

DECREE NO 53
on the treatment and transportation of industrial and hazardous waste
Dated 19 March 1999

THE COUNCIL OF MINISTERS HAS RULED

Sole Article. Adopts a Regulation on the requirements for the treatment and transportation of industrial and hazardous waste.

Concluding Provisions

§ 1. Revokes Decree 153 of the Council of Ministers of 1993 on the collection, transportation, storage and disposal of hazardous waste (promulgated in the State Gazette, issue 70/1993; amended issue 91/1993; amended issue 4/1996 and 54/1997).

§ 2. The Decree is adopted pursuant to Article 23, paragraph 1 of the Limitation of the Harmful Impact of Waste on the Environment Act.

§ 3. The Decree becomes effective as of the day of its promulgation in the State Gazette.

§ 4. The implementation of the Decree is assigned to the Minister of Environment and Water and to the Minister of Transport.

Prime Minister: Ivan Kostov
Minister of the State Administration:
Mario Tagarinski

REGULATION
ON THE TREATMENT AND TRANSPORTATION
OF INDUSTRIAL AND HAZARDOUS WASTE

Chapter One
GENERAL CONDITIONS

Article 1

(1) This Regulation sets out the requirements for treatment and transportation of industrial and hazardous waste.

(2) The hazardous and industrial waste shall be treated and transported in observation of the requirements of the international agreements to which the Republic of Bulgaria is a party, in the cases where these impose additional requirements on the treatment and transportation of industrial and hazardous waste.

Article 2

(1) The purpose of the Regulation is to ensure the necessary measures for prevention or, where impossible, limitation to the highest possible extent of the expected negative effects on the environment, particularly pollution of air, soils, the surface and ground water, and the public health risks arising from the treatment and transportation of industrial and hazardous waste.

(2) The industrial and hazardous waste shall be treated in facilities and installations designed or reconstructed for this purpose in observation of the requirements for:

3 Management of the industrial and hazardous waste disposal activities, including the waste activity management programmes;

4 Safe operation of the facilities and installations, including the those for fire precaution;

5 Ensuring safe and healthy working conditions;

6 Increased qualification and training of the operating personnel.

Article 3

(1) A prohibition shall be imposed on:

2 Each occurrence of uncontrolled release of substances, objects or parts of objects characterised as waste, including where the owner of the waste does not wish or is not obliged to relieve himself thereof;

3 The submission of industrial and hazardous waste to persons who do not possess the relevant permit under Article 37 of the Limitation of the Harmful Impact of Waste on the Environment Act (LHIWEA).

(4) It shall be prohibited to transport hazardous waste except in the cases and in the manner defined in the Regulation or in accordance with the international agreements to which the Republic of Bulgaria is a party.

Article 4

(1) The treatment of industrial and hazardous waste shall involve collection, storage, disposal and recovery of the waste stipulated in Annex 1, as well as any other activity which is not prohibited and allows for the reduction of the harmful impact of the waste on the human health and the environment.

(2) The transportation of hazardous waste shall cover each transportation thereof by vehicle from one site to another.

Article 5

(1) The treatment and transportation of industrial and hazardous waste shall be carried out in conformity with the permit under Article 37 of the LHIWEA.

(2) The permit under Article 37 of the LHIWEA shall include one or several of the activities under Article 4.

(3) In the cases under Article 12, paragraph 2 of the LHIWEA, the waste holder shall notify the Regional Inspectorate of Environment and Water on whose territory the respective activity is carried out.

Article 6

(1) The owner of the permit under Article 37 of the LHIWEA shall ensure healthy and safe labour conditions, including:

2 Provide at his own expense compulsory medical and allergy tests once in every six-month period, as well as health insurance for the employees handling the hazardous wastes.

3 Carry out introductory and periodic instruction and training of staff in conformity with the Healthy and Safe Working Conditions Act.

4 Provide to the staff the necessary special working attire and personal protective equipment in accordance with Regulation No.11 of Special Working Attire, by the Minister of Labour and Welfare and the Minister of Healthcare (SG, issue 66/1993).

(5) It shall be prohibited to employ persons below 18 years of age as well as pregnant women, breast-feeding mothers and persons with open bodily wounds for hazardous waste treatment transportation.

