

NB: Unofficial translation; legally binding texts are those in Finnish and Swedish

Ministry of the Environment, Finland

**Government Decree
on Substances Dangerous and Harmful to the Aquatic Environment**

1022/2006

Issued in Helsinki 23 November 2006

In accordance with the Government decision made on a submission by the Ministry of the Environment, the following is enacted on the basis of the Environmental Protection Act (86/2000), issued on 4 February 2000; section 20, subsection 2 of the Act on Water Resources Management (1299/2004), issued on 30 December 2004; and section 36, paragraph 2 of the Water Services Act (119/2001), issued on 9 February 2001:

*Section 1
Objective*

(1) The objective of this Decree is to protect surface waters and improve their quality by preventing pollution and the danger thereof caused by dangerous and harmful substances. The aim is to eliminate at once, or progressively, emissions and leaching of substances dangerous to the aquatic environment and to progressively reduce emissions and the leaching of harmful substances. For this purpose, emission prohibitions, emission limit values and environmental quality standards have been laid down.

(2) Furthermore, the goal is to prevent emissions and the leaching of substances dangerous or harmful to the aquatic environment from causing harm to the operations of water supply and sewerage plants.

*Section 2
Scope of application*

(1) This Decree is applicable to water bodies referred to in section 3, paragraph 6 of the Environmental Protection Act (86/2000), and channel and reservoir (*surface water*) referred to in Chapter 1, section 2 of the Water Act (264/1961). However, environmental quality standards do not apply to water in a channel or reservoir.

(2) The emission limit values for concentrations of mercury and cadmium in waste water, specified in paragraph B, Annex 1, are not applied to waste water resulting from the treatment of combustion gases mentioned in section 14, subsection 1 of the Decree issued on the incineration of waste (362/2003).

(3) This Decree does not apply to groundwater.

Section 3
Definitions

(1) For the purposes of this Decree, the term:

- 1) *substance dangerous to the aquatic environment* means priority hazardous substances, confirmed in accordance with Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy, hereinafter the Water Framework Directive, and substances under Directive 2006/11/EC of the European Parliament and of the Council, on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community, Annex 1 List I, containing groups of substances on the basis of their toxicity, persistence and possible bioaccumulation;
- 2) *substance harmful to the aquatic environment* means nationally selected substances in accordance with the Water Framework Directive, and other than priority hazardous substances, confirmed in accordance with the Water Framework Directive, that can cause the pollution of surface water, and
- 3) *environmental quality standard* means a concentration of a substance dangerous and harmful to the aquatic environment in surface water, sediment or biota, which should not be exceeded in order to protect human health or surface water.

Section 4
Emission prohibition

(1) A substance dangerous to the aquatic environment referred to in paragraph A of Annex 1 may not be discharged into surface water or a sewer of a water supply and sewerage plant.

(2) The prohibition referred to in subsection 1 above does not apply to an emission that the operator can prove to contain such a minimal amount of substance dangerous to the aquatic environment that its discharge could not cause the danger of surface water pollution or harm to the operations of a water supply and sewerage plant.

Section 5
Emission limit value

(1) The discharge of a substance dangerous to the aquatic environment, referred to in paragraph B of Annex 1, at the point where the emission is discharged into surface water, may not exceed the emission limit value laid down in the cited paragraph. Provisions on the emission limit value are given in the environmental permit and this value must be based on the best available techniques.

(2) Stricter emission limit values than those set forth in paragraph B of Annex 1 can be stipulated in the environmental permit.

Section 6
Environmental quality standard

(1) The concentration in surface water of a substance dangerous or harmful to the aquatic environment, as referred to in paragraphs A, C and D of Annex 1, may not exceed the environmental quality standard set forth in the cited paragraph.

(2) The regional environmental centre must provide measures to prevent any exceeding of the environmental quality standard due to other than licensed operations in the programme of measures referred to in section 12 of the Act on Water Resources Management (1299/2004).

(3) Separate provisions are issued regarding the prevention of pollution caused by licensed operations and restrictions on emissions and leaching as well as the prevention of other changes to the aquatic environment.

Section 7
Monitoring of surface water

(1) Operators of activities subject to an environmental permit must carry out monitoring of the surface water to which substances dangerous to the aquatic environment as referred to in paragraphs A and C of Annex 1, and substances harmful to the aquatic environment 16-34 referred to in paragraph D are discharged or leached. Operators of activities subject to an environmental permit must carry out monitoring of surface water to which significant amounts of substances harmful to aquatic environment 1-15 as referred to in paragraph D of Annex 1 are discharged or leached.

