levels in ambient air.

**(3)** The corresponding number of monitoring sites, referred to in above paragraph 2, as well as its location shall be determined in accordance with the conditions laid down in Annex 2 to this Regulation.

**Article 6.(1)** The measurements and analysis in order to determine ozone concentrations in ambient air shall be performed in accordance with standartization documents or methodologies, approved by the minister of environment and water, as well as in conformity with the instructions adopted on the grounds of article 6, paragraph 2 of the Regulation on Ambient Air Quality Assessment and Management.

**(2)** The National Centre on Environment and Sustainable Development shall organise the realisation of programs for comparison of measurement results and data on the ozone levels in ambient air between the individual laboratories, taking part in collection, validation and storage of information obtained from such measurements.

**(3)** In accordance with article 14 of the Regulation on Ambient Air Quality Assessment and Management, the General Director of the National Centre on Environment and Sustainable Development shall organise the collection, storage and periodical up-date of the following information:

1. the reference method used to assess the levels of ozone in ambient air;
2. the geographical location and range of the monitoring sites, description of the area or agglomeration within the corresponding sites are situated and others;
3. the site-selection criteria for the location and establishment of the monitoring sites;
4. the results of any indicative measurement programmes carried out under the provisions of Annex 2, item 2 of this Regulation.

## **Chapter Four**

*POPULATION INFORMATION*

**Article 7.(1)** In accordance with the requirements of Annex 3, the National Center on Environment and Sustainable Development or the relevant Regional Environmental Inspectorate shall undertake the corresponding measures in order to inform or warn the population by means of corresponding mass media in case of exceeding of the alert thresholds for ozone concentrations laid down in Annex 1, items 3 and 4 of this Regulation.

**(2)** The mandatory information presented to the population in accordance with Annex 1, items 4 and 5 shall be coordinated with the relevant competent authorities of the Ministry of Health.

**Chapter Five**

*REGISTRATION, VALIDATION AND STORAGE OF INFORMATION*

**Article 8.** The National Center on Environment and Sustainable Development shall organize the storage in its own national data base and, in case that such procedure is necessary, validation of the following information on data and results from measurements of ozone levels in ambient air, performed by the National and Local Monitoring and Control Systems in the course of the calendar year:

1. the maximum measured values, the medians (the 50 percentiles) and the 98 percentiles, the mean values for a time periods of one and eight hours, respectively, registered over each calendar year in the individual monitoring sites - the corresponding median and percentile values shall be calculated in accordance with procedure laid down in Annex 3 to article 27, paragraph 4 of the Regulation on ambient air quality assessment and management;
2. for each individual monitoring site - the number, data and periods during which the limit values under items 1 and 2 of Annex 1 have been exceeded;

**Article 9.(1)** Where the population information threshold is exceeded in the course of a calendar month, the corresponding Regional Environmental Inspectorate or, in case that the exceeding has been registered in monitoring site within a Local Monitoring and Control System, the Municipal Authorities shall present in the National Center on Environment and Water report with the following minimum content:

1. the date(s) of the occurrence(s);
2. the duration of the occurrence(s);
3. the maximum hourly concentration during each occurrence..

**(2)** The report referred to in above paragraph 1 shall be presented not later than twenty working days after the date on which the occurrence has been registered.

**Article 10.(1)** Where the population warning threshold is exceeded in the course of a calendar week, the corresponding Regional Environmental Inspectorate or, in case that the exceeding has been registered in monitoring site within a Local Monitoring and Control System, the Municipal Authorities shall present in the National Center on Environment and Water report with the following minimum content:

1. the date(s) of the occurrence(s);
2. the duration of the occurrence(s);
3. the maximum hourly concentration during each occurrence.

**(2)** The report referred to in above paragraph 1 shall be presented not later than twenty working days after the date on which the occurrence has been registered.

**Article 11.** The reports referred to in above articles 9 and 10 shall contain corresponding information and data describing the reasons for exceeding the alert thresholds.

*ADDITIONAL PROVISION*

**§1.** For the purposes of this Regulation:

1. “Health protection threshold” means the limit value for ozone in ambient air laid down in Annex 1, point 1 not to be exceeded with the aim of avoiding, preventing or reducing the likely harmful effects on human health and/or the environment as a whole in case of prolonged exposure;
2. “Vegetation protection thresholds” means the limit values for ozone in ambient air laid down in Annex 1, point 2 not to be exceeded with the aim of avoiding, preventing or reducing the likely harmful effects on vegetation in case of prolonged exposure;
3. “Population information threshold” means the alert threshold for ozone in ambient air laid down in point 3, Annex 1, beyond which there is a risk to human health from possible limited temporary effects even in a case of brief exposure;
4. “Population warning threshold” means the alert threshold for ozone in ambient air laid down in point 4, Annex 1, beyond which there is a risk to human health even in a case of brief exposure.

