

THE CABINET OF THE REPUBLIC OF LATVIA22nd January, 2002, RigaRegulations No. 34
(Protocol No. 4, § 19)**On emissions of pollutants into the aquatic environment**Issued pursuant to
Section 11, Paragraph two, Clause 2,
Section 18, Paragraph two, Clause 1
Section 45, Paragraph 1
and Section 46, Paragraph 2
of the Law on Pollution**I General provisions**

1. These Regulations determine:
 - 1.1. emission limit values for waste water and prohibitions to emit pollutants into the aquatic environment;
 - 1.2. sensitive areas where extensive waste water treatment shall be applied, criteria for identification of these areas, their management procedure and boundaries;
 - 1.3. procedure for controlling emissions of pollutants into the aquatic environment and for monitoring and reporting to be followed by the operator;
 - 1.4. procedure for making information available to the general public to be followed by the Latvian Environmental Agency.

2. These Regulations apply to all waters:
 - 2.1 surface water, including:
 - 2.1.1 inland surface waters defined here as all static and flowing fresh surface waters;
 - 2.1.2 internal coastal waters, defined here as surface waters on the land-ward side of the base line from which the breadth of territorial waters is measured, extending, in the case of watercourses, up to the freshwater limit: the place in the watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of seawater;
 - 2.1.3 transitional waters, defined here as surface waters in the vicinity of river mouths, which are partly saline in character as a result of their proximity to coastal water, but which are substantially influenced by freshwater flows;
 - 2.1.4 territorial waters;
 - 2.2. groundwater, defined here as all water below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;
 - 2.3. waste water, defined here as water that has changed its original physical, chemical or biological characteristics as a result of human activities, including:

- 2.3.1. domestic waste water - waste water from residential settlements and services, which originates primarily from the human metabolism and from household activities;
 - 2.3.2. run-off rainwater - precipitation that has run off roofs, streets and other completely or partially paved areas;
 - 2.3.3. industrial waste water - any waste water discharged from premises used for carrying out any trade or industry, other than domestic waste water and run-off rain water;
 - 2.3.4. urban waste water - domestic waste water, the mixture of domestic waste water with industrial waste water, and run-off rain water.
3. The application of the measures taken pursuant to these Regulations may on no account lead, either directly or indirectly, to increased pollution of water, air or soil.
 4. Any emission into the aquatic environment shall respect water quality standards and objectives. Where a prior Category A or Category B permit (hereinafter “the permit”) is required to emit pollutants into the aquatic environment, the Regional Environmental Board shall establish such permit conditions that respects relevant water quality objectives and standards.
 5. If wastewater contains substances referred to in Section II, provisions of Section III and Section IV shall apply to the discharges of such waste water into the aquatic environment.
 6. To limit discharges into surface water, the operator shall apply the best available techniques or environmentally friendly technologies.

II Most dangerous substances and dangerous substances

7. Substances that are the most dangerous for the aquatic environment (hereinafter “the most dangerous substances”) are chemical substances with significant adverse impacts on the aquatic environment because of their toxicity, persistence and bioaccumulation.
8. The most dangerous substances belong to the following groups:
 - 8.1. organohalogen compounds and substances which may form such compounds in the aquatic environment;
 - 8.2. organophosphorus compounds;
 - 8.3. organotin compounds;
 - 8.4. substances in respect of which it has been proved that they possess carcinogenic properties in or via the aquatic environment, including those carcinogenic substances belonging to the groups listed in Paragraph 12;
 - 8.5. mercury and its compounds;
 - 8.6. cadmium and its compounds;

- 8.7. persistent mineral oils and hydrocarbons of petroleum origin;
- 8.8. persistent synthetic substances, which may float, remain in suspension or sink and which may interfere with any use of the waters.
9. Substances belonging to the group of the most dangerous substances are not considered as the most dangerous substances, if they are biologically harmless or rapidly converted into substances, which are biologically harmless.
10. The most dangerous substances are listed in Annex 1.
11. Substances that are dangerous for the aquatic environment (hereinafter “dangerous substances”) are chemical substances, which have deleterious effect on the aquatic environment, which is dependent on the characteristics of the recipient waters and can be confined to a certain area.
12. The dangerous substances belong to the following groups:
 - 12.1. The metals, metalloids and their compounds, including: zinc, copper, nickel, chromium, lead, selenium, arsenic, antimony, molybdenum, titanium, tin, barium, beryllium, boron, uranium, vanadium, cobalt, thallium, tellurium, silver;
 - 12.2. Biocides and their derivatives or products;
 - 12.3. Substances, which have a deleterious effect on the taste or smell of the products for human consumption, derived from the aquatic environment, and compounds liable to give rise to such substances in water;
 - 12.4. Toxic or persistent (stable) organic compounds of silicon, and substances, which may give rise to such compounds in water, excluding those which are biologically harmless or are rapidly converted in water into harmless substances;
 - 12.5. Inorganic compounds of phosphorus and elemental phosphorus;
 - 12.6. Non persistent mineral oils and hydrocarbons of petroleum origin;
 - 12.7. Cyanides, fluorides;
 - 12.8. Substances, which have an adverse effect on the oxygen, balance, particularly ammonia, nitrites.
13. The dangerous substances are listed in Annex 2.
14. The Latvian Environmental Agency shall collect and registry the information concerning the most dangerous substances and dangerous substances, which are emitted into the aquatic environment of Latvia, and concerning emission limit values and water quality standards for these substances laid down in other countries, as well as information about importers, consumers and producers of these substances in Latvia and the amounts these persons have imported, consumed and produced.
15. The Ministry of Environmental Protection and Regional Development shall evaluate the information included in Annex 2 at least once in every four years on the basis of:

- 15.1. data on the hazard to the aquatic environment and human health caused by a specific substance or a group of substances;
 - 15.2. relevant water quality standards stipulated in the legislation;
 - 15.3. results of risk assessments;
 - 15.4. data on the imported, produced and consumed amounts of the substances concerned, and information on their use and storage patterns;
 - 15.5. well-founded proposals submitted by natural or legal persons and experts' opinions.
16. The Ministry of Environmental Protection and Regional Development shall inform the general public and environmental and health authorities about the progress of evaluation and shall hear their comments.

III Emission of the most dangerous and dangerous substances into surface waters

17. The requirements of this Section shall apply to discharges of the most dangerous and dangerous substances into surface water, with the exception of discharges of dredging, operational discharges from ships in territorial waters and dumping from ships in territorial waters.
18. The operator may emit the most dangerous and dangerous substances into surface water only in accordance with the emission standards established in the permit.
- 19.1. In the application for the permit the operator shall provide the following information:
- 19.1. all most dangerous and dangerous substances, which are used or produced in the installation concerned or which appear during the production process;
 - 19.2. concentrations of the most dangerous and dangerous substances in water upstream and downstream from the discharge point.
20. The Regional Environmental Board shall include in the permit conditions:
- 20.1. a prohibition to emit certain most dangerous or dangerous substances where this is found necessary to protect surface water quality;
 - 20.2. emission standards for the most dangerous and dangerous substances. For the most dangerous substances, the standards shall indicate both maximum permissible concentrations and maximum permissible quantities in surface waters;
 - 20.3. for those operators that emit into surface waters substances referred to in Annex 3, the requirements established in the respective Annex;
 - 20.4. a requirement to use the reference methods of measurement of the most dangerous substances referred to in Annex 4;
 - 20.5. for existing polluting activities, a time period for the operator to comply with the permit conditions established in this Paragraph;

- 20.6. a requirement to ensure that concentrations of the most dangerous substances in the aquatic environment, sediments, molluscs, shellfish and fish do not increase significantly due to the polluting activities, and monitoring requirements to control compliance with this requirement;
 - 20.7. where pollution with substances, referred to in Annex 3, arises from sources that are not subject to emission limit values or emission standards, the requirement to draw up a pollution reduction programme and submit it to the Regional Environmental Board within the deadlines established in the permit. In the programme, the operator shall propose the most appropriate techniques for replacement, retention and recycling of the relevant substances;
 - 20.8. requirements for monitoring as specified in Section VII.
21. To reduce pollution of surface water caused by dangerous substances, the Ministry of Environmental Protection and Regional Development shall elaborate an action programme pursuant to Article 17 of the Law on Pollution.