Section 8
Monitoring sites

(1) The number of surface water monitoring sites must be sufficient in order to allow an assessment of the magnitude and impact of the emission or leaching on the status of surface water and to observe the consequences of measures set forth in the programme of measures referred to in section 12 of the Water Management Act on the status of waters. Provisions on monitoring sites are given in the monitoring regulations referred to in section 46 of the Environmental Protection Act.

(2) Monitoring sites in order to verify compliance with environmental quality standards are to be located so that the emission or leaching is mixed with surface water to a sufficient extent.

(3) Monitoring sites of surface water intended for the preparation of drinking water are to be placed in a part of surface water significant to water abstraction.

Section 9
Frequency of monitoring

(1) The frequency and timing of surface water monitoring shall be chosen so as to achieve an acceptable level of confidence and precision. The impacts of both nature and human operations on surface water must be taken into consideration when deciding on the frequency of monitoring. The impact of natural seasonal variation on results shall be minimised.

(2) Substances dangerous to the aquatic environment referred to in paragraphs A and C of Annex 1 and substances harmful to the aquatic environment 16-34 referred to in paragraph D must be monitored once a month, no less than 12 times a year, while substances harmful to the aquatic environment 1-15 referred to in paragraph D of Annex 1 must be monitored at three-month intervals, a minimum of four times a year.

(3) The frequency of monitoring referred to in subsection 2 above can be altered if it is justifiable on the basis of changed circumstances, technical knowledge or expert assessment.

(4) Surface water from which water is abstracted for drinking water use will be monitored, in addition to the provisions set forth in subsections 1-3, as provided in Annex 2 if necessary.

Section 10
Entry in environmental protection data system

(1) Operations in which the operator uses a substance harmful to the aquatic environment 10-24 referred to in paragraph D of Annex 1, approved as a plant protection product under the Pesticides Act (327/1969) must, by request, be reported to the regional environmental centre for entry in the environmental protection data system referred to in section 27 of the Environmental Protection Act. Information can be requested from operators functioning in the surface water catchment area if, according to the monitoring data of authorities, a risk of exceeding the environment quality standard for the surface water in question is imminent.

(2) Information on the use of plant protection products is collected for the planning of measures referred to in section 6, subsection 3.

Section 11
Sampling and analysis methods

- (1) In surface water monitoring and the analysis of concentrations of substances dangerous and harmful to the aquatic environment concerning emissions and leaching, methods in compliance with the SFS, EN or ISO standards or methods equivalent to them in terms of precision and reliability shall be applied.
- (2) Substance concentrations can also be assessed on the basis of calculations if the methods referred to in subsection 1 are not available.

Section 12
Plan

- (1) At a minimum interval of six years, the Finnish Environment Institute shall prepare a plan on adding a substance other than one referred to in paragraphs A, C and D of Annex 1 to the list of substances, or on removing a listed substance. Moreover, the plan must lay down the necessary environmental quality standards and measures for restricting emissions and leaching.
- (2) Measures concerning the list of substances referred to above in subsection 1, measures on restricting emissions and leaching, and environmental quality standards must be based on a risk assessment concerning the harmfulness of substances to surface water or, through surface water, to human health, and on monitoring data. The plan will be used for the preparation of amendments required in this Decree.
- (3) When preparing the plan, the Finnish Environment Institute must provide an opportunity for consultation for authorities central to the plan and parties whose interests or rights the plan concerns.

Section 13
Entry into force

- (1) This Decree will enter into force on 1 December 2006. Prior to the entry into force of the Decree, measures required for the enforcement of the Decree can be undertaken.
- (2) The plan referred to above in section 12 must be prepared in the first instance no later than 22 December 2009.
- (3) This Decree repeals the Government decision (363/1994) on the discharges into waters of certain substances dangerous to the environment and health, issued on 19 May 1994.

