



Western Australia

Environmental Protection Act 1986

**Clean Air (Determination of Air Impurities in  
Gases Discharged to the Atmosphere)  
Regulations 1983**

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Reprinted under the  
*Reprints Act 1984* as at  
18 March 2005

Western Australia

## **Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983**

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Environmental Protection Act 1986<sup>2</sup>

## **Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983**

### **1. Citation**

These regulations may be cited as the *Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983*<sup>1</sup>.

### **2. Interpretation**

In these regulations unless the contrary intention appears —

***boiler*** means any vessel in which for any purpose water is heated by any combustion material with a total heat input of 100 or more megajoules per hour;

***cubic metre*** means that volume of dry gas which occupies a cubic metre at a temperature of 0° Celsius and at an absolute pressure equivalent to one atmosphere;

***dark smoke*** means smoke that, if compared with charts known as the Ringelmann Chart or Miniature Ringelmann Chart described in regulation 5(7), would appear darker than shade 1 on either of those charts;

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*flue* or *duct* means any exhaust, flue, duct, structure or opening from or through which air impurities are or are likely to be emitted to the atmosphere.

*[Regulation 2 amended in Gazette 21 Jun 1985 p. 2201.]*

**3. Standard of concentration**

For the purposes of section 33(1) of the Act<sup>3</sup>, in respect of —

- (a) any boiler or incinerator emitting solid particles — the standard of concentration at the point of emission determined in accordance with regulation 4(2), of solid particles in residual gases, adjusted to a basis of 12% carbon dioxide shall be 0.25 g/m<sup>3</sup>;
- (b) any other trade, industry, process, industrial plant or fuel burning equipment emitting solid particles not mentioned in paragraph (a) — the standard of concentration at the point of emission, determined in accordance with regulation 4(2) of these regulations of solid particles in residual gases before admixture with air, smoke or other gases shall be 0.25 g/m<sup>3</sup>.

**4. Manner of determination of the standard of concentration of solid particles**

- (1) The standard of concentration of solid particles in each cubic metre of residual gas at the point of emission shall be determined in the following manner — the sample of solid particles entrained in the exhaust gas shall be withdrawn from the flue or chimney in such a way that the velocity of the gases entering a sample nozzle placed in the flue or chimney is, as nearly as practicable the same as the velocity of the gases flowing in the flue or chimney at the sampling point.
- (2) For the purposes of section 33(1) of the Act<sup>3</sup> the prescribed point is a point —
  - (a) that is not less than —

- (i) 2D away from a bend or change in direction of the gas flow; and
    - (ii) 3D away from a fan or damper,where D is the diameter of the flue, or in the case of a rectangular flue, D is the mean of its width and breadth;
  - (b) at which the average gas velocity is greater than 3 metres per second; and
  - (c) that is downstream of any dust control equipment.
- (3) To collect a representative sample of solid particles, increments of sample shall be withdrawn from the flue at points contained in the sampling plane at the prescribed point of emission.
- (4) The number of sampling points shall be —
- (a) not less than 4 for duct areas smaller than 0.20 square metres;
  - (b) not less than 8 for duct areas between 0.20 and 2.0 square metres; and
  - (c) not less than one for each 0.25 square metres of the sampling plane for duct areas larger than 2.0 square metres,
- and the sampling points shall be at the centre of equal areas over the sampling plane.
- (5) The sampling time is to be the same for each sampling point, and, shall not in any case be less than 3 minutes.
- (6) The sample of solid particles is to be separated from the gas by a filter of fibreglass, alundum or some other suitable material which will withstand the conditions existing at the sampling position.

**5. Dark smoke**

- (1) The method by which it is ascertained that smoke is dark smoke is by the use of a Ringelmann Chart or Miniature Ringelmann Chart.

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- (2) The chart is to be held or fixed in a position facing the observer and is to be in line with the observer and the source under observation.
- (3) The darkness of the air impurities at the point where they leave the source is to be compared with the shades on the chart.
- (4) The shade which most closely matches the darkness of the air impurities and the time of the duration of this shade are to be noted.
- (5) As far as practicable, when observations are made with the sun shining, the position of the observer and the chart is to be such that the sun, chart and observer form a right angle.
- (6) When the Ringelmann Chart is used, the observer is to be 15 to 30 metres from the chart and when the Miniature Ringelmann Chart is used, the observer is to be 1 to 5 metres from the chart.
- (7) The Ringelmann Chart and Miniature Ringelmann Chart used for making the measurements described in this regulation shall correspond to charts held by the Minister certified as the standard charts under the signature of the Minister.

*[Regulation 5 amended in Gazette 21 Jun 1985 p. 2202.]*



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**Notes**

- <sup>1</sup> This reprint is a compilation as at 18 March 2005 of the *Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983* and includes the amendments made by the other written laws referred to in the following table. The table also contains information about any reprint.

**Compilation table**

Citation	Gazettal	Commencement
<i>Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983</i>	13 May 1983 p. 1436-7	13 May 1983
<i>Clean Air (Administration) Amendment Regulations 1985</i> Pt. V	21 Jun 1985 p. 2201-2	21 Jun 1985 (see r. 2 and <i>Gazette</i> 21 Jun 1985 p. 2188)
<b>Reprint 1: The <i>Clean Air (Determination of Air Impurities in Gases Discharged to the Atmosphere) Regulations 1983</i> as at 18 Mar 2005</b> (includes amendments listed above)		

- <sup>2</sup> These regulations were originally made under the *Clean Air Act 1964*. By virtue of the *Environmental Protection Act 1986* s. 127 which gives effect to Sch. 4 cl. 20, these regulations are deemed to have been made under s. 123 of that Act.
- <sup>3</sup> Refers to the *Clean Air Act 1964*, which was repealed by the *Acts Amendment and Repeal (Environmental Protection) Act 1986*.