IV Emission of the most dangerous and dangerous substances into groundwater

- 22. The introduction of polluting substances (including the most dangerous and dangerous substances) into groundwater without percolation through the ground or subsoil (hereinafter “direct discharge into ground water”), is prohibited, except for cases listed in Paragraph 23.
- 23. The Regional Environmental Board may permit direct discharge into ground water in the following cases, if such emission does not deteriorate the ground water quality, if the operator has carried out a prior investigation and if the programme has been approved by the State Geology Service, if the State Geology Service has approved the results of investigation and if the operator has received a permit for emission of pollutants and a licence for use of subsoil:
 - 23.1. reinjection into the same aquifer of water used for geothermal purposes;
 - 23.2. injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes. Such injections shall not contain substances other than those resulting from the above operations;
 - 23.3. reinjection of pumped groundwater from quarries or associated with the construction or maintenance of civil engineering works;
 - 23.4. injection of natural gas or liquefied petroleum gas for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes;
 - 23.5. injection of natural gas or liquefied petroleum gas for storage purposes into other geological formations where there is an overriding need for security of gas supply, and where the injection is such as to prevent any present or future danger of deterioration in the quality of any receiving groundwater;

- 23.6. discharges of small quantities of substances for scientific purposes for characterisation, protection or remediation of ground water limited to the amount strictly necessary for the purposes concerned.
24. The emission restrictions established in this Section shall not apply to emissions of the most dangerous substances and dangerous substances into groundwater in the following cases:
 - 24.1. if the Regional Environmental Board finds that the quantities and concentrations of the most dangerous substances and dangerous substances are so small that introduction of the substances into ground water after percolation through the ground or subsoil (hereinafter “indirect discharge”) does not endanger compliance with the established quality objectives or quality standards;
 - 24.2. discharges of domestic effluents from isolated dwelling not connected to a centralised system of pipelines and facilities for waste water collection, discharge and treatment (hereinafter “centralised collection system”) and situated outside protected areas around the drinking water abstraction sites, if the Regional Environmental Board considers such discharge insignificant.
25. If the operator plans disposal or tipping for the purpose of disposal of the most dangerous or dangerous substances, and if such activities may lead to indirect discharge into ground water, as well as if he plans to carry out other polluting activities that may lead to indirect discharge into ground water, the operator shall obtain a prior permit. The permit may be issued:
 - 25.1. where the indirect emission does not affect active or slow water exchange strata, used for water supply;
 - 25.2. where the operator documents in the application for the permit that he has taken all precautionary measures necessary for prevention of indirect discharge and groundwater pollution, including a prior investigation of groundwater pollution and its hydrological conditions.
26. The Regional Environmental Board shall not issue the permit for activities referred to in Paragraph 23 or Paragraph 25, if these activities can lead to unacceptable dissemination of pollution or endanger intake of mineral water or drinking water, or water intended for agricultural purposes, or harm surface water or terrestrial ecosystems.
27. Prior to permitting any emissions into transfrontier groundwater, the Regional Environmental Board shall inform the State Environmental Impact Assessment Bureau, which in turn informs the competent authorities of the relevant state.
28. The permit for activities referred to in Paragraph 23 and Paragraph 25 shall include:
 - 28.1. a requirement to implement all the necessary precautionary measures to prevent pollution of other groundwater aquifers, terrestrial or aquatic ecosystems by the emitted substances, taking into account the nature and concentration of these

- substances, characteristics of the receiving environment, as well as the proximity of the abstraction sites of drinking, thermal and mineral water;
- 28.2. emission limit values for the emitted polluting substances;
- 28.3. a requirement to ensure ground water quality monitoring in the aquifer where polluting substances are discharged or may be discharged, as well as in all above located aquifers within the whole territory where the pollution may disseminate;
- 28.4. regular air-tightness and safety tests for facilities and drillings used for emission of pollutants.

V Emission of urban waste water

- 29. An area shall be identified as a sensitive area where extensive urban waste water treatment shall be applied, if the water body meets one of the following criteria:
 - 29.1. natural freshwater lakes, other freshwater bodies, estuaries and coastal waters are found to be eutrophic, i.e., enriched by nitrogen compounds and other plant nutrients, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned, or in the near future may become eutrophic if protective action is not taken;
 - 29.2. surface freshwaters intended for the abstraction of drinking water contain or may contain more than the concentration of nitrate fixed in the legislation on surface and groundwater quality if action is not taken;
 - 29.3. if extensive waste water treatment is necessary to fulfil environmental quality standards established in the legislation.
- 30. All the territory of Latvia is identified as a sensitive area where extensive urban waste water treatment shall be applied. The boundaries of the sensitive area conform to the terrestrial boundaries of the Republic of Latvia.
- 31. The load expressed in population equivalent shall be calculated on the basis of the maximum average weekly load entering the urban wastewater treatment plant (hereinafter “treatment plant”) during the year. The load created by heavy rain or other unusual situations is excluded from the calculations. For planning purposes the load expressed in population equivalent may be calculated on the basis of the planned number of connected persons and industries, using typical values for their water consumption and biochemical oxygen demand (BOD₅) content. 1 population equivalent (hereinafter “p.e.”) means the organic biodegradable load equal to the biochemical oxygen demand of 60 g of oxygen per day.
- 32. All cities, towns and villages (hereinafter “agglomerations”) with a p.e. of more than 2000 or equal to 2000 shall be provided with centralised collecting systems. Local municipalities are responsible for establishment of the centralised collection systems.

33. The relevant municipalities shall decide on the establishment of the centralised collecting systems in the agglomeration with a p.e. of less than 2000. If centralised collecting systems are established in such agglomerations, they shall comply with all the requirements of these Regulations.
34. Where the establishment of the centralised collecting system would involve excessive cost or would produce no environmental benefit, individual collecting systems or other appropriate systems (hereinafter “individual collecting systems”), which achieve the same level of environmental protection, shall be used. A feasibility study including technical investigations and environmental investigations shall be carried out to document such a decision. Where individual collecting systems are established, the respective local municipality shall ensure that all waste water and waste material collected therein is collected regularly and being treated according to this and other legislation. The local municipality shall notify the Regional Environmental Board about the decision to establish individual collecting systems.
35. For agglomerations where centralised collection systems are established, the local municipality shall ensure that all waste water and waste material collected in the individual collecting systems is collected regularly and being treated according to this and other legislation.
36. The centralised collecting systems shall be designed, constructed and operated in accordance with the best technical knowledge not entailing excessive costs, notably regarding:
 - 36.1. volume and characteristics of collected urban waste water;
 - 36.2. prevention of leaks;
 - 36.3. limitation of pollution of surface waters due collection systems overload or due to storm water overflows, to ensure compliance with the surface water quality objectives. Acceptable dilution rates and overflow frequencies shall be determined according to the Latvian construction standards.
37. There are the following treatment technologies for urban waste water entering centralised collecting systems:
 - 37.1. appropriate treatment means treatment of urban waste water by any process and disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other legislation;
 - 37.2. primary treatment means treatment of urban waste water by a physical or chemical process, or other processes in which the biological oxygen demand (BOD₅) of the incoming waste water is reduced by at least 20 % before discharge and the total suspended solids of the incoming waste water are reduced by at least 50 %;
 - 37.3. secondary treatment means application of processes generally involving biological treatment with a secondary settlement or another process, which ensures compliance of the treated effluent with the requirements established in Table 1 of Annex 5.