Article 7

The persons conducting industrial and hazardous waste treatment activities shall provide for the packaging, labeling and transporting of the waste in accordance with the generally accepted norms, standards and rules of international practice, by taking the necessary measures to prevent the harmful impact on the human health and the environment.

Article 8

(1) The treatment and transportation of industrial and hazardous waste shall be in compliance with the principles of separation by type, properties and compatibility of the waste, and with the possibilities for reuse or subsequent treatment.

(2) It shall be prohibited:

1. To place and storage hazardous waste into unclean and non-degassed vessels used previously for storage of other waste, incompatible therewith;

2. To mix hazardous waste with non-hazardous waste;

3. To mix hazardous waste with other hazardous waste, including the diluting of hazardous waste;

4. To mix hazardous waste of categories different from these in Annex 3 under the Order No.323 on the Classification of Waste of the Minister of Environment and Water (SG issue 120/1998)

5. To mix recoverable with non-recoverable waste, excluding the cases when a written consent of the competent authority exists

(7) In the event of mixing of hazardous and other waste or substances, the waste holder shall carry out the separation thereof where technically possible.

Chapter Two

REQUIREMENTS FOR THE INDUSTRIAL AND HAZARDOUS WASTE TREATMENT ACTIVITIES

Section 1

Collection of Industrial and Hazardous Waste

Article 9

The collection of industrial and hazardous waste shall be carried out for the purpose of processing or disposal in a manner, preserving the possibility to recover their useful components and/or properties.

Article 10

(1) The collection of industrial and hazardous waste shall follow a scheme, presented by the applicant in advance and approved with the permit under Article 37 of the LIWEA.

(2) The scheme under paragraph 1 shall contain:

1. A description of the collection and transportation system;

2. Frequency of collection and transportation;

3. Used containers;

4. Used equipment;

5. Used packaging.

Article 11

Upon technical possibility, the generator shall, where technically possible, subject the waste to treatment for:

- 1 Reducing the level of hazard thereof;
- 2 Reducing the volume thereof;
- 3 Rendering thereof in a transportable and storable form.

Article 12

(1) The collection of industrial and hazardous waste shall be performed in collection points.

(2) The collection points shall be sites and facilities for acceptance and temporary storage of the industrial and hazardous waste prior to their disposal or treatment.

(3) The collection points for industrial and hazardous waste shall be designed and constructed in observation of the requirements under Annex 3 and other relevant legal documents.

Article 13

(1) The collection of industrial and hazardous waste shall be carried out by qualified and properly instructed personnel supplied with the necessary equipment and personal protective equipment. The requirements for the qualification of the personnel shall be set out in the job descriptions.

(2) Manual collection of hazardous waste shall be allowed only where collection by other means is impossible. In such cases it shall be done in conditions of maximum security and safety.

(3) In the case of danger of fire or formation of hazardous waste from a possible contact of waste, these shall be collected in a manner not allowing contact thereof.

Article 14

(1) The hazardous waste shall be collected in well-closing stationary or transportable containers made of materials which can not react with the waste.

(2) The containers under paragraph 1 shall be marked with well visible signs "hazardous waste", waste code and name and the hazardous properties in agreement with the Order on the Classification of Waste by the Minister of Environment and Water and the Minister of Healthcare dated 1998; dates of beginning and completion of the filling thereof, and the transporting requirements.

(3) The containers and packagings for which re-use is not allowed, shall be rendered unusable as packaging and shall be disposed.

Section 2

Acceptance of Industrial and Hazardous Waste

Article 15

(1) The acceptance of industrial and hazardous waste for treatment shall be carried out in accordance with a previously agreed schedule between the operator of the specific facility or installation and the waste holder according to a submitted and accepted application.

(2) The acceptance of hazardous waste shall follow an „Report card for submission, transportation and acceptance of hazardous waste" pursuant to Regulation No.10 on the Procedure for Filling out of Report and Information Documents for the Waste Management Activities (SG 151/1998).

