SCHEDULE 4 [Reg.10

CRITERIA FOR SIGNIFICANT DISPOSALS/DISCHARGES

The following criteria are to be used to determine whether a disposal or discharge of solid or liquid waste is to be classified as significant for the purposes of the Regulations

Significant disposal of solid waste
A solid waste disposal of more than 250 cu.m. per week average
A facility that disposes of medical waste
A timber processing facility
A facility classified as a mine under the Mining Act (Cap 146)
A sugar mill
A facility of a type declared by the Director under regulation 10(2) to be a significant solid waste disposer

Significant discharge of liquid waste
A liquid waste discharge of more than 50,000 litres per day average
A facility classified as a mine under the Mining Act (Cap 146)
A sugar mill
A commercial dairy
An oil storage depot or petroleum station
A facility of a type declared by the Director under regulation 10(2) to be a significant liquid waste discharger

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SCHEDULE 5 [Reg. 2

NATIONAL AIR QUALITY STANDARDS

PART A - AMBIENT AIR QUALITY STANDARDS

THRESHOLD CONCENTRATION TABLE

Pollutant	**Threshold concentration**	**Permissible excess**
Carbon monoxide	10 milligrams per cubic metre	One 8-hour period in a 12-month period expressed as a running 8-hour mean
Nitrogen dioxide	200 micrograms per cubic metre	9 hours in a 12-month

		period expressed as a 1-hour mean
Ozone	150 micrograms per cubic metre	Not to be exceeded at any time
Sulphur dioxide	350 micrograms per cubic metre	9 hours in a 12-month period expressed as a 1-hour mean
OR	570 micrograms per cubic metre	Not to be exceeded at any time
PM10	50 micrograms per cubic metre	One 24-hour period in a 12-month period expressed as a 24-hour mean

Notes

1. The ambient air quality standard for a pollutant listed in column 1 of the Table is that the concentration of the pollutant must not exceed its threshold concentration except to the extent and in the circumstances (if any) listed in column 3.

2. The threshold concentration in relation to a pollutant is the concentration of the pollutant shown in column 2 of the Table, calculated over the time interval specified in column 3.

3. In the Table -

"1-hour mean" (a) means a mean calculated every hour on the hour for the preceding hour; and

(b) in relation to a pollutant at a particular location for a particular hour, means the mean of not more than 10-minute means, collected not less than once every 10 seconds, for the pollutant at that location during that hour;

"24-hour mean" (a) means a mean calculated every 24 hours at midnight for the preceding 24 hours; and

(b) in relation to a pollutant at a particular location for a particular 24-hour period, means -

(i) the mean level at which the pollutant is recorded in the air, by continuous sampling of the air at that location, throughout that 24-hour period; or

(ii) the mean of the 1-hour means for that pollutant at that location for the preceding 24 hours;

"running 8-hour mean" (a) means a mean calculated every hour on the hour for that hour and the preceding 7 hours to give 1 running 8-hour mean per hour; and

(b) in relation to a pollutant at a particular location for a particular hour, means the mean of the 1-hour means for that pollutant at that location for that hour and the preceding 7 hours.

MONITORING METHODS FOR AMBIENT AIR QUALITY STANDARDS

Contaminant	**Monitoring method**
Carbon monoxide	Australian Standard AS 3580.7.1:1992, Methods for sampling and analysis of ambient air---Determination of carbon monoxide---Direct-reading instrumental method
Nitrogen dioxide	Australian Standard AS 3580.5.1:1993, Methods for sampling and analysis of ambient air---Determination of oxides of nitrogen---Chemiluminescence method
Ozone	Australian Standard AS 3580.6.1:1990, Methods for sampling and analysis of ambient air---Determination of ozone---Direct-reading instrumental method.
PM10	United States Code of Federal Regulations, Title 40---Protection of Environment, Volume 2, Part 50, Appendix J---Reference method for the determination of particulate matter as PM10 in the atmosphere; OR Australian/New Zealand Standard AS/NZS 3580.9.6:2003, Methods for sampling and analysis of ambient air---Determination of suspended particulate matter---PM10 high volume sampler with size-selective inlet---Gravimetric method
Sulphur dioxide	Australian Standard AS 3580.4.1:1990, Methods for sampling and analysis of ambient air---Determination of sulphur dioxide---Direct-reading instrumental method.