38. All urban waste water entering centralised collecting systems from agglomerations of less than 2 000 p.e. shall be subject to appropriate treatment before discharge.
39. All urban waste water entering centralised collecting systems from agglomerations of between 2 000 and 10,000 p.e. shall be subject to secondary treatment before discharge.
40. All urban waste water entering centralised collecting systems from agglomerations of more than 10,000 p.e. shall be subject to more stringent treatment than secondary treatment and shall comply with the requirements of Table 1 and Table 2 of Annex 5 before discharge.
41. Treatment plants shall be designed, build, modified and operated so that:
 - 41.1. the choice of the construction site respects spatial planning of all levels;
 - 41.2. the treatment plant complies with the Latvian construction standards;
 - 41.3. to ensure quality performance under the Latvian climatic conditions;
 - 41.4. representative samples of the incoming waste water and of treated effluent can be obtained before discharge to receiving waters, as well as samples from run-off rain water overflow chambers and emergency overflow chambers can be obtained and other measurements can be performed;
 - 41.5. variations of the incoming load due to the seasonal character of operation of the treatment plant or seasonal variations of the load are taken into account;
 - 41.6. the points of discharge are chosen so that they minimise the adverse effects on the environment.
42. Discharge of untreated industrial waste water and sludge into surface water or the environment is prohibited.
43. If industrial waste water is discharged to the centralised collecting system or to urban waste water treatment plant, the operator shall:
 - 43.1. enter into an agreement with the owner or manager of the centralised collecting system or treatment plant. The agreement shall:
 - 43.1.1. identify the contracting parties;
 - 43.1.2. specify the substances to be emitted;
 - 43.1.3. specify the maximum amounts of water and polluting substances that may be discharged from the installation;
 - 43.1.4. specify the duration of the agreement;
 - 43.1.5. specify the consequences for both parties in the cases where the agreement is breached;
 - 43.2. carry out pre-treatment of industrial waste water in order to:
 - 43.2.1. protect the health of staff working in centralised collecting systems and treatment plants;
 - 43.2.2. ensure that centralised collecting systems, waste water treatment plants and associated equipment is not damaged;
 - 43.2.3. ensure that the operation of the waste water treatment plant is not impeded;

- 43.2.4. ensure that discharges from the treatment plants do not adversely affect the environment, or prevent receiving water from complying with requirements of these Regulations and other legislation;
 - 43.2.5. ensure that sludge can be collected and disposed of as required by relevant legislation and in environmentally acceptable manner;
 - 43.2.6. ensure that waste water complies with the conditions of the agreement referred to in Paragraph 43.1.
44. The operator shall enclose a copy of the agreement referred to in Paragraph 43.1 with the application for the permit.
45. For emission of biodegradable industrial waste water directly into receiving waters, the following conditions shall apply:
- 45.1. waste water from industrial plants representing less than 4000 p.e. shall be subject to appropriate treatment before discharge into receiving waters, ensuring compliance with quality requirements and other legal requirements;
 - 45.2. discharge from industrial plants representing 4000 p.e. or more shall be subject either to emission limit values established in Table 1 and Table 2 of the Annex 5 or to best available techniques, whatever is the most stringent.
46. The operator shall ensure re-use of the treated waste water and sludge (including the use of effluent sludge for the fertilisation of soil and for improvements of the territory as stipulated in the legislation). The disposal of sludge requires a permit. Waste water disposal routes and sludge storage sites shall minimise the adverse effects of waste water and sludge on the environment. The operator may enter into agreement with other operators concerning disposal and storage of sludge in the relevant facilities of these plants. The operator shall inform the Regional Environmental Board about the agreement within two weeks upon its signature.
47. The Ministry of Environmental Protection and Regional Development shall establish the action programme to reduce pollution caused by emissions of urban waste water, pursuant to Section 17 of the Law on Pollution. The programme shall set deadlines for establishment of centralised collecting systems and treatment plants, as well as include financing and fund raising plan.

VI Emission limit values and emission standards

- 48. Emission limit values for the most dangerous substances and for urban waste water are determined in Annex 3 and Annex 5 respectively.
- 49. Emission limit values referred to in Annex 3 shall be applied respecting prohibitions and restrictions on production, import, use and trade of dangerous chemicals stipulated in the legislation.
- 50. Where emission limit values determined in Annex 3 have been expressed both as the maximum permissible weight and the maximum permissible concentration of

- the emitted substance, the emission standards expressed as the maximum permissible concentration shall not permit emission of a larger amount of substances than permitted by the emission limit values expressed as weight.
51. The mass of the emitted substance has been expressed in relation to the amount of the substance produced, processed or consumed by the enterprise during a certain period of time, or in relation to other criteria characterising the enterprise, for example, the manufacturing or processing capacity. The manufacturing or processing capacity is the capacity set by the management of the enterprise or the largest annual production or processing volume of a substance during a four year period before the issue or extension of the permit.
 52. The Regional Environmental Board shall establish emission standards taking into consideration:
 - 52.1. emission limit values laid down in Annex 3 and Annex 5 and other legislation as well as other relevant requirements prescribed therein;
 - 52.2. emission standards that can be calculated on the basis of water quality standards or principles provided for in the legislation on surface and groundwater quality;
 - 52.3. best available techniques;
 - 52.4. information provided by the operator on the emissions of pollutants into water or the environment, including quantities and control measures;
 - 52.5. quality objectives or quality standards for the water body or the river basin concerned;
 - 52.6. present water quality in the water body concerned, its self-purifying capacity and information about other existing or foreseeable sources of pollution as well as background concentrations of the relevant substances;
 - 52.7. the technical condition of the treatment plant and its likely improvement without undertaking capital reconstruction;
 - 52.8. the level of waste water treatment at comparable waste water treatment facilities.
 53. Where emission limit values for certain substances or for emissions from certain production processes are not provided for in the legislation, the Regional Environmental Board may set emission standards:
 - 53.1. on the basis of best available techniques;
 - 53.2. on the basis of emission limit values or water quality standards for chemically related substances with comparable environmental effects.
 54. The Latvian Environmental Agency shall evaluate the necessity to revise the emission limit values established in Annex 3 and Annex 5 on the basis of well-founded proposals submitted by any natural or legal person, or basing on new information about the effects of pollutants or international obligations of Latvia. The Latvian Environmental Agency shall prepare a proposal for amendments to Annex 3 or Annex 5 on the basis of:
 - 54.1. the environmental impact of the discharge;
 - 54.2. the water quality standards established for the aquatic environment;
 - 54.3. the technical options for controlling the substance;

- 54.4. experts' conclusions.
55. The Latvian Environmental Agency shall inform the proponent about the outcome of the evaluation no later than 12 months after receiving the proposal on the necessity for revision.

VII Monitoring and Control

56. The Regional Environmental Board shall establish in the permit self-monitoring requirements for the operator and shall determine the frequency of monitoring pursuant to these Regulations as well as considering the nature and type of emission and quality requirements of the receiving waters.
57. The operator who has planned discharge of the most dangerous and dangerous substances shall develop a programme for monitoring of such substances and enclose it with the application for a permit. The programme must determine a procedure for sampling, for measurement of the quantity of most dangerous and dangerous substances as well as flow measurements and other necessary measurements, considering the following conditions:
- 57.1. The sampling and flow measurement shall be effected at the point where the limit values apply. They may be effected at another point before that at which emission limit values apply, where it is necessary for the application of the required reference method and provided that:
- 57.1.1. all waters discharged from the plant that may have been polluted by the substance(s) in question are taken into account by those measurements;
- 57.1.2. regular analyses show that the measurements are representative of the quantities emitted at the points of application of the limit values or are always higher.
- 57.2. The sampling shall take place according to reference methods of measurement. The samples taken must be representative of the discharge over a period of 24 hours. Where existing Latvian standard methods are not available, the operator shall propose appropriate alternative methods.
- 57.3. The quantity of substances discharged over one month must be calculated on the basis of the daily quantities of substances emitted.
- 57.4. Should the quantity of substances handled be impossible to determine, the monitoring procedure may be based on the substances that can be used as a function of the production capacity on which the permit was based.
- 57.5. The reference methods of measurement referred to in Annex 4 and other legislation shall be used. Other methods may be used provided that the limits of detection, precision and accuracy of such methods are at least as good as for those set out in the legislation.
- 57.6. effluent flow measurements must be carried out to an accuracy of +/-20 %.
58. For Annex 3 substances, the Regional Environmental Board may authorise a simplified monitoring procedure than otherwise prescribed in Paragraph 57 provided that the emitted quantities are lower than the limits stated in Annex 3.

59. For monitoring of urban waste water discharges from the treatment plants, the operator shall comply with the procedures and reference methods for measurements referred to in Annex 5. Other methods may be used provided equivalent results can be obtained.
60. Where emissions of the most dangerous and dangerous substances may affect territorial waters of other states, the Regional Environmental Board shall inform the Environmental Impact Assessment State Bureau which, in turn, informs the relevant state(s) with the aim to co-operate and to harmonise monitoring procedures.
61. The Regional Environmental Board shall summarise self-monitoring data gathered by the operator and report them to the Latvian Environmental Agency. The Latvian Environmental Agency shall summarise and store the received data. The Regional Environmental Board shall report groundwater monitoring data also to the State Geological Survey.
62. Where the monitoring results prove that the emission does not comply with the permit conditions, the operator shall inform the Regional Environmental Board and the State Sanitary Inspection, identify the reasons of deviation and take appropriate measures to achieve compliance. The Regional Environmental Board shall take appropriate measures to control compliance of emission with the relevant quality requirements and to avoid any deterioration of the quality of the aquatic environment.
63. The state environmental inspectors shall perform the state control, to check the compliance of the waste water containing dangerous substances with the emission standards established in the permit and to check whether waste water emitted from the treatment plants comply with the permit conditions. A certified laboratory shall perform all the necessary analyses.
64. The state environmental inspectors shall control compliance with the permit conditions at least once a year.

