CONVENTION ON THE PROTECTION OF THE MARINE
ENVIRONMENT OF THE BALTIC SEA AREA

HELSINKI COMMISSION - Baltic MarineHELCOM 16/17
Environment Protection Commission Annex 9

16th Meeting
Helsinki, 14-17 March 1995

HELCOM RECOMMENDATION 16/5 *)

Adopted 15 March 1995
having regard to Article 13, Paragraph b)
of the Helsinki Convention

REQUIREMENTS FOR DISCHARGING OF WASTE WATER FROM THE CHEMICAL INDUSTRY

THE COMMISSION,

RECALLING Article 5 of the Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1974 (Helsinki Convention), in which the Contracting Parties undertake to counteract the introduction of certain hazardous substances, as specified in Annex I of the Convention, into the Baltic Sea Area,

RECALLING ALSO that according to Article 6 of the Helsinki Convention all appropriate measures to control and strictly limit pollution by noxious substances, listed in Annex II of the Convention, shall be taken, and that according to Annex III of the Convention the pollution load of industrial wastes shall be minimized,

RECALLING FURTHER that the Ministerial Declaration of the ninth meeting of the Helsinki Commission calls for a considerable reduction of land-based pollution,

RECOGNIZING that the chemical industry is responsible for an important part of the discharges of hazardous substances into the Baltic Sea,

DESIRING to limit the discharges from this industry with best available technology,

DESIRING ALSO to implement HELCOM Recommendation 9/8 concerning measures aimed at the reduction of discharges from industry,

RECOMMENDS to the Governments of the Contracting Parties that they apply the following requirements to chemical industries [1)] producing waste water which is discharged into waters or municipal sewerage systems:

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*)This Recommendation supersedes the present HELCOM Recommendation 13/3
[1)]Industrial plants according to the Standard Classification of Chemical Industry (see Appendix)

1. Requirements in general

Waste water should only be discharged if waste water volume and pollutant load are minimized by the use of the best available technologies, inter alia:

-separation of process water from cooling water;

-separate pretreatment of waste water containing substances which due to their specific properties should preferably be removed prior to the final treatment;

-combined treatment of different waste waters containing hazardous substances only if an adequate reduction of the pollutant load is achieved compared to the purification of every single waste water stream;

-use of water-saving techniques in washing and cleaning processes such as water circulation and counter-current washing;

-multiple use of process water;

-indirect cooling systems and condensation of vapours and organic liquids instead of direct cooling systems;

-processes for generating vacuum, which do not produce waste water, should be used if there is the possibility that hazardous substances get into the water;

-processing of mother-liquors, e.g. for recovery of materials or energy;

-raw materials and auxiliaries should be selected with environmental aspects taken into consideration;

-adequate equipment for monitoring of effluent parameters should be used, e.g. flow, pH and oxygen concentration.

2.Requirements to the effluent of the plant

The mixing or diluting of different waste waters (i.e. mixing of treated process water with cooling water) for the purpose of compliance with the limit values established for the effluent should not be allowed. The total load of the parameters COD (TOC), AOX and heavy metals should be minimized first according to measures specified in Paragraph 1.

2.1Chemical Oxygen Demand (COD)

For the plants discharging into water bodies the reduction of COD(TOC)-load in the following pre- and final waste water treatment facilities should be at least 80%. A lower reduction rate might be accepted but only for those waste water streams which are treated by BAT and for which special investigations have shown the reasons for lower reduction rate. This requirement should also be regarded as fulfilled when BAT has been applied and the concentration of COD in the effluent of the plant is lower than 250 mg/l.

2.2Adsorbable Organic Halogen (AOX)

For the plants discharging into water bodies or connected to municipal treatment plants the resulting concentration of AOX should not exceed 1 mg/l.

This requirement should also be regarded as fulfilled if the reduction of the AOX-load in the pre- and final waste water treatment facilities is at least 80%. A lower reduction rate might be accepted but only for those waste water streams which are treated by BAT and for which special investigations have shown the reasons for lower reduction rate.

2.3 Heavy metals

For plants discharging into water bodies or connected to municipal treatment plants the resulting concentration in the effluent should not exceed the following values:

Mercury	(Hg)	0.05	mg/l
Cadmium	(Cd)	0.2	mg/l
Copper	(Cu)	0.5	mg/l
Nickel	(Ni)	1.0	mg/l
Lead	(Pb)	0.5	mg/l
Chromium	(Cr)	0.5	mg/l
Chromium VI	(Cr-VI)	0.1	mg/l
Zinc	(Zn)	2.0	mg/l

2.4 Toxicity of the effluent

For plants discharging into water bodies the toxicity effect of the waste water should be determined by two toxicity tests which could be chosen out of the following four toxicity tests:

- toxicity to fish
- toxicity to invertebrates (Daphniidae)
- toxicity to algae
-toxicity to bacteria

2.5 Analysing methods

Internationally accepted standardized sampling, analysing and quality assurance methods (e.g CEN-standards, ISO-standards, OECD-Guidelines) should be used whenever available,

RECOMMENDS ALSO that the above requirements and limit values be implemented for new plants by 1 January 1996 and for existing plants by 1 January 2000,

DECIDES that the above requirements be reconsidered in 1998, especially with regard to measures to reduce nutrients and further introduction of parameter TOC,

RECOMMENDS FURTHER that the Contracting Parties report to the Commission every three years starting in 1997.

Appendix
to HELCOM Recommendation 16/5

Standard Classification of Chemical Industry *)

Manufacture of Chemicals and Chemical Products

1.Manufacture of basic chemicals

1.1Manufacture of basic chemicals, except for fertilizers and nitrogen compounds

1.2Manufacture of fertilizers and nitrogen compounds

1.3Manufacture of plastics in primary forms and of synthetic rubber

2.Manufacture of other chemical products

2.1Manufacture of pesticides and other agrochemical products

2.2Manufacture of paints, varnishes and similar coatings, printing ink and mastics

2.3Manufacture of pharmaceuticals, medical chemicals and botanical products

2.4Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations

2.5Manufacture of other chemical products n.e.c.

3.Manufacture of man-made fibres

Manufacture of Refined Petrochemical Products

*)This classification is based on International Standard Industrial Classification of all Economic Activities, Statistical Papers, Series M, No. 4, Rev. 3. United Nations, New York 1989

REPORTING FORMAT FOR HELCOM RECOMMENDATION 16/5 CONCERNING REQUIREMENTS FOR DISCHARGING OF WASTE WATER FROM THE CHEMICAL INDUSTRY

1.Country

2.Plant and its location

3.Description of capacities and actual production

4.Description of type of plant and production technology

5.Information on measures taken to reduce waste water volume and pollutant load according to Item 1 of the Recommendation

6.Water consumption in m^3/year (process water only)

7.Effluent loads:

	Pollution load		Rate of reduction	Concentration
	t/year	**%**		**mg/l**
COD or TOC				
AOX				

Heavy metals	**Concentration**	**Total load (mg/l)(kg/year)**
Hg		
Cd		
Cu		
Ni		
Pb		
Cr		
Cr-VI		
Zn		

8.Results of toxicity tests

9.Information about waste water treatment (pre-treatment and final treatment)

10.Action undertaken for reducing discharges in the last three years.