PART B – EMISSIONS STANDARDS

Section 1 - General

1. A point source of an air polluting substance should not, in isolation or combination with any other source of that substance, cause a concentration of that substance in the ambient air to exceed the emission standards set out in section 3 below.

2. The concentration of a point source of a substance may be calculated by using any of the following methods -

(a) the relevant modelling protocol contained in *Industrial Source Complex (ISC3) Dispersion Models* (United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, USEPA-454/B-95-003a), or other equivalent model approved by the Department of Environment;

(b) surface meteorological data from an appropriate source;

(c) mixing height data from an appropriate source;

(d) emission temperature and volume data;

(e) the height of emission;

(f) any other relevant data or criteria as specified in the models listed in paragraph (a).

Section 2 - Classification of substances

Substances are classified in Tables 1 and 2 in the following categories according to toxic, persistent and carcinogenic qualities:

.Category 1 - Environmentally Toxic and Persistent or Carcinogenic Substances

The concentration of solid substances must not exceed 2.5 mg/Nm^3 at the point of the exhaust. The concentration of a gas, vapour or haze of a substance must not exceed the MAC-value specified in Table 2 at the point of the exhaust.

Category 2 - Environmentally Toxic and Non-Persistent Substances

The concentration of solid substances must not exceed 25 mg/Nm^3 at the point of the exhaust. The concentration of a gas, vapour or haze of a substance, if exhausted at roof level, must not exceed 10 X the MAC-value specified in Table 2 at the point of the exhaust.

Category 3 - Mildly Toxic but Environmentally Persistent Substances

. The concentration of solid substances in this category must not exceed 75 mg/Nm^3 at the point of the exhaust. The concentration a gas, vapour or haze of a substance, if exhausted at roof level, must not exceed 10 X the MAC-value specified in Table 2 at the point of the exhaust.

Category 4 - Non-Toxic and Non-Persistent Substances

The concentration of solid substances must not exceed 100 mg/Nm^3 at the point of the exhaust. The concentration of gas, vapour or haze of a substance, if exhausted at roof level, must not exceed 10 X the MAC-value specified in Table 2 at the point of the exhaust.

Section 3 - Emission Standards (Dioxins and Furans and other Substances)

1. The sum concentrations of:
   (a) 2,3,7,8-Tetrachlorodibenzo-P-Dioxin,
   (b) 1,2,3,7,8-Pentachlorodibenzo-P-Dioxin,
   (c) 1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin,
   (d) 1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin,
   (e) 1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin,
   (f) 2,3,7,8-Tetrachlorodibenzofuran,
   (g) 2,3,4,7,8-Pentachlorodibenzofuran,
   (h) and 1,2,3,6,7,8-Hexachlorodibenzofuran
   should not exceed, at the point of the exhaust, 0.5 nanograms/Nm^3 in any emission .

2. The concentration of any Category 1 solid substances listed in Table 1 should not exceed 2.5 mg/Nm^3 at the point of the exhaust.

Table 1 - Solid substances

Substance	Category	Air quality guideline mg/m3
Ammonium compounds	3	0.03
Antimony compounds	2	0.01
Arsenic compounds	1	0.001
Asbestos	1	0.001
Bariumsulfate	3	0.03
(Other) Barium compounds	2	0.01
Bitumen	3	0.03
Bone-meal	2	0.01
Cadmium	1	0.001
Calcium hydroxide	3	0.03
Calcium oxide	3	0.03
Chromium and Chromium compounds	1	0.001
Copper and Copper compounds	2	0.01
Corn or flour dust	4	0.03
Cyanides (Sodium and Calcium compounds)	1	0.001
DDT and related compounds	1	0.001
Fertiliser (phosphates)	3	0.03
Lead and Lead compounds	1	0.001
Magnesium compounds	3	0.03
Nickel compounds	1	0.001
Soot	2	0.01
Tar	2	0.01
Tobacco	3	0.03
Wood dust	2	0.01
Zinc and Zinc compounds	2	0.01