*TRANSITIONAL AND CONCLUDING PROVISIONS*

- §2.** This Regulation is adopted on the grounds of article 6, paragraph 1, in connection with paragraph 5 of the transitional and concluding provisions, of the Clean Air Act.
- §3.** Instructions and guidelines on the implementation of this Regulation are given by the minister of environment and water together with the minister of health.
- §4.** The assessment of ozone levels in ambient air shall be performed in accordance with the Regulation on Ambient Air Quality Assessment and Management. The specific provisions of this Regulation shall supplement and supersede the corresponding provisions of the above Regulation.
- §5.** The provisions of article 5, paragraph 3 of this Regulation shall apply as from 31 December 2001.
- §6.** The provisions of article 7 of this Regulation shall apply as from 31 December 2003.
- §7.** This Regulation shall repeal item 103 of Annex 1 to article 2, paragraph 2 of Regulation No:14 from 1997 on limit values for maximum permissible concentrations of harmful substances in ambient air above settlements (State Gazette No:88/1997).

**Minister of Health:**

P.BOYADJIEV

**Minister of Environment and Water:**

E.MANEVA

**ANNEX 1**

to article 3 and 4

*LIMIT VALUES AND THRESHOLDS FOR OZONE CONCENTRATIONS IN AMBIENT AIR*

1. Health protection threshold - 110 micrograms/m<sup>3</sup> for the mean value over eight hours.
2. Vegetation protection thresholds:
  - \* 200 micrograms/m<sup>3</sup> – determined as the mean value over an period of one hour (hourly mean value);
  - \* 65 micrograms/m<sup>3</sup> – determined as the mean value over an period of 24 hours (daily mean value).
3. Population information threshold - 180 micrograms/m<sup>3</sup> determined as mean value over a period of one hour (hourly mean value).
4. Population warning threshold - 360 micrograms/m<sup>3</sup> determined as mean value over a period of one hour (hourly mean value).

The above limit values and alert thresholds are expressed as mass per one cubic meter of air under normal conditions according to article 4, paragraph 1 of the Clean Air Act.

The mean over eight hours is a non-overlapping moving average; it is calculated four times a day from the eight hourly values between 0 and 9.00, 8.00 and 17.00, 16.00 and 1.00, 12.00 and 21.00. For the information to be provided pursuant to Article 8 (1), first indent, the mean over eight hours is a simple moving average, calculated each hour h from the eight hourly values between h and h-9.

**ANNEX 2**

to article 5, paragraph 3

*SELECTION OF MONITORING SITES FOR ASSESSMENT OF OZONE LEVELS IN AMBIENT AIR*

1. The selection of monitoring sites and the provided assessment of ozone levels in ambient air shall ensure, as closely as possible, reliable determination of the following:
  - 1.1. the individual risk of exposure of human beings to values in excess of the health protection threshold;
  - 1.2. the exposure of vegetation (e.g. forests, natural ecosystems, crops, horticulture) to the values given in excess of the vegetation protection thresholds.
2. The selection and equipment of monitoring sites must ensure its location at geographically and climatologically representative sites and reliable measurement results. The monitoring sites must be located in areas where:
  - 2.1. the risk of approaching or exceeding the thresholds laid down in Annex 1 is the highest;
  - 2.2. it is likely at least one of the thresholds laid down in Annex 1 to be exceeded;
  - 2.3. At places where there is no information concerning the sites referred to in points 2.1 and 2.2, indicative measurement programmes in order to determine the siting of the monitoring sites shall be executed to supply the necessary data.
3. Additional monitoring sites must be established or designated within the National or the Local Monitoring and Control Systems in order to:
  - 3.1. contribute towards the identification and description of the formation and transport of ozone and its precursors (nitrogen oxides, volatile organic compounds and others);
  - 3.2. monitor changes in ozone concentrations in areas affected by background pollution exceeding 70% of the corresponding thresholds under points 1 and 2 of Annex 1.
4. In monitoring sites for assessment of ozone levels in ambient air mandatory measurement of oxides of nitrogen and that recommended for volatile organic compounds shall be carried out in order to provide information on ozone formation, to monitor transboundary flows of volatile organic compounds and to make it possible to identify links between the different pollutants.

**ANNEX 3**  
to article 7

*POPULATION INFORMATION*

Where the population information and warning thresholds are exceeded the following information must be circulated on a sufficiently large scale as soon as possible to enable the population concerned to take all appropriate preventive protective action. The information in question must be communicated to the media:

1. Date, hour and place of the occurrence of concentrations in excess of the thresholds defined in

Annex 1, points 3 and 4;

2. Reference to the type(s) of established thresholds exceeded (information or warning);
  3. Forecasts:
    - \* change in concentrations (improvement, stabilization or deterioration);
    - \* geographical area concerned;
    - \* expected duration.
  4. Population concerned, including sensitive risk groups;
  5. Precautions to be taken by the population concerned under point 4.
- The corresponding information defined in points 4 and 5 shall be coordinated with the relevant competent authorities of the Ministry of Health.