A) Substances dangerous to the aquatic environment which must not be discharged into surface water or the sewer of a water supply and sewerage plant

	Name	CAS number	EC number	Environmental quality standard total concentration in inland surface water, arithmetic annual mean; µg/l	Environmental quality standard total concentration in seawater ¹ , arithmetic annual mean; µg/l
1.	1,2-dichloroethane (1,2-ethylenedichloride)	107-06-2	203-458-1	10	10
2.	Aldrin	309-00-2	206-215-8	Σ = 0.010	Σ = 0.005
3.	Dieldrin	60-57-1	200-484-5		
4.	Endrin	72-20-8	200-775-7		
5.	Isodrin	465-73-6	207-366-2		
6.	DDT	N/A	N/A		
	(para-para-DDT)	50-29-3	200-024-3	0.025	0.025
7.	Hexachlorobenzene	118-74-1	204-273-9	0.03	0.03
8.	Hexachlorobutadiene	87-68-3	201-765-5	0.1	0.1
9.	Hexachlorocyclohexane (gamma-isomer, Lindane)	608-73-1 58-89-9	210-168-9 200-401-2	0.100	0.020
10.	Carbontetrachloride	56-23-5	200-262-8	12	12
11.	Pentachlorophenol	87-86-5	201-778-6	2	2
12.	Tetrachloroethene (Tetrachloroethylene)	127-18-4	204-825-9	10	10
13.	Trichlorobenzene (1,2,4-trichlorobenzene)	12002-48-1 120-82-1	234-413-4 204-482-0	0.4	0.4
14.	Trichloroethene (Trichloroethylene)	79-01-6	201-167-4	10	10
15.	Trichloromethane (Chloroform)	67-66-3	200-663-8	12	12

¹ sea water comprises territorial waters referred to in Chapter 1, section 3 of the Water Act (264/1961) and the economic zone referred to in section 2, subsection 5 of the Environmental Protection Act (86/2000)

B) Substances dangerous to the aquatic environment and their maximum permissible emission limit values in terms of concentration and specific load limit values

	Substance	CAS number	Industry	Concentration limit ¹	Specific load limit ¹
1.	Mercury and its compounds	7439-97-6	chlor-alkali industry	50 µg/l	mercury cell process: 0.2 g/capacity tonne chloride
	Mercury and its compounds	7439-97-6	industries other than chlor-alkali industry	5 µg/l	-
2.	Cadmium and its compounds	7440-43-9	-	10 µg/l	Galvanization: 0.3 g/kg of processed cadmium

¹ concentration in soluble form calculated as monthly average value

C) Substances dangerous to the aquatic environment and their environmental quality standards

Name	CAS number	EC number	Environmental quality standard total concentration in inland surface water, arithmetic annual mean; µg/l	Environmental quality standard total concentration in sea water ¹ , arithmetic annual mean; µg/l
1. Pentabromodiphenylether	32534-81-9	251-084-2		
2. Cadmium and cadmium compounds	744-43-9	231-152-8	5	2.5
3. C10-13-chloroalkanes	85535-84-8	287-476-5		
4. Mercury and mercury compounds	7439-97-6	231-106-7	1	0.3
5. Pentachlorobenzene	608-93-5	210-172-0		
6. Polyaromatic hydrocarbons	N/A	N/A		
(Benzo(a)pyrene)	50-32-8	200-028-5		
(Benzo(b)fluoranthene)	205-99-2	205-911-9		
(Benzo(g,h,i)perylene)	191-24-2	205-883-8		
(Benzo(k)fluoranthene)	207-08-9	205-916-6		
(Indeno(1,2,3-cd)pyrene)	193-39-5	205-893-2		
7. Tributyltin compounds	688-73-3	211-704-4		
(Tributyltin-cation)	36643-28-4	N/A		
8. Nonylphenol ³	25154-52-3	246-672-0	0.3	0.3
(4-nonylphenol)	104-40-5	203-199-4		
9. Ethoxylated nonylphenols ^{2,3}	9016-45-9	N/A		
((C ₂ H ₄ O) _n C ₁₅ H ₂₄ O) ²				

¹ sea water comprises territorial waters referred to in Chapter 1, section 3 of the Water Act (264/1961) and the economic zone referred to in section 2, subsection 5 of the Environmental Protection Act (86/2000)

² this substance is a main pollutant referred to in Annex VIII of the Water Framework directive, selected through national procedures

³ the total toxicity of nonylphenol and ethoxylated nonylphenols must not exceed the environmental quality standard. Total toxicity is calculated using the formula: $= \Sigma (C_x \times \text{TEF})$