VIII Information and reporting

65. The operator shall perform all the necessary analyses in the laboratory certified in the respective field, and, as required by permit conditions, shall submit the following information to the Regional Environmental Board:
 - 65.1. compliance of the emissions of the most dangerous and dangerous substances and other pollutants with emission standards established in the permit;

- 65.2. compliance of the waste water discharged from the treatment plant with the permit conditions;
 - 65.3. quality monitoring of the receiving waters upstream and downstream from the point of discharge, in accordance with the permit conditions;
 - 65.4. amount, composition, utilisation, disposal and monitoring of the produced sludge;
 - 65.5. other monitoring as required by the permit conditions.
66. To inform general public and public authorities about protection of the aquatic environment against pollution caused by discharges of the most dangerous and dangerous substances and urban waste water, the Latvian Environmental Agency shall:
- 66.1. every two years produce a public report on protection of ground and surface water against pollution caused by emissions of dangerous substances;
 - 66.2. every two years produce a public status report on the disposal of urban waste water and use and storage of sewage sludge within the Latvian territory;
 - 66.3. include results of the monitoring required by these Regulations into the annual State of the Environment Report.
67. For the information of the European Commission, the Latvian Environmental Agency shall:
- 67.1. report at least every four years on the changes in Annex 1 or Annex 2;
 - 67.2. report at least every three years on protection of surface water and ground water against pollution caused by emissions of the most dangerous and dangerous substances;
 - 67.3. submit summaries of pollution reduction programmes referred to in Paragraph 20.7;
 - 67.4. report on the action programmes developed according to Paragraph 21;
 - 67.5. report, on the measures taken pursuant to Section IV, to prevent groundwater pollution by the most dangerous and dangerous substances;
 - 67.6. report every two years on the disposal of urban waste water and sludge within the territory of the Republic of Latvia;
 - 67.7. provide information on the action programme for control of pollution caused by urban waste water discharges, required under Paragraph 47. Thereafter, every two years by 30th June updated information about the programme shall be submitted to the Commission;
 - 67.8. within six months of receipt of a relevant request provide information collected as a result of monitoring performed according to these Regulations;
 - 67.9. provide information on the methods used for urban waste water monitoring.
68. The general public shall have free access to the information prepared for the European Commission.

IX Transitional provisions

69. Until the date where the installation concerned shall obtain a Category A or Category B permit, the operator shall comply with the requirements established in the water use permit. Where the existing water use permit does not respect all requirements of these Regulations, the operator shall submit to the Regional Environmental Board an updated application for a water use permit within one year following the date of entry into force of these Regulations.
70. The Ministry of Environmental Protection and Regional Development shall develop the action programmes required under Paragraph 21 and Paragraph 47 within two years following the date of entry into force of these Regulations.
71. Establishment of the centralised collecting systems shall be completed by December 31, 2008 for agglomerations of more than 100,000 p.e. by December 31, 2011 for agglomerations between 10,000 and 100,000 p.e. and by December 31, 2015 for all other agglomerations of more than 2,000 p.e.
72. Requirements under Paragraphs 38, 39 and 40 on urban waste water treatment shall come into effect as from December 31, 2008 for all agglomerations of more than 100,000 p.e. as from December 31, 2011 for agglomerations between 10,000 and 100,000 p.e. and as from December 31, 2015 for all other agglomerations of more than 2,000 p.e. In the agglomerations where investment project for development or reconstruction of the treatment plant is implemented, the requirements shall come into effect after the project has been completed.
73. Paragraph 67 shall come into effect as from January 1, 2004.

Prime Minister

A. Bērziņš

Minister of Environmental
Protection and Regional Development

V. Makarovs

Annex 1
To the Cabinet of Ministers
Regulations No 34
of January 22, 2002

List of the most dangerous substances

No	CAS No	Substance
1.	107-06-2	1,2-Dichloroethane
2.	120-82-1	1,2,4-Trichlorobenzene
3.	309-00-2	Aldrin
4.	50-29-3 (72-54-8 and 72-55-9)	DDT, DDD and DDE
5.	60-57-1	Dieldrin
6.		Mercury and its compounds
7.	772-20-8	
8.	87-68-3	Hexachlorobutadiene or perchlorobutadiene
9.	118-74-1	Hexachlorobenzene
10.	608-73-1	Hexachlorocyclohexane (all isomers)
11.	67-66-3	Chloroform
12.	465-73-6	Isodrin
13.	–	ounds
14.	127-18-4	Perchloroethylene or Tetrachloroethylene (PER)
15.	87-86-5	Pentachlorophenol
16.	56-23-5	Carbon tetrachloride or tetrachloromethane
17.	79-01-6	Trichloroethylene (TRI)
18.	–	Trichlorobenzene, technical mixture

Minister of Environmental
Protection and Regional Development

V.Makarovs

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List of dangerous substances

No	CAS No	Substance
Inorganic substances		
1.	--	Arsenic and its compounds
2.	--	Chromium and its compounds
3.	--	Copper and its compounds
4.	--	Lead and its compounds
5.	--	Nickel and its compounds
6.	--	Zinc and its compounds
Organic substances		
7.	94-75-7	2,4-D
8.	107-13-1	Acrylonitrile
9.	--	Organotin compounds (expressed as tin)
10.	75-09-2	Dichloromethane
11.	109-89-7	Diethylamine
12.	60-51-5	Dimethoate
13.	106-89-8	Epichlorohydrin
14.	--	Phenols (phenol index)
15.	50-00-0	Formaldehyde
16.	95-51-2 108-42-9 106-47-8	Chloroanilines (2-; 3- and 4-)
17.	108-90-7	Chlorobenzene
18.	91-20-3	Naphthalene
19.	--	Polychlorinated biphenyls (PCB)
20.	122-34-9	Simazine
21.	126-73-8	Tributyl phosphate
22.	1582-09-8	Trifluralin
Hydrocarbons of petroleum origin		
23.	--	Monoaromatic hydrocarbons (benzene, toluene, ethyl benzene, xylenes), expressed as BTEX
24.	1582-09-8	Polycyclic aromatic hydrocarbons (PAH)
25.	--	Non-cyclic hydrocarbons of petroleum origin

Minister of Environmental
Protection and Regional Development

V.Makarovs

Annex 3
To the Cabinet of Ministers
Regulations No 34
of January 22, 2002

Emission limit values for discharges of the most dangerous substances into surface waters

I Emission limit values for carbon tetrachloride

Table 1

Emission limit values for carbon tetrachloride (CCl₄) CAS 56-23-5

Type of industrial plant	Type of average value	Limit values expressed as	
		weight	concentration
Production of chloromethanes by methane chlorination (including high-pressure electrolytic chlorine generation) and from methanol	Monthly	10 g CCl ₄ per tonne of total production capacity of chloromethanes	1.5 mg/l
	Daily	20 g/tonne	3 mg/l

1. Paragraph 20.7 of these Regulations applies to use of carbon tetrachloride in industrial laundries.
2. For plants using carbon tetrachloride as a solvent, emission standards shall be laid down in accordance with Article 53 of these Regulations.
3. A simplified monitoring procedure may be authorised if annual discharges of carbon tetrachloride do not exceed 30 kg a year.
4. For plants where a process involving agitation in the open air of effluent containing carbon tetrachloride is used, the regional environmental board shall include in the permit conditions a requirement to ensure compliance with the air and water quality standards in the vicinity of the plant concerned.