Article 16

(1) Upon receipt of wastes, the operator of the disposal facility or installation shall take the necessary measures for the delivery and acceptance of the wastes in order to prevent or, where practically impossible, reduce the possible negative effects on the environment and the ensuing threat to human health, including:

1. to possess:

a) A description of the physical properties and the chemical composition of waste, as well as the relevant information necessary for the evaluation of their suitability in treating under the specific parameters of a specific facility or installation;

b) A description of the hazardous wastes characteristics, the substances which they can not be mixed with, and the necessary measures for safe handling thereof;

2. Carry out of the following activities upon the receipt of the wastes:

a) Inspection of the waste accompanying documents;

b) Visual inspection of the waste with a view to establishing the correspondence with the documents presented under item 1;

c) Measurement of the quantities of the accepted waste;

d) In the case of hazardous waste - taking of representative samples and carrying out of analyses for compliance with the documents under item 2, sub-item 'a' in relation to item 1, and determination of the possibilities for disposal; the representative samples shall be stored for not less than a month, and the analysis results shall be kept for a period of 30 years;

e) Recording into the „Report Book" pursuant to Regulation No.10 on the Procedure for Filling out of Report and Information Documents for the Waste Management Activities (SG 151/1998).

(2) The competent authorities under Article 37 of the LHIWEA shall have the right to allow exceptions for the implementation of paragraph 1, item 2 for industrial installations treating their own waste on site thereof, but only where the same level of protection is ensured.

(3) The competent authorities under Article 37 of the LHIWEA shall allow exceptions in the implementation of paragraph 1, item 2, sub-item 'd' with regard to the hazardous waste collection points, where no obvious necessity exists.

(4) The operator of the facility or installation shall ensure the carrying of analyses under paragraph 1, item 2, sub-item 'd' in accordance with the standardization documents or methods approved by the Minister of Environment and Water and the Minister of Healthcare.

Section Three Temporary Storage of Waste

Article 17

(1) The temporary storage of industrial and hazardous waste shall be an activity related to the storage thereof for not more than 6 months.

(2) The temporary storage of industrial and hazardous waste and the related intermediary operations shall be carried out by the waste holder on his territory.

(3) The requirements for the temporary storage facilities for industrial and hazardous waste are set out in Annex 2 under Regulation 12, on the Requirements for the Waste Treatment Facility Sites, dated 1998 (SG 152/1998) and in other legal documents relating thereto.

Article 18

The holder of waste, which is in temporary storage shall ensure their disposal or submission to persons with permits for this activity, until expiration of the deadline under Article 17, paragraph 1.

Section Four

Disposal of Industrial and Hazardous Waste

Article 19

(1) The disposal of industrial and hazardous waste shall be an effect thereon during and after which the threat to human health or environmental pollution does not exceed the established standards.

(2) The disposal of industrial and hazardous waste shall be carried out in facilities and installations, which are designed or reconstructed and equipped for this purpose, and an environmental impact assessment (EIA) shall be prepared of the reconstruction design, according to the Environment Protection Act (EPA).

(3) The incineration of industrial or hazardous waste as main or auxiliary fuel in industrial processes (production of cement, energy etc.) in operating facilities shall be allowed following the reconstruction thereof for that purpose, and the reconstruction design shall be subject to a compulsory EIA in compliance with Regulation No.4 of 1998 on the Environmental Impact Assessment (SG 84/1998).

(4) The facility locating sites under paragraph 2 shall be designated in accordance with Regulation No.12 on the Requirements for the Waste Treatment Facility Sites, dated 1998.

Article 20

The industrial and hazardous waste landfill sites shall be designed, constructed and operated in accordance with Regulation No.11 on the Conditions and Requirements for the Construction and Operation of the Domestic waste Disposal Facilities and Installations, dated 1998.

Article 21

(1) During the design stage, construction and operation of the industrial or hazardous waste disposal facilities, the designer shall provide for, and the operator shall ensure the observation of:

1. Requirements and conditions under Annex No.3 - on incinerators (inland or at sea) of industrial or hazardous waste;
2. Requirements and conditions of Annex No.4 - on the Physical and Chemical Disposal of Waste.