TEF = Toxicity equivalent factor

C_x = the concentration of each nonylphenol compound

	Toxicity equivalent factor
Nonylphenol	1
Nonylphenol mono and diethoxylates	0.5

D) Substances harmful to the aquatic environment and their environmental quality standards

Name	CAS number	EC number	Environmental quality standard total concentration in inland surface water, arithmetic annual mean; µg/l	Environmental quality standard total concentration in sea water ¹ , arithmetic annual mean; µg/l	Environmental quality standard total concentration in surface water intended for extraction of drinking water, arithmetic annual mean; µg/l
1. Chlorobenzene ²	108-90-7	203-628-5	9.3	3.2	3
2. 1,2-dichlorobenzene ²	95-50-1	202-425-9	7.4	0.74	0.3
3. 1,4-dichlorobenzene ²	106-46-7	203-400-5	20	2	0.1
4. Benzylbutylphthalate (BBP) ²	85-68-7	201-622-7	10	1.4	10
5. Dibutylphthalate (DBP) ²	84-74-2	201-557-4	10	1	10
6. Resorcinol (1,3-dihydroxybenzene) ²	108-46-3	203-585-2			
7. 2-(thiocyanomethylthio) Benzothiazole (TCMTB) ²	21564-17-0	244-445-0			
8. Benzothiazole-2-thiol (disintegration product of Di(benzothiazol-2-yl) disulphide(CAS 120-78-5)) ²	149-30-4	205-736-8			
9. Bronopol (2-bromo-2-nitropropane-1,3-diol) ²	52-51-7	200-143-0	4	0.4	4
10. Dimethoate ² MCPA	60-51-5	200-480-3	0.7	0.07	
11. (4-chloro-2-methylphenoxy) acetic acid) ² Metamitron	94-74-6	202-360-6	1.6	0.16	
12. (4-amino-3-methyl-6-phenyl-1,2,4-triazin-5-one) ²	41394-05-2	255-349-3	32	3.2	
13. Prochloraz (N-propyl-N-[2-(2,4,6-trichlorophenoxy)ethyl]-1H-imidazole-1-carboxamide) ²	67747-09-5	266-994-5	1	0.1	

14.	Ethylenethiourea (disintegration product of Mancozeb (CAS 8018-01-7)) ²	96-45-7	202-506-9	200	20
15.	Tribenuron methyl Methyl 2-[[[(4-methoxy-6-methyl- 1,3,5, triazin-2yl)methylamino] carbonyl]amino]sulfonyl]benzoate ²	101200-48-0	401-190-1	0.1	0.01
16.	Chlorpyrifos	2921-88-2	220-864-4		
17.	Alachlor	15972-60-8	240-110-8		
18.	Atrazine	1912-24-9	217-617-8		
19.	Chlorfenvinphos	470-90-6	207-432-0		
20.	Simazine	122-34-9	204-535-2		
21.	Trifluralin	1582-09-8	216-428-8		
22.	Endosulfan (alpha-Endosulfan)	115-29-7 959-98-8	204-079-4 N/A		
23.	Diuron	330-54-1	206-354-4		
24.	Isoproturon	34123-59-6	251-835-4		
25.	Anthracene	120-12-7	204-371-1		
26.	Benzene	71-43-2	200-753-7		
27.	Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0		
28.	Dichloromethane (Methylenechloride)	75-09-2	200-838-9		
29.	Fluoranthene	206-44-0	205-912-4		
30.	Lead and lead compounds	7439-92-1	231-100-4		
31.	Naphthalene	91-20-3	202-049-5		
32.	P-octylphenol 4-(1,1',3,3'-tetramethylbutyl)-phenol	1806-26-4 140-66-9	217-302-5 N/A		
33.	Nickel and nickel compounds	7440-02-0	231-111-4		
34.	Brominated diphenylethers	N/A	N/A		

¹ sea water comprises territorial waters referred to in Chapter 1, section 3 of the Water Act (264/1961) and the economic zone referred to in section 2, subsection 5 of the Environmental Protection Act (86/2000)

² this substance is a main pollutant referred to in Annex VIII of the Water Framework directive, selected through national procedures

Annex 2

Surface water, of which more than 100 m³ of water on average is abstracted for drinking water use per day, shall be monitored in addition to the provisions under section 9, subsections 1-3 of this Decree, in compliance with the following frequencies if necessary:

Number of drinking water consumers	Frequency
< 10,000	4 times a year
10,000 – 30,000	8 times a year
> 30,000	12 times a year

