Information on ozone

Target values

	Averaging period	Target value for 2010 *)
Target value for the protection of human health	Maximum daily 8-hour mean	120 µg/m³ not to be exceeded on more than 25 days per calender year averaged over three years
Target value for the protection of vegetation	AOT40, calculated from 1 h values from May to July	18 000 µg/m³·h averaged over five years

The volume must be standardised at a temperature of 293 K and an atmospheric pressure of 101,3 kPa.

*) 2010 will be the first year the data for which is used in calculating compliance over the following three or five years, as appropriate.

Long-term objectives

	Averaging period	Long-term objectives
Long-term objective for the protection of human health	Maximum daily 8-hour mean within a calendar year	120 µg/m³
Long-term objective for the protection of vegetation	AOT40, calculated from 1 h values from May to July	6 000 µg/m³·h

The volume must be standardised at a temperature of 293 K and an atmospheric pressure of 101,3 kPa.

Information and alert thresholds

	Averaging period	threshold
Information threshold	1 hour average	180 µg/m³
Alert threshold	1 hour average	240 µg/m³

The volume must be standardised at a temperature of 293 K and an atmospheric pressure of 101,3 kPa.

Minimum details to be made available to the public when the information or alert threshold for ozone is exceeded

Details to be made available to the public should include at least:

- the date, hour, place and the reasons for the occurrence,
- any forecasts of: changes in concentrations together with the reasons for those changes,
- the geographical area concerned, the duration of the occurrence,
- the type of population potentially sensitive to the occurrence,
- the precautions to be taken by the sensitive population concerned.

Measurements of ozone precursor substances

Measurement of ozone precursor substances must include at least nitrogen oxides, and appropriate volatile organic compounds (VOC). A list of volatile organic compounds recommended for measurement is given below.

	1-Butene	Isoprene	Ethyl benzene
Ethane	trans-2-Butene	n-Hexane	m+p-Xylene
Ethylene	cis-2-Butene	i-Hexane	o-Xylene
Acetylene	1.3-Butadiene	n-Heptane	1,2,4-Trimeth. benzene
Propane	n-Pentane	n-Octane	1,2,3-Trimeth. benzene
Propene	i-Pentane	i-Octane	1,3,5-Trimeth. benzene
n-Butane	1-Pentene	Benzene	Formaldehyde
i-Butane	2-Pentene	Toluene	Total non-methane hydrocarbons

Data quality objectives

Data collection	Data quality objective
Continuous fixed measurement	
Uncertainty of individual measurements	15 %
Minimum data capture	90 % during summer 75 % during winter
Indicative measurement	
Uncertainty of individual measurements	30 %
Minimum data capture	90 %
Minimum time coverage	> 10 % during summer
Modelling	
Uncertainty	
1 hour average (daytime)	50 %
8 hours daily maximum	50 %
Objective estimation	
Uncertainty	75 %

Reference method for the analysis/assessment of ozone

The reference method for the measurement of ozone is that described in EN 14625:2005 “Ambient air quality — Standard method for the measurement of the concentration of ozone by ultraviolet photometry”.

Legal basis

- Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ EC. L 152/1)
- 39th Ordinance Implementing the Federal Immission Control Act (Ordinance on Air Quality Standards and Emission Ceilings - 39. BImSchV)