(2) The requirements under paragraph 1, item 1 shall not relate to installations for incineration of:

1. Hazardous and industrial flammable liquid waste, including waste oil meeting the following criteria:

- a) The mass concentration of polychlorinated biphenyls and terphenyls does not exceed 50 ppm;
- b) Their net calorific value is higher than 30 MJ/kg;

2. Hazardous and industrial flammable liquid waste, which can not generate in their combustion flue gaseous emissions of harmful substances under item 2 of Annex No.3, higher than the emissions from the combustion of the same quantity of low-sulfur average grade heavy fuel according to the Bulgarian State Standard 3383-89;

3. Wood waste, sawdust, shells and fruit stones, except for those, which might, in result of their processing, contain halogenated organic compounds or heavy metals;

4. Hazardous waste from the operation of earth oil and natural gas deposits from floating oil rigs, incinerated on-site.

(3) Upon incineration of "infectious" hospital and other clinical waste not possessing other hazardous properties in accordance with the Order on the Categorization of Waste of the Minister of Environment and Water and the Minister of Healthcare of 1998, applied shall be the requirements of Regulation No.11 on the Conditions and Requirements for the Construction and Operation of Domestic waste Disposal Facilities, dated 1998.

Article 22

(1) During the design stage, reconstruction, equipping and operation of the installations under Article 19, paragraph 3, the designer shall provide for and the operator shall ensure the observation of the following requirements and conditions under Annex No.3.

1. Item 2 of Section II "Admissible Emissions of Harmful Substances", including all conditions (items) of Sections IV "Monitoring and Control of the Atmospheric Air Emissions", V "Compulsory Measurements", and VI "Processing, Evaluation and Presentation of the Measurement Results";

2. Items 3 and 11 from Section III "Technical and Operational Requirements";

3. The conditions, established with Section VII "Obligations and Responsibilities of the Incinerator Operators" and XI "Access to the Information".

(2) Permit under Article 37 of the LHIWEA for installations under paragraph 1 shall be submitted in compliance with the following requirements:

1. The burners positions and the manner of feeding of the installation with waste shall ensure the achieving of the incineration level under item 3 of Annex No.3;

2. The admissible levels of harmful substances under item 2 of Annex No.3 after the carrying out of the relevant calculations in accordance with item 34 of the same Annex;

3. An indication exists of the types and quantities of waste for incineration, their minimum and maximum calorific values, as well as the maximum content of harmful substances such as polychlorinated biphenyls, pentachloro-phenol, chlorine, fluorine, sulfur, heavy metals etc.;

4. An indication exists of the minimum and maximum mass flow of waste for incineration in the installation; under no circumstances shall the amount of heat from the incineration of the waste in the respective installation exceed 40% of the total heat quantity obtained in the operation of the same installation.

(3) Not later than 7 months after the commissioning of the reconstructed installation, the operator shall present to the competent authorities the results of measurements carried out during the first 6 months with a view to certifying that the admissible levels under item 2 of Annex No.3 are met. For the same period, the competent authorities may allow an exception from the requirements concerning the minimum mass flow of the incinerated waste under paragraph 2, item 4.

Article 23

(1) The operator of the waste disposal facility or installation shall maintain and operate them in conformity with the technological requirements under the conditions of the permit issued by the competent authorities and in observation of the requirements of the Regulation.

(2) The operator of the waste collection, temporary storage or disposal facility or installation shall restrict the access of people and animals by fencing and permanently marking the site for the performance of the activity and shall ensure all-day guards.

Chapter three

TRANSPORTATION OF INDUSTRIAL AND HAZARDOUS WASTE

Article 24

The transportation of industrial and hazardous waste shall be performed by the waste holder or pursuant to a transportation contract concluded between the waste holder and the transporter.

Article 25

(1) Upon submission of hazardous waste for transportation, these ought to be considered hazardous waste and the transportation shall be subject to the requirements of international documents relating to the transportation of hazardous waste and having the effect of national legislation.

(2) The requirements under paragraph 1 shall concern:

- 3 the packaging of the cargo;
- 4 the transportation documents;
- 5 the type and marking of the transport vehicle;
- 6 the admittance for transportation;
- 7 the limitations;
- 8 the personnel training etc.

Article 26

The sender of the cargo shall:

1. upon transporting non-hazardous industrial waste:
 - a) submit a cargo certificate to the transporter;
 - b) use only packaging in good order.
2. upon transporting hazardous waste, in addition to the requirements under paragraph 1:
 - a) categorize the hazardous waste as hazardous cargo in compliance with the documents under Article 25;
 - b) make sure that this hazardous cargo is admitted to transportation with the envisioned transport vehicle;
 - c) submit to the transporter complete and true data and information and the following documents: „Reporting card for submission, transportation and acceptance of hazardous waste" pursuant to Regulation No.10 on Procedure for Filling out of Report and Information Documents for the Waste Management Activities, dated 1998 (SG 151/1998), "Written Instructions for Emergency Activities" according to Annex No.5 and where necessary - permits, certificates and other documents ensuring unrestricted transportation;
 - d) use only packagings, bulk-packaging facilities and tanks, allowed for transportation of the relevant hazardous cargo;
 - e) mark and label the packagings under sub-item 'a' in conformity with the requirements of the regulatory documents under Article 25;
 - f) observe the prescriptions relating to the manner of sending of cargo and also the transportation restrictions;

g) provide to the transporter the personal protective equipment required in the emergency activity instructions under sub-item 'c';

h) make sure that the transporter holds a permit under Article 37 of the LHIWEA and that a copy thereof is available in the transport vehicle.

Article 27

Where the cargo sender is not a hazardous waste generator, the generator of the hazardous waste shall submit to the transporter complete and true written information and documents for the hazardous waste, necessary for the carrying out of his obligations.

Article 28

Hazardous waste admitted for transportation shall be transported with specialized or all-purpose vehicles in good working order.

Article 29

Where a transportation contract exists, the transporter is entitled to refusing the transportation if any of the containers/packages are damaged, or if their appearance does not conform to the prescriptions, or the cargo does not correspond to that declared in the supporting document.

Article 30

The transporter shall:

1. make sure that the sender of the cargo has submitted to him the transport documentation conforming with the prescribed form and content, and that these are available in the transport vehicle;

2. make sure that the hazardous waste is admitted for transportation with the respective vehicle;

3. to inspect the cargo for losses; for lack of seal or tears of the packaging; for exceeding of the admissible maximum load of the vehicle;

4. mark, label and signify the transport vehicle in compliance with the regulatory documents under Article 25;

5. place next to the hazardous waste marking as under item 4 (the warning orange-colored placard) a second placard in conformity with the model in Annex No.6, respectively:

a) in the front and rear of the transportation vehicle;

b) on both lateral sides of a rail car;

6. ensure the presence in the transportation vehicle of:

a) a copy of his permit under Article 37 of LHIWEA;

b) a copy of the transportation contract;

c) the personal protective equipment for the crew, needed for emergency activities;

7. in case of emergency releasing of cargo during transportation, act in conformity with the Instructions for Emergency Activities under Article 26, item 2, sub-item 'c'.

Article 31

The transporter shall bear responsibility pursuant to the concluded contract and to his obligations as a participant in the transporting process, and also in the proof of intentional prohibited acts concerning the cargo entrusted to him.

Article 32

The sender of the cargo or the receiver shall ensure, unless otherwise arranged, suitable treatment or de-activation of the transport vehicle.

ADDITIONAL PROVISION

§ 1. Pursuant to the Regulation:

1 'Operator' shall be a legal or natural person to whom has been issued a permit for collection, storage or disposal of hazardous and/or industrial waste and which is responsible for the management of the waste treatment site and for the management of the waste related activities during the period of site operation, and after closure thereof.

2 'Incinerator' shall be any immobile or mobile technical facility and equipment, designed or used for the incineration of hazardous and/or industrial waste by oxidation thereof, with or without recovery of the heat received in their combustion, including installations designed for pyrolysis, gasification or other processes of thermal waste treatment (for example plasma processes of thermal treatment), to the extent to which their products are subsequently combusted by means of the described process. This definition shall:

a) apply also to installations reconstructed for the incineration of waste as a main or additional fuel within certain production processes (production of cement, electrical and heat energy etc.);

b) cover the area of the site on which the whole installation is located, including the facilities for acceptance, storage and preliminary treatment, the incineration facilities (boilers or furnaces), the facilities feeding for waste, fuel and air, the treatment and storage facilities for residues waste gasses and water, stacks and the systems and devices for control of the parameters of the technological process, as well as the permanent measuring, determination and registration of the latter;

c) not apply to incinerators for corpses or corpse remains.

3. 'Atmospheric air pollution', 'harmful substances' and 'emissions' shall be according to §.1, items 1, 2 and 8 of the Additional Provisions of the Clean Air Act.

4. 'Admissible emission level' shall be such a mass concentration value for the respective harmful substances in the flue gasses, released by the incineration installations, which may not be exceeded for a certain period of time.

5. 'Existing facility or installation' shall be any operating industrial or hazardous waste disposal facility or installation for which a positive EIA decision and a permit under Article 37 of the LHIWEA exist, issued prior to the enactment of the Regulation.

TRANSITIVE AND CONCLUDING PROVISIONS

§ 2. The Regulation is issued pursuant to Article 23 of the Limitation of the Harmful Impact of Waste on the Environment Act.

§ 3. The existing incinerator installations shall become subject to the requirements under items 3, 6, 7, 8, 12, 16.1, 16.2, 16.4 and 38 of Annex No.1 not later than 31 December 2001.

§ 4. The existing sites, facilities and installations for temporary storage of waste shall become subject to the requirements under items 2.1.7, 2.2.5, 2.2.8 and 3.4 of Annex No.2 not later than 31 December 2000..

**ANNEX 1
to Article 4**

METHODS FOR WASTE TREATMENT

A. Disposal

- D1 Deposit into or onto land, (e.g., landfill, etc.)
- D2 Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.)
- D3 Deep injection, (e.g., injection of pumpable discards into wells, salt domes of naturally occurring repositories, etc.)
- D4 Surface impoundment, (e.g., placement of liquid or sludge discards into pits, ponds or lagoons, etc.)
- D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)
- D6 Release into a water body except seas/oceans
- D7 Release into seas/oceans including sea-bed insertion
- D8 Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A
- D9 Physico chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.)
- D10 Incineration on land
- D11 Incineration at sea
- D12 Permanent storage (e.g., emplacement of containers in a mine, etc.)
- D13 Blending or mixing prior to submission to any of the operations in Section A
- D14 Repackaging prior to submission to any of the operations in Section A
- D15 Storage pending any of the operations in Section A

B. Operations leading to recovery of resources, recycling or secondary use

- R1 Use as a fuel (other than in direct incineration) or other means to generate energy
- R2 Solvent reclamation/regeneration
- R3 Recycling/reclamation of organic substances which are not used as solvents
- R4 Recycling/reclamation of metals and metal compounds
- R5 Recycling/reclamation of other inorganic materials
- R6 Regeneration of acids or bases
- R7 Recovery of components used for pollution abatement
- R8 Recovery of components from catalysts
- R9 Used oil re-refining or other reuses of previously used oil
- R10 Land treatment resulting in benefit to agriculture or ecological improvement
- R11 Uses of residual materials obtained from any of the operations numbered R1-R10
- R12 Exchange of wastes for submission to any of the operations numbered R1-R11
- R13 Accumulation of material intended for any operation in Section B

**ANNEX 2
to Article 12**

**REQUIREMENTS FOR THE WASTE TEMPORARY STORAGE SITES
AND FACILITIES**

1. The types of sites, facilities and equipment for temporary storage of waste can be:
 - 1.1. sites and facilities for acceptance and transfer of waste
 - 1.2. sites and facilities used in relation to the preliminary waste treatment;
 - 1.3. sites and facilities used exclusively for storage prior to ultimate landfilling or other type of disposal;
 - 1.4. particular areas from larger disposal installations, designated for temporary waste storage
2. General Requirements
 - 2.1 The waste temporary storage sites shall meet the following requirements:
 - 2.1.1. They must be separated by a fence and clearly the type of treated waste, the company which runs the facility and the working hours;
 - 2.1.2. To have an internal parking lot for the waiting vehicles during waste loading and unloading;
 - 2.1.3. They must be as close to the disposal plant as possible;
 - 2.1.4. To be clearly marked and separated from the other equipment in the site;
 - 2.1.5. Restricted access to the places for operation and inspection to be ensured;
 - 2.1.6. They must be equipped with an operating fire extinguishing system;
 - 2.1.7. They must be equipped with a vehicle, container and site washing system and a system for the collection of the waste water from this activities.;
 - 2.1.8. All waste water (from washing, disposal etc.) shall be separately collected , unless otherwise specified by the competent authorities;
 - 2.1.9. In the close vicinity sufficient quantities of adsorbents (soil, sand etc.) must be available to contain and limit possible liquid waste spills;
 - 2.1.10. All actual and possible liquid waste recipients shall be insulated with a non-permeable coating. Periodic control and recording on the proper condition of the coating shall be carried out;
 - 2.1.11. The temporary storage sites and the capacities for different waste shall be marked by waste type and separately positioned at sufficiently large distances from one another, regarding on incompatibility of waste.
 - 2.1.12. The storage places for flammable and reacting waste must meet the requirements of regulation No.2 on the Protection from Accidents during Operation with Hazardous Chemicals of the Committee on Quality and Ministry of Transport from 1990; and also to Regulation No.2 on the Fire-proof Construction and Technical Standards of the Ministry of Interior and the Committee of Territorial and Settlements Arrangement from 1987.
 - 2.2. The facilities for temporary storage of hazardous waste must meet the following requirements:
 - 2.2.1. Operate in a manner not allowing loss or mixing of waste.
 - 2.2.2. The containers must be constructed in such a manner, allowing repair works and inspections below the bottoms thereof;
 - 2.2.3. Be constructed in such a manner as to resist corrosion from the wastes stored therein, in order to prevent pollution below and around them;

- 2.2.4. Be equipped with manifold collectors catching leaking or spilled liquids or bulk materials. The manifold collector size should be at least 10% of the total tank size;
- 2.2.5. The single wall tanks should have individual collection manifolds;
- 2.2.6. the stationary containers and collectors must be constructed in such a manner, allowing repairs and inspections below the bottoms; All containers shall be designed to withstand possible corrosive action of the stored waste and shall be equipped with double bottoms and allow for easy inspection for leakage;
- 2.2.7. Containers for waste storage must be designed in a manner preventing the environment from harmful emissions. The use of open containers is allowed only for industrial non-hazardous waste which do not contain volatile components;
- 2.2.8. The tanks must be equipped with the following control devices for:
 - a) level;
 - b) temperature;
 - c) pressure
- 2.2.9. The tanks must be provided with:
 - a) overflow and a safety valve with signals;
 - b) lightning conductor;
 - c) automatic shut-off filling system;
- 2.2.10. All polluted waste water pipelines or liquid waste pipelines shall be mounted above ground level for easy detection and elimination of leaks. Water drainage concrete troughs shall be positioned underneath preventing soil pollution. Periodic control and reporting of the working order of joints shall be made.

3. Specific requirements at the design and construction of sites, equipment and facilities for temporary waste storage:

3.1. Acceptance site. The acceptance site shall possess:

- 3.1.1. A parking lot for the waste delivery automobiles;
- 3.1.2. Weighbridge for the waste delivery automobiles;
- 3.1.3. Laboratory for inlet test of coming waste with a sample storage room;
- 3.1.4. A sampling location protected against uncontrolled leaks;
- 3.1.5. Space for the personnel.

3.2. Workspace

- 3.2.1. The workspace must be equipped with facilities for opening, filling, emptying and cleaning of containers and other waste transportation vessels.
- 3.2.2. The workspace must be marked accordingly. Should the opening or other container related operation represent a risk, a protection area within the workspace (marked accordingly) must be allocated

3. Storage Space

- 3.3.1. The wastes must be stored separately from other auxiliary materials. The areas for waste transporting vehicles and for temporary staying of containers must be marked and separated from the storage areas.
- 3.3.2. Separate storage of wastes must be provided for at sufficient distance from one another, unless the wastes are of nature requiring additional safety measures. Leaks from containers, tanks and other capacities is not allowed. Incompatible wastes must be stored at sufficient distance from one another.
- 3.3.3. The temporary storage capacities must be linked to the remaining ones belonging to the disposal plants, when they are part of a entire waste disposal facility
- 3.3.4. The following waste groups must be transferred to and stored in individual plants:

A. Organic wastes:

- a) containing halogenated hydrocarbons;

- b) containing nitrites;
- c) containing cyanides;
- d) other organic substances.

Containers for delivery of these wastes must be equipped with a separator and an overflow for decanting of the liquid above the sediments.

B. Inorganic wastes:

- a) wastes with alkaline reaction;
- b) containing nitric acid;
- c) other wastes with acid reaction;
- d) nitrite containing wastes;
- e) cyanide containing wastes;
- f) chromate containing wastes;
- g) complex forming substance containing wastes.

3.3.5 For waste incinerators separate and marked storage area for the following groups of waste must be provided:

- a) solid wastes;
- b) semi-liquid wastes;
- c) liquid or sludges, not containing halogenated hydrocarbons;
- d) liquid or sludges, containing halogenated hydrocarbons;
- d) wastes in intake vessels.

3.3.6. temporary storage area to the disposal facilities must be selected in a way to contain amounts delivered in 1 day, unless the temporary storage takes place in closed vehicles (closed containers, cargo wagons), but for a fixed term.

3.4. Additional requirements to the storage of anatomical, clinical and hospital waste

3.4.1. anatomical, clinical and hospital waste, until disposed, shall be stored in refrigeration chambers at a temperature not higher than 10°C and for a period of not more than 48 hours;

3.4.2. the workspace and the temporary storage space for anatomical, clinical and hospital wastes must be designed and constructed in such a way as to correspond to Instruction No.1/1998 on the separate collection and temporary storage of solid hospital waste, published in the Bulletin of Ministry of Healthcare, issue No.2/1998;

3.4.3. when using circulating containers rather than disposable containers, cleaning and disinfecting must be provided for;

3.4.4. all wastes in this group and those generated from disinfecting must be collected and disposed of.

**ANNEX 3
to Article 21**

**TECHNICAL REQUIREMENTS AND STANDARDS FOR ADMISSIBLE
EMISSIONS FROM THE FACILITIES FOR INCINERATION OF
INDUSTRIAL OR HAZARDOUS WASTE**

I. General requirements

1. The designing, equipment and operation of hazardous or industrial waste incinerators, as well as installations for co-incinerators for domestic and hazardous or industrial waste shall conform hereto.

II. Admissible Harmful Substance Emission Levels

2. The concentrations of harmful substances in the exhaust gases from the incineration plants shall not exceed the following emission limit values:

2.1 Daily average values according to Table 1, determined as averaged values for 24 hours:

Table 1

No.	Harmful substances	Admissible Limit Value, mg/m³
1.	Total particulates	10
2.	Gaseous- or vapour organic compounds, as total organic carbon (TOC)	10
3.	Gaseous- or vapour chlorine compounds, as total hydrogen chloride(HCl)	10
4.	Gaseous- or vapour fluorine compounds, as total hydrogen fluoride (HF)	1
5.	Sulphur trioxide and sulphur dioxide, as sulphur dioxide (SO ²)	50

2.2. Half-hourly average concentration values according to Table 2, determined as 30-minute average values, under the conditions of item 22:

Table 2

No.	Harmful substances	Admissible Limit Value, mg/m³	
		A	B
1.	Total particulates	30	10
2.	Gaseous- or vapor organic compounds, as total organic carbon (TOC)	20	10
3.	Gaseous- or vapor chlorine compounds, as total hydrogen chloride(HCl)	20	10
4.	Gaseous- or vapor fluorine compounds, as total hydrogen fluoride (HF)	4	2
5.	Sulphur trioxide and sulphur dioxide, as sulphur dioxide (SO ²)	200	50

2.3 Average concentration values for heavy metals and their gaseous/vapour forms as well as their compounds, according to Table 3 over the sample period of a minimum of 30 minutes and a maximum of eight hours;

Table 3

No.	Harmful substances	Admissible
	Limit Value, mg/m³	
1.	Cadmium and its compounds, expressed as cadmium	Total 0.05
2.	Tallium and its compounds, expressed as tallium	
3.	Mercury and its compounds, expressed as mercury	0,05
4.	Antimony and its compounds, expressed as antimony	total 0.5
5.	Arsenic and its compounds, expressed as arsenic	
6.	Lead and its compounds, expressed as lead	
7.	Chromium and its compounds, expressed as chromium	
8.	Cobalt and its compounds, expressed as cobalt	
9.	Copper and its compounds, expressed as copper	
10.	Manganese and its compounds, expressed as manganese	
11.	Nickel and its compounds, expressed as nickel	
12.	Vanadium and its compounds, expressed