Table 2 - Gas, vapour or haze substances

Substance	Category	MAC-value mg/m3	Scent limit mg/m3	Air quality guideline mg/m3
Acetic acid	2	25	0.25	0.25
Acetic anhydride	2	20	-	0.2
Acetone	4	2400	1	70
Acetylene	4	-	-	-
Acrolein	2	0.25	0.05	0.003
Acrylonitrile	1	9	-	0.001
Ammonia	2	18	0.1	0.18
Benzene	1	30	3	0.005
Butane	4	1430	-	40
normal-Butanol	2	150	0.2	1.5
normal-Butyl acetate	2	710	0.03	0.2
Carbon monoxide	4	29	-	1
Carbon disulphide	2	60	0.05	0.05
Chlorine	2	3	0.06	0.03
Chloroform	1	120	30	0.12
Cyclohexane	2	1050	2	10
Cyclohexanone	2	200	0.02	0.03
1,2 Dichloroethane	1	200	17	0.2
Dichloromethane	1	350	4	0.35
Diethyl ether	2	1200	-	0.3
Epichlorohydrin	1	4	-	0.004
Ethane	4	-	-	-
Ethanol	4	1900	7	30
Ethyl acetate	2	1400	0.6	3
Ethylene oxide	2	90	-	0.9
Formaldehyde	2	1.5	0.07	0.015
Furfuryl alcohol	2	20	-	0.02
normal-Heptane	2	1600	-	16

normal-Hexane	2	360	-	3.6
Hydrazine	1	0.13	-	0.001
Hydrochloric acid	2	7	0.2	0.07
Hydrogen	4	-	-	-
Hydrogen fluoride	1	2	-	0.006
Hydrogen phosphide	2	0.4	0.1	0.004
Hydrogen sulphide	2	15	0.0001	0.001
Isobutyl acetate	2	700	0.6	0.3
Isopropyl alcohol	2	980	2	10
Methane	4	-	-	-
Methanol	2	260	4	2.6
Methyl acetate	2	610	0.002	0.005
Methyl bromide	1	20	-	0.02
Methylene bis phenyl isocyanate (MDI)	2	0.2	-	0.002
Methyl ethyl ketone	2	590	0.7	5
Methyl formate	2	250	-	2.5
Methyl isobutyl ketone	2	410	0.4	0.5
Methyl methacrylate	2	410	0.2	0.1
alpha-Methylstyrene	2	480	0.04	0.03
Monochloroben zene	1	350	-	0.35
Naphthalene	2	50	0.004	0.01
Nitric oxide (NO)	2	30	-	0.05
nitrous oxide (N2O)	2	4	0.1	
Ozone	2	0.2	0.015	0.002
normal-Pentane	2	360	-	3.6
Perchloroethyle	2	240	12	2.4

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Phenol	2	19	0.02	0.1
Phosgene	2	0.4	0.5	0.004
normal-Propyl acetate	2	840	-	8.4
Propylene oxide	2	240	-	2.4
Prussic acid	2	11	-	0.11
Pyridine	2	15	0.04	0.05
Styrene monomer	2	420	0.02	0.03
Sulphur dioxide	2	5	0.9	0.08
Sulphuric acid	2	1	-	0.01
Toluene	2	375	0.08	1
Toluene diisocyanate (TDI)	2	0.14	-	0.001
1,1,1-Trichloroethane	1	1080	-	1
1,1,2-Trichloroethane	2	45	-	0.045
Trichloroethylene	2	190	-	1.9
Vinyl chloride	1	8	-	0.008
Xylene	2	435	0.6	1

SCHEDULE 6

[Reg. 33

RULES FOR INCINERATION AT LANDFILLS

1. This Schedule applies to a landfill that -
   (a) has a capacity of at least 60,000 tonnes;
   (b) contains at least 20,000 tonnes of waste; and
   (c) accepts or is likely to accept waste that consists of 5% or more by weight of putrescible or biodegradable matter.

2. No fire may be lit or waste burned at a landfill, unless -
   (a) the fire is to control gas formed at the landfill; and
   (b) the flaring system complies with the requirements of this regulation.