



FEDERAL SUBSIDIARY LEGISLATION

ENVIRONMENTAL QUALITY ACT 1974 [ACT 127]

P.U.(A) 104/2004

ENVIRONMENTAL QUALITY (DIOXIN AND FURAN) REGULATIONS 2004

Publication : 25 March 2004
Date of coming into operation : 1 May 2004

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Preamble

IN exercise of the powers conferred by sections 21 and 51 of the Environmental Quality Act 1974 [Act 127], the Minister, after consultation with the Environmental Quality Council, makes the following regulations:

Regulation 1. Citation and commencement.

(1) These regulations may be cited as the **Environmental Quality (Dioxin And Furan) Regulations 2004.**

(2) These Regulations come into operation on 1 May 2004.

Regulation 2. Interpretation.

In these Regulations, unless the context otherwise requires—

"scheduled wastes" means any waste falling within the categories of waste listed in the First Schedule to the Environmental Quality (Scheduled Wastes) Regulations 1989 [*P.U. (A) 139/1989*];

"dioxin" means polychlorinated dibenzo-para-dioxin which is tricyclic, aromatic compounds formed by two benzene rings connected with two oxygen atoms and hydrogen atoms of which may be replaced by up to eight chlorine atoms;

"sludge" means sediment, dregs or waste formed from the production process or from waste treatment system whether in the form of semi solid, soft or hard;

"furan" means polychlorinated dibenzofuran which is tricyclic, aromatic compounds formed by two benzene rings connected with one oxygen atom, one carbon-carbon bond and hydrogen atoms of which may be replaced by up to eight chlorine atoms;

"new facility" means any plant, equipment or installation purchased, acquired, erected or installed on or after the date on which these Regulations come into operation;

"existing facility" means any plant, equipment or installation which is already—

(a) erected, installed or operated prior to the date on which these Regulations come into operation; or

(b) purchased, acquired or under construction on or prior to the date on which these Regulations come into operation, but does not include any plant, equipment or installation transferred or moved to a different premise, site or location for the purpose of erection, installation or operation after such date;

"normal cubic meter" (Nm³) means the amount of effluent gas occupying a cubic meter at a temperature of zero degree centigrade and at an absolute pressure of 760 millimeters of mercury;

"sewage" means any liquid waste or waste water discharge containing animal or vegetables matter in suspension or solution and may include liquids containing chemical in solution;

"TEQ" means toxicity equivalents in comparison to 2, 3, 7, 8 tetrachlorinated dibenzo-para-dioxin and which is also known as 2, 3, 7, 8 tetrachlorodibenzodioxin or 2, 3, 7, 8 TCDD.

Regulation 3. Application.

These Regulations shall apply to the following facilities:

- (a) municipal solid wastes incinerator;
- (b) scheduled wastes incinerator;
- (c) pulp or paper industry sludge incinerator; and
- (d) sewage sludge incinerator.

Regulation 4. Permissible air emission limit for new facilities.

Concentration limit for air emission of dioxin and furan for new facilities shall not exceed 0.1 nanogram/Nm³ TEQ.

Regulation 5. Permissible air emission limit for existing facilities.

(1) Air emission limit for dioxin and furan for existing facilities which is licensed under section 18 of the Act and existing facilities in respect of which the environment impact assessment report relating to it has been approved subject to such conditions on air emission limit for dioxin and furan shall comply with the air emission limit as prescribed in the licence or approval, as the case may be.

(2) Notwithstanding subregulation (1), every existing facility, including an existing facility which is not subject to any condition on the air emission limit for dioxin and furan whether on the licence issued or approval granted for the operation of such existing facility shall, on or before the expiry of three years from the date of the coming into operation of these Regulations, take such necessary measures to comply with the concentration limit as specified in regulation 4.

Regulation 6. Method of computing air emission limit of dioxin and furan.

Concentration limit for air emission of dioxin and furan specified in regulations 4 and 5 is expressed as 2, 3, 7, 8 tetrachlorinated dibenzo-para-dioxin toxicity equivalent which is calculated by summing the concentration of each 2, 3, 7, 8 congener in the sample multiplied by the appropriate Toxicity Equivalency Factors (TEFs) as prescribed in the First Schedule.

Regulation 7. Sampling and analytic method for dioxin and furan parameter.

(1) For the purpose of these Regulations, emission of dioxin and furan into the air shall be sampled in accordance with the United States Environmental Protection Agency (USEPA) Method 23 and analysed in accordance with the USEPA Method 8290 or in accordance with any other sampling and analytic methods as approved by the Director General.

(2) Results of all the tests conducted shall be based on dry gases, without containing water vapour and the flue gas containing 11 per cent of oxygen by volume.

FIRST SCHEDULE

[Regulation 6]

TOXICITY EQUIVALENTS FACTORS (TEFs) FOR DIOXIN AND FURAN

<i>Chlorine Position</i>	<i>Component</i>	<i>Equivalents Factor</i>
DIOXIN		
(a) 2, 3, 7, 8	Tetrachlorodibenzodioxin (TCDD)	1
(b) 1, 2, 3, 7, 8	Pentachlorodibenzodioxin (PeCDD)	0.5
(c) 1, 2, 3, 4, 7, 8	Hexachlorodibenzodioxin (HxCDD)	0.1
(d) 1, 2, 3, 7, 8, 9	Hexachlorodibenzodioxin (HxCDD)	0.1
(e) 1, 2, 3, 6, 7, 8	Hexachlorodibenzodioxin (HxCDD)	0.1
(f) 1, 2, 3, 4, 6, 7, 8	Heptachlorodibenzodioxin (HpCDD)	0.01
(g) 1, 2, 3, 4, 6, 7, 8, 9	Octachlorodibenzodioxin (OCDD)	0.001
FURAN		
(a) 2, 3, 7, 8	Tetrachlorodibenzofuran (TCDF)	0.1
(b) 2, 3, 4, 7, 8	Pentachlorodibenzofuran (PeCDF)	0.5
(c) 1, 2, 3, 7, 8	Pentachlorodibenzofuran (PeCDF)	0.05
(d) 1, 2, 3, 4, 7, 8	Hexachlorodibenzofuran (HxCDF)	0.1
(e) 1, 2, 3, 7, 8, 9	Hexachlorodibenzofuran (HxCDF)	0.1
(f) 1, 2, 3, 6, 7, 8	Hexachlorodibenzofuran (HxCDF)	0.1
(g) 2, 3, 4, 6, 7, 8	Hexachlorodibenzofuran (HxCDF)	0.1
(h) 1, 2, 3, 4, 6, 7, 8	Heptachlorodibenzofuran (HpCDF)	0.01
(i) 1, 2, 3, 4, 7, 8, 9	Heptachlorodibenzofuran (HpCDF)	0.01
(j) 1, 2, 3, 4, 6, 7, 8, 9	Octachlorodibenzofuran (OCDF)	0.001

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Minister of Science, Technology and the Environment

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