II Emission limit values for DDT

Table 2

Emission limit values for DDT¹, CAS 50–29-3

Type of industrial plant	Type of average value	Limit values expressed as	
		g/tonne of substances produced, handled or used	mg/l of water discharged
DDT production, including formulation of DDT on the same site	Monthly	4	0.2
	Daily	8	0.4

5. Paragraph 20.7 of these Regulations applies to DDT if sources other than those mentioned in the Table 2 are identified.
6. For plants that are required to apply the best available techniques, emission standards lower than 1 g/tonne substances produced shall be laid down.
7. For plants formulating DDT away from the production site and for the dicofol production industry, emission standards shall be laid down in accordance with Article 53 of these Regulations.
8. A simplified monitoring procedure may be authorised if annual discharges of DDT do not exceed 1 kg a year.

¹ The sum of the isomers 1,1,1-trichloro-2, 2 bis (p-chlorophenyl) ethane; 1,1,1-trichloro-2 (o-chlorophenyl) -2- (p-chlorophenyl) ethane; 1,1,1-dichloro-2,2 bis (p-chlorophenyl) ethylene; and 1,1,1-trichloro-2,2 bis (p-chlorophenyl) ethane.

III Emission limit values for pentachlorophenol

Table 3

Emission limit values for pentachlorophenol², CAS 87-86-5

Type of industrial plant	Type of average value	Limit values expressed as g/t production/ utilisation capacity	Limit values expressed as mg/l of water discharged
Production of sodium pentachlorophenate by hydrolysis of hexachlorobenzene	Monthly	25	1
	Daily	50	2

9. Paragraph 20.7 of these Regulations applies to pentachlorophenol, and particularly to its use for treating wood.
10. For plants producing sodium pentachlorophenate by saponification and for those producing pentachlorophenol by chlorination, emission standards shall be laid down in accordance with Article 53 of these Regulations.
11. A simplified monitoring procedure may be authorised if annual discharges of pentachlorophenol do not exceed 3 kg a year.

² The chemical compound 2,3,4,5,6-Pentachloro-1-hydroxybenzene and its salts.

IV Emission limit values for aldrin, dieldrin, endrin and isodrin

Table 4

Emission limit values for aldrin³ CAS 309–00–2, dieldrin⁴ CAS 60– 57–1, endrin⁵ CAS 72–20-8 and isodrin⁶ CAS 465-73-6

Type of industrial plant	Type of average value	Limit values expressed as	
		weight	concentration in effluent µg/ l water discharged *
Production of aldrin, dieldrin or endrin including formulation of these substances on the same site	Monthly	3 g/ tonne of total production capacity (g/tonne)	2
	Daily	15 g/ tonne of total production capacity (g/tonne)	10

* These figures take account of the total amount of water passing through the plant.

12. The limit values indicated in Table 4 shall apply to the total discharge of aldrin, dieldrin and endrin. If the effluent resulting from the production or use of aldrin, dieldrin or endrin (including formulation of these substances) also contains isodrin, the limit values laid down above shall apply to the total discharges of aldrin, dieldrin, endrin and isodrin.

13. For plants formulating aldrin, dieldrin or endrin away from the production site, emission standards shall be laid down in accordance with Article 53 of these Regulations.

14. Daily values shall not exceed twice the monthly value.

³ Aldrin is the chemical compound C₁₂ H₈ Cl₆, or 1, 2, 3, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-1,4-endo-5, 8-exo-dimethanonaphtalene.

⁴ Dieldrin is the chemical compound C₁₂ H₈ Cl₆O, or 1, 2, 3, 4, 10, 10-hexachloro-6, 7-epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-1, 4-endo-5, 8-exo-dimethanonaphtalene.

⁵ Endrin is the chemical compound C₁₂ H₈ Cl₆O, or 3,4,5,6,9,9,-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-2,7:3,6-dimethanonaphth[2,3-*b*]oxirene.

⁶ Isodrin is the chemical compound C₁₂ H₈ Cl₆, or 1, 2, 3, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-1, 4-endo-5,8-endo-dimethanonaphtalene.

V Emission limit values for hexachlorobenzene

Table 5

Emission limit values for hexachlorobenzene (HCB), CAS 118-74-1

Type of industrial plant	Type of average value	Limit values expressed as	
		weight	concentration
1. HCB production and processing	Monthly	10 g HCB/tonne HCB production capacity	1 mg/l HCB
	Daily	20 g HCB/tonne HCB production capacity	2 mg/l HCB
2. Production of perchloroethylene (PER) and carbon tetrachloride (CCl ₄) by perchlorination	Monthly	1.5 g HCB/tonne PER + CCl ₄ total production capacity	1.5 mg/l HCB
	Daily	3 g HCB/tonne PER + CCl ₄ total production capacity	3 mg/l HCB
3. Production of trichloroethylene and/or perchloroethylene by any other process	Monthly	-	-
	Daily	-	-

15. A simplified monitoring procedure may be authorised if annual discharges of hexachlorobenzene do not exceed 1 kg a year.
16. For plants producing quitozene and tecnazene, industrial plants producing chlorine by chlor - alkali electrolysis with graphite electrodes, industrial rubber processing plants, plants manufacturing pyrotechnic products and plants producing vinylchloride, emission standards shall be laid down in accordance with Article 53 of these Regulations.

VI Emission limit values for hexachlorobutadiene

Table 6

Emission limit values for hexachlorobutadiene (HCBD), CAS 87-68-3

Type of industrial plant	Type of average value	Limit values expressed as	
		weight	concentration
1. Production of perchloroethylene by perchloration	Monthly	1.5 g HCBD / tonne total PER and CCl ₄ production capacity	1 mg/l
	Daily	3 g HCBD / tonne total PER and CCl ₄ production capacity	3 mg/l
2. Production of trichloroethylene and/or perchloroethylene by any other process	Monthly	-	-
	Daily	-	-

17. A simplified monitoring procedure may be authorised if annual discharges of hexachlorobutadiene do not exceed 1 kg a year.

18. For plants using HCBD for technical purposes, emission standards shall be laid down in accordance with Article 53 of these Regulations.

VII Emission limit values for chloroform

Table 7

Emission limit values for chloroform (CHCl₃), CAS 67-66-3

Type of industrial plant	Limit values (monthly averages) expressed as	
	weight	concentration
1. Production of chloromethanes from methanol or from a combination of methanol and methane (i.e. by hydrochlorination of methanol, then chlorination of methyl chloride)	10 g CHCl ₃ /tonne total production capacity of chloromethanes	1 mg/l
2. Production of chloromethanes by chlorination of methane	7.5 g CHCl ₃ /tonne total production capacity of chloromethanes	1 mg/l

19. Paragraph 20.7 of these Regulations applies if sources other than those listed in Table 7 are identified.

20. For plants manufacturing monomer vinyl chloride using dichlorethane pyrolysis, those producing bleached pulp and other plants using CHCl_3 as a solvent and plants in which cooling waters or other effluents are chlorinated, emission standards shall be laid down in accordance with Article 53.
21. A simplified monitoring procedure may be authorised if annual discharges of chloroform do not exceed 1 kg a year.
22. Daily average limit values are equal to twice the monthly average values given in Table 7.
23. The operator shall prevent air and water pollution caused by evaporation of chloroform. For plants where a process involving agitation in the open air of effluent containing chloroform is used, the regional environmental board shall include in the permit conditions a requirement to ensure compliance with the air and water quality standards in the vicinity of the plant concerned. All water likely to be polluted shall be taken fully into account.

VIII Emission limit values for 1,2-dichloroethane

Table 8

Emission limit values for 1,2-dichloroethane (EDC), CAS 107-06-2

Type of industrial plant	Type of average value	2 Limit values expressed as	
		weight (g/tonne)	concentration (mg/l)
1. Production only of 1,2-dichloroethane (without processing or use on the same site)	Monthly	2.5	1.25
	Daily	5	2.5
2. Production of 1,2-dichloroethane, and processing or use at the same site, except for the use defined in (5.) below	Monthly	5	2.5
	Daily	10	5
3. Processing of 1,2-dichloroethane into substances other than vinyl chloride ⁷	Monthly	2.5	1
	Daily	5	2
4. Use of EDC for degreasing metals (away from an industrial site covered by (2.))	Monthly	-	0.1
	Daily	-	0.2

⁷ The production of the following substances specifically is involved here: ethylene diamine, ethylene polyamine, 1,1,1-trichloroethane, trichloroethylene and perchloroethylene.

5. Use of EDC in the production of ion exchangers	Monthly	-	-
	Daily	-	-

24. Paragraph 20.7 concerning drawing up pollution reduction programs applies in particular to EDC used as a solvent away from production or processing site if annual discharges amount to less than 30 kg/year.
25. The operator shall prevent air and water pollution caused by evaporation of EDC. For plants where a process involving agitation in the open air of effluent containing EDC is used, the regional environmental board shall include in the permit conditions a requirement to ensure compliance with the air and water quality standards in the vicinity of the plant concerned. All water likely to be polluted shall be taken fully into account.
26. The purified EDC production capacity includes that fraction of the EDC which is not cracked in the vinyl chloride (VC) production unit associated with the EDC production unit and which is recycled to the EDC purification section of the plant.
27. A simplified monitoring procedure may be authorised if annual discharges of 1,2-dichloroethane do not exceed 30 kg a year.
28. Emission limit values expressed as weight (g/tonne) for sectors 1 and 2 in Table 8 relate to purified EDC production capacity in tonnes, but for sector 3, to EDC processing capacity expressed in tonnes. However, in the case of sector 2 in Table 8, if the processing and utilisation capacity is greater than the production capacity, the limit values shall be applied in relation to the global processing and utilisation capacity. If there are several plants on the same site, the limit values shall apply to the plants taken together.
29. Emission limit values expressed as concentration relate to the following reference volumes:
- 29.1 for sector 1: 2 m³ /tonne of purified EDC production capacity;
 - 29.2 for sector 2: 2.5 m³/tonne of purified EDC production capacity;
 - 29.3 for sector 3: 2.5 m³ /tonne of EDC processing capacity.
30. The limit values, laid down for industrial plant referred to in sector 2 of Table 8, take account of all diffuse internal sources and/or EDC used as a solvent within the industrial production site.
31. Limit values for industrial plants referred to in sector 4 of Table 8, apply only to plants the annual discharges of 1,2-dichloroethane from which exceed 30 kg/year.

IX Emission limit values for trichloroethylene

Table 9

Emission limit values for trichloroethylene (TRI), CAS 79-01-6

Type of industrial plant	Type of average value	Limit values expressed as	
		weight (g/tonne)	concentration (mg/l)
1. Trichloroethylene (TRI) and perchloroethylene (PER) production	Monthly	2.5	0,5
	Daily	5	1
2. Use of TRI for degreasing of metals	Monthly		0.1
	Daily		0.2

32. Paragraph 20.7 concerning drawing up of pollution reduction programs applies in particular to TRI used as solvent for dry-cleaning , for the extraction of grease or odours and for degreasing metals where annual discharges amount to less than 30 kg/year.
33. The operator shall prevent air and water pollution caused by evaporation of TRI. For plants where a process involving agitation in the open air of effluent containing TRI is used, the regional environmental board shall include in the permit conditions a requirement to ensure compliance with the air and water quality standards in the vicinity of the plant concerned. All water likely to be polluted shall be taken fully into account.
34. A simplified monitoring procedure may be authorised if annual discharges of trichloroethylene do not exceed 30 kg a year.
35. For sector 1 in Table 9, limit values for TRI discharges relate to overall TRI + PER production capacity.
36. For sector 1 in Table 9, limit values for TRI discharges expressed as concentration may also be expressed as 5 m³ per tonne of overall TRI + PER production capacity.
37. For sector 2 in Table 9, limit values apply only to industrial plants from which the annual discharges exceed 30 kg/year.

X Emission limit values for perchloroethylene

Table 10

Emission limit values for perchloroethylene (PER), CAS 127-18-4

Type of industrial plant	Type of average value	3 Limit values expresses as	
		weight (g/tonne)	concentration (mg/l)
1. Trichloroethylene (TRI) and perchloroethylene (PER) production	Monthly	2.5	0.5
	Daily	5	1
2. Use of PER for degreasing of metals	Monthly	-	0.1
	Daily	-	0.2

38. Paragraph 20.7 concerning drawing up pollution reduction programs applies in particular to PER used as a solvent for dry-cleaning, for the extraction of grease or odours and for degreasing metals where annual discharges amount to less than 30 kg/year.
39. The operator shall prevent air and water pollution caused by evaporation of perchloroethylene. For plants where a process involving agitation in the open air of effluent containing PER is used, the regional environmental board shall include in the permit conditions a requirement to ensure compliance with the air and water quality standards in the vicinity of the plant concerned. All waters likely to be polluted shall be taken fully into account.
40. A simplified monitoring procedure may be authorised if annual discharges do not exceed 30 kg a year.
41. For sector 1 in Table 10, the limit values for PER discharges relate to overall TRI + PER production capacity.
42. For sector 1 in Table 10, emission limit values expressed as concentration can be expressed as 5 m³ per tonne of overall TRI + PER production capacity.
43. Emission limit values for sector 2 in Table 10 apply only to industrial plants from which the annual discharges exceed 30 kg/year.

XI Emission limit values for Trichlorobenzene

Table 11

Emission limit values for Trichlorobenzene⁸ (TCB)

Type of industrial plant	Type of average value	Limit values expressed as	
		weight (g/tonne)	concentration (mg/l)
1. Production of TCB via dehydrochlorination of HCH and/or processing TCB	Monthly	10	1
	Daily	20	2
2. Production and/or processing of chlorobenzene via chlorination of benzene for plants discharging more than 50 kg TCB per year	Monthly	0.5	0.05
	Daily	1	0.1
3. Production and/or processing of chlorobenzene via chlorination of benzene for plants discharging less than 50 kg TCB per year	Monthly	22.5	0.25
	Daily	5	0.5

44. Paragraph 20.7 concerning drawing up of pollution reduction programs applies in particular to TCB used as a solvent or colouring support in the textile industry, or as component of the oils used in transformers.

45. The limit values expressed as weight (sum of the three isomers):

45.1 for sector 1 in Table 11: in relation to the total TCB production capacity;

45.2 for sectors 2 and sector 3 in Table 11: in relation to the total production or processing capacity for mono- and dichlorobenzenes.

46. Limit concentrations relate to the following reference volumes:

46.1 for sector 1 in Table 11: 10m³ /tonne of TCB produced or processed;

46.2 for sector 2 in Table 11: 10m³ /tonne of mono- and dichlorobenzene produced or processed.

XII Emission limit values for mercury from chlor – alkali electrolysis industry

Table 12

⁸ TCB may occur as one of the following three isomers:

— 1,2,3-TCB, CAS No 87-61-6;

— 1,2,4-TCB, CAS No 120-82-1;

— 1, 3, 5-TCB, CAS No 180-70-3.

Technical TCB is a mixture of these three isomers, with a preponderance of 1,2,4-TCB, and may also contain small quantities of di- and tetrachlorobenzene. These provisions apply to the total TCB (the sum of the three isomers).

Emission limit values for Mercury (Hg) from chlor - alkali electrolysis industry

Unit of measurement	Monthly average limit values	4 Remarks
1. Recycled brine and lost brine Micrograms of Hg per litre	50	Applicable to the total quantity of mercury present in all mercury containing water discharged from the site of industrial plant
2. Recycled brine Grams of Hg per tonne installed chlorine production capacity	0.5 1.0	Applicable to the mercury present in effluent discharged from the chlorine production unit Applicable to the total quantity of mercury present in all mercury containing water discharged from the site of industrial plant
3. Lost brine Grams of Hg per tonne installed chlorine production capacity	5.0	Applicable to the total quantity of mercury present in all mercury containing water discharged from the site of industrial plant

47. The emission limit values of mercury shall apply to chemical element mercury as well as to mercury contained in any of its compounds.

48. Table 12 of this Annex refers to monthly average limit values. The daily average limit values are four times the respective monthly average limit.

XIII Emission limit values for mercury from other industries

Table 13

Emission limit values for mercury (Hg) from other industries

Industrial sector	Limit values	Unit of measurement
1. Chemical industries using Hg catalysts		
1.1 in the production of vinyl chloride	0.05	mg/l effluent
	0.1	g / t vinyl chloride production capacity
1.2 in other processes	0.05	mg/l effluent
	5	g /kg Hg processed
2. Manufacture of mercury catalysts used in the production of vinyl chloride	0.05	mg/l effluent
	0.7	g /kg Hg processed
3. Manufacture of organic and non-organic Hg compounds (except for products referred to in point 2)	0.05	mg/l effluent
	0.05	g /kg Hg processed
4. Manufacture of primary batteries containing mercury	0.05	mg/l effluent
	0.03	g /kg Hg processed
5. Non-ferrous metal industry	0.05	mg/l effluent
5.1 Mercury recovery plants		
5.2 extraction and refining of non-ferrous metals	0.05	mg/l effluent
6. Plants for the treatment of toxic wastes containing mercury	0.05	mg/l effluent

49. The amounts of mercury discharged are expressed as a function of the amount of mercury used or handled by the industrial plant over the month or as a function of the installed vinyl chloride production capacity.

50. In no instance may emission limit values expressed as maximum concentrations be greater than limit values expressed as maximum quantities divided by water requirements per kg of mercury handled or per tonne of installed vinyl chloride production capacity.

51. The daily average limit values are twice the respective monthly averages referred to in the Table 13.

52. A simplified monitoring procedure may be authorised if annual discharges of mercury do not exceed 7.5 kg a year.

XIV Emission limit values for cadmium

Table 14

Emission limit values for cadmium (Cd)

Industrial sector	Unit of measurement	Limit values
1. Zinc mining, lead and zinc refining, cadmium metal and non-ferrous metal industry	mg Cd/ l of discharge	0.2*
2. Manufacture of cadmium compounds	mg Cd/ l of discharge	0.2 *
	g Cd discharged/kg Cd handled	0.5
3. Manufacture of pigments	mg Cd/ l of discharge	0.2 *
	g Cd discharged/kg Cd handled	0.3
4. Manufacture of stabilisers	mg Cd/ l of discharge	0.2 *
	g Cd discharged/kg Cd handled	0.5
5. Manufacture of primary and secondary batteries	mg Cd/ l of discharge	0.2 *
	g Cd discharged/kg Cd handled	1.5
6. Electroplating	mg Cd/ l of discharge	0.2*
	g Cd discharged/kg Cd handled	0.3
7. Manufacture of phosphoric acid or phosphatic fertiliser from phosphatic rock	-	-

* Monthly flow-weighted average concentration of total cadmium

** Monthly average

53. The daily average limit values are twice the respective monthly averages referred to in Table 14.

54. A simplified monitoring procedure may be authorised if annual discharges of cadmium do not exceed 10 kg per year. In the case of industrial electroplating plants, a simplified monitoring procedure may only be introduced if the total volume of the electroplating tanks is less than 1.5 m³.

XV Emission limit values for hexachlorocyclohexane

Table 15

Emission limit values for hexachlorocyclohexane (HCH), CAS 608-73-1

Industrial sector	Unit of measurement	Limit values
1. Plant for production of HCH	grams of HCH per tonne of HCH produced *	2
	mg of HCH per litre discharged **	2
2. Plant for the extraction of lindane	grams of HCH per tonne of HCH treated *	4
	mg of HCH per litre discharged **	2
3. Plant where the production of HCH and extraction of lindane is carried out	grams of HCH per tonne of HCH produced *	5
	mg of HCH per litre discharged **	2

* Monthly average limit values by weight

** Monthly flow weighted average concentration of HCH or limit values by concentration

55. HCH means a mixture of the isomers of 1,2,3,4,5,6 – hexachlorocyclohexane. The emission limit values shall apply to the mixture.

56. Lindane means a product containing at least 99% of the γ – isomer of 1,2,3,4,5,6 – hexachlorocyclohexane.

57. Emission limit values given in Table 15 include any discharges resulting from lindane formulation on the same site.

58. Emission limit values given in Table 15 are applicable to the total quantity of HCH present in all discharges of water containing HCH coming from industrial plant.

59. The daily average limit values are twice the respective monthly averages referred to in Table 15.

60. A simplified monitoring procedure may be authorised if annual discharges of hexachlorocyclohexane do not exceed 3 kg per year.

Minister of Environmental
Protection and Regional Development

V. Makarovs

Reference methods of measurement for the most dangerous substances

I Reference methods of measurement for carbon tetrachloride

1. The reference method of measurement to be used for determining the presence of carbon tetrachloride in effluents and water is gas chromatography.
2. A sensitive detector must be used when concentration levels are below 0.5 mg/l. In this case the determination limit (the smallest quantity, quantitatively determinable in a sample on the basis of a given working method, which can still be distinguished from zero) is 0.1 µg/l. For concentration levels higher than 0.5 mg/l a determination limit of 0.1 mg/l is acceptable.
3. The accuracy and precision of the method must be +/- 50 % at a concentration which represents twice the value of the determination limit.

II Reference methods of measurement for DDT

4. The reference method of measurement to be used for determining DDT in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for total DDT is approximately 4 µg/l for the aquatic environment and 1 µg/l for effluents, depending on the number of extraneous substances present in the sample.
5. The reference method to be used for determining DDT in sediments and organisms is gas chromatography with electron-capture detection after appropriate preparation of samples. The limit of determination is 1 µg/l.
6. The accuracy and precision of the method must be +/- 50 % at a concentration which represents twice the value of the determination limit.

III Reference methods of measurement for pentachlorophenol

7. The reference method of measurement to be used for determining pentachlorophenol in effluents and the aquatic environment is high-pressure liquid chromatography or gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination is 2 µg/l for effluents and 0.1 µg/l for the aquatic environment.

8. The reference method to be used for determining pentachlorophenol in sediments and organisms is high-pressure liquid chromatography or gas chromatography with electron-capture detection after appropriate preparation of samples. The limit of determination is 1 µg/l.
9. The accuracy and precision of the method must be +/- 50 % at a concentration which represents twice the value of the determination limit.

IV Reference methods of measurement for aldrin, dieldrin, endrin and isodrin

10. The reference method of measurement to be used for determining the presence of aldrin, dieldrin, endrin and/or isodrin in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for each substance is 2.5 ng/l for the aquatic environment and 400 ng/l for effluents, depending on the number of parasite substances present in the sample.
11. The reference method of measurement to be used for determining the presence of aldrin, dieldrin, endrin and/or isodrin in sediments and organisms is gas chromatography with electron-capture detection after appropriate preparation of samples. The limit of determination is 1 µg/kg dry weight for each separate substance.
12. The accuracy and precision of the method must be +/- 50 % at a concentration which represents twice the value of the determination limit.

V Reference methods of measurement for hexachlorobenzene (HCB)

13. The reference method of measurement to be used for determining the presence of HCB in effluents and waters is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for HCB shall be within the range 1 to 10 ng/l for waters and 0.5 to 1 µg/l for effluents depending on the number of extraneous substances present in the sample.
14. The reference method to be used for determining HCB in sediments and organisms is gas chromatography with electron-capture detection after appropriate preparation of the sample. The limit of determination shall be within the range 1 to 10 µg/l of dry matter.
15. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the determination limit.

VI Reference methods of measurement for hexachlorobutadiene (HCBD)

16. The reference method of measurement to be used for determining HCBD in effluents and waters is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for HCBD shall be within the range 1 to 10 ng/l for the aquatic environment and 0.5 to 1 µg/l for effluents, depending on the number of extraneous substances present in the sample.
17. The reference method to be used for determining HCDB in sediments and organisms is gas chromatography with electron-capture detection after appropriate preparation of the sample. The limit of determination shall be within the range 1 to 10 µg/kg of dry matter.
18. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the determination limit.

VII Reference methods of measurement for chloroform

19. The reference method of measurement to be used for determining the presence of chloroform in effluents and the aquatic environment is gas chromatography with electron-capture detection after appropriate preparation of the sample. A sensitive detector must be used when concentration levels are below 0.5 mg/l and in this case the determination limit is 0.1 µg/l. For concentration levels higher than 0.5 mg/l a determination limit of 0.1 mg/l is acceptable.
20. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the determination limit.

VIII Reference methods of measurement for 1,2-dichloroethane (EDC)

21. The reference method of measurement to be used for determining the presence of 1,2-dichloroethane in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent or gas chromatography following isolation by means of the 'purge and trap' process and trapping by using a cryogenically cooled capillary trap. The limit of determination is 10 µg/l for effluents and 1 µg/l for the aquatic environment.
22. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the determination limit.

IX Reference methods of measurement for trichloroethylene (TRI)

23. The reference method of measurement to be used for determining the presence of trichloroethylene in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for TRI is 10 µg/l for the effluents and 0.1 µg/l for the aquatic environment.
24. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the limit of determination.

X Reference methods of measurement for perchloroethylene (PER)

25. The reference method of measurement to be used for determining the presence of perchloroethylene in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for PER is 10 µg/l for effluents and 0.1 µg/l for the aquatic environment.
26. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the limit of determination.

XI Reference methods of measurement for trichlorobenzene (TCB)

27. The reference method of measurement to be used for determining the presence of trichlorobenzene in effluents and the aquatic environment is gas chromatography with electron-capture detection after extraction by means of an appropriate solvent. The limit of determination for each isomer separately is 1 µg/l for effluents and 10 ng/l for the aquatic environment.
28. The reference method to be used for determining TCB in sediments and organisms is gas chromatography with electron-capture detection after appropriate preparation of the sample. The limit of determination for each isomer separately is 1 µg/kg of dry matter.
29. The accuracy and precision of the method must be +/- 50 % at a concentration, which represents twice the value of the limit of determination.

XII Reference methods of measurement for mercury

30. The reference method of analysis for determining the mercury content in waters, the flesh of fish, sediments and shellfish is by flameless atomic absorption

spectrophotometry after suitable pre-treatment of the sample which takes account in particular of pre-oxidation of the mercury and of successive reduction of the mercury ions Hg (II).

31. The limits of determination must be such that the mercury concentration can be measured to an accuracy and a precision of $\pm 30\%$ at the following concentrations:
- 31.1 in the case of discharges, one tenth of the maximum permitted concentration of mercury specified in the authorization,
 - 31.2 in the case of surface water, one tenth of the mercury concentration specified in the quality objective,
 - 31.3 in the case of the flesh of fish and shellfish, one tenth of the mercury concentration specified in the quality objective,
 - 31.4 in the case of sediments, one tenth of the mercury concentration in the sample or 0.05 mg/kg dry weight, whichever is the greater.

XIII Reference methods of measurement for cadmium

32. The reference method of analysis used for determining the cadmium content of waters, sediments and shellfish is atomic absorption spectrophotometry after preservation and suitable treatment of the sample.
33. The limits of determination must be such that the cadmium concentration can be measured to an accuracy of $\pm 30\%$ and a precision of $\pm 30\%$ at the following concentrations:
- 33.1 in the case of emissions, one-tenth of the maximum permitted concentration of cadmium specified in the authorisation,
 - 33.2 in the case of surface water, 0.1 $\mu\text{g/l}$ or one-tenth of the cadmium concentration specified in the quality objective, whichever is the greater,
 - 33.3 in the case of shellfish, 0.1 mg/kg, wet weight,
 - 33.4 in the case of sediments, one-tenth of the cadmium concentration in the sample or 0.1 mg/kg, dry weight, with drying being carried out between 105 and 110 °C at constant weight, whichever value is the greater.

XIV Reference methods of measurement for hexachlorocyclohexane

34. The reference method of analysis for determining the concentration of the hexachlorocyclohexane in discharges and in waters will be gas chromatography with electron-capture detection after extraction by means of an appropriate solvent and purification. The accuracy and precision of the method must be $\pm 50\%$ at a concentration, which represents twice the value of the limit of determination.
35. The limit of determination must be:
- 35.1 in the case of discharges, one-tenth of the concentration required at the point of sampling;

35.2 in the case of waters subject to a quality objective:

35.2.1 for inland surface waters, one-tenth of the concentration indicated in the quality objective;

35.2.2 for estuary waters and territorial seawaters, one-fifth of the concentration indicated in the quality objective;

35.3 in the case of sediments, 1 µg/kg, dry weight;

35.4 in the case of living organisms, 1 µg/kg., wet weight.

Minister of Environmental
Protection and Regional Development

V. Makarovs

Requirements for urban waste water treatment

I Percentage of reduction

Table 1

Requirements for discharges from urban waste water treatment plants for the parameters: biological oxygen demand, chemical oxygen demand and suspended solids

Parameters	Population equivalent	Concentration	Minimum percentage of reduction	Reference method of measurement
1. Biochemical oxygen demand (BOD ₅ at 20 °C), without nitrification	<2000	Appropriate treatment		Homogenised, unfiltered, undecanted sample. Determination of dissolved oxygen before and after five day incubation at 20°C ± 1°C, in complete darkness. Addition of nitrification inhibitor.
	2000 -10,000	25 mg/l	70-90	
	≥10,000	25 mg/l	70-90	
2. Chemical oxygen demand	<2000	Appropriate treatment		Homogenised, unfiltered, undecanted sample. Potassium dichromate.
	2000 -10,000	125 mg/l	75	
	≥10,000	125 mg/l	75	
3. Total suspended solids	Up to 10,000	Below 35 mg/l	90	Filtering of a representative sample through a 0.45µm filter membrane. Drying at 105 °C and weighting.
	≥10,000	Below 35 mg/l	90	

- Percentage of reduction shall be determined by comparing the pollution load of the influent with the load of the effluent.

2. BOD₅ can be replaced by another parameter: total organic carbon (TOC) or total oxygen demand (TOD) if a relationship can be established between BOD₅ and the substitute parameter.
3. Analyses concerning discharges from lagooning shall be carried out on filtered samples; however, the concentration of total suspended solids in unfiltered water samples shall not exceed 150 mg/l.

Table 2

Requirements for discharges from urban waste water treatment plants for the following parameters: total phosphorus and total nitrogen

Parameters	Population equivalent	Concentration	Minimum percentage of reduction	Reference method of measurement
1. Total phosphorus (P _{tot})	<10,000	Appropriate treatment		Molecular absorption spectrophotometry
	10,000 – 100,000	2 mg/l	80	
	>100,000	1 mg/l	80	
2. Total nitrogen (N _{tot})	<10,000	Appropriate treatment		Molecular absorption spectrophotometry
	10,000 – 100,000	15 mg/l	70-80	
	>100,000	10 mg/l	70-80	

4. Total nitrogen means the sum of organic and inorganic nitrogen.

II Reference methods for monitoring and evaluation of results

5. Flow-proportional or time-based 24 hour samples shall be collected at the same well-defined point in the outlet and, if deemed necessary by the Regional Environmental Board, in the inlet of the treatment plant. Minimising of the degradation of samples between collection and analysis shall be ensured. The samples shall be collected at regular intervals during the year; the sampling frequency shall be fixed in the permit.
6. Frequency of sampling shall be the following:

- 6.1. for agglomerations of between 2000 and 9999 p.e.: no less than 12 samples during the first year; four samples in subsequent years, if it can be shown that the water during the first year complies with the provisions of these Regulations (as described in Paragraph 7 of this Annex). If one sample of the four fails, 12 samples must be taken in the year that follows;
 - 6.2. for agglomerations of between 10 000 and 49 999 p.e.: no less than 12 samples per year;
 - 6.3. for urban areas of p.e. 50000 and more: no less than 24 samples per year.
7. The treated waste water shall be assumed to conform to the provisions of these Regulations if, for each relevant parameter considered individually, samples of the water show that it complies with the relevant parametric value in the following way:
 - 7.1. for the parameters specified in Table 1 a maximum number of samples which are allowed to fail the requirements is specified in Table 3;
 - 7.2. for the parameters of Table 1 expressed in concentrations, the failing samples taken under normal operating conditions must not deviate from the parametric values by more than 100 %. For the Table 1 parametric values in concentration relating to total suspended solids deviations of up to 150 % may be accepted;
 - 7.3. for those parameters specified in Table 2 the annual mean of the samples for each parameter shall conform to the relevant parametric values.
 8. The nitrogen concentration given in Table 2 is the yearly average. The requirements for nitrogen may be checked using daily averages when it is proved that the same level of protection is obtained. In this case, the daily average must not exceed 20 mg/l of total nitrogen for all samples taken when the temperature from the effluent in the biological reactor is superior or equal to 12°C.
 9. Extreme values for the water quality in question shall not be taken into consideration when they are the result of unusual situations such as those due to heavy rain.

Table 3

Relationship between series of samples taken per year and number of samples, which may fail to conform

Series of samples taken in any year	Maximum permitted number of samples which fail to conform
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6

Series of samples taken in any year	Maximum permitted number of samples which fail to conform
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

III Characteristics of typical domestic waste water

Table 4

Typical characteristics of domestic waste water

Substance	Concentration (mg/l)
Biological oxygen demand, BOD ₅	150-350
Chemical oxygen demand, COD	210-740
Total suspended solids	120-450
Total phosphorus	6-23
Total nitrogen	20-80

10. Typical domestic waste water does not contain dangerous substances listed in Annex 1 and Annex 2 to these Regulations.

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V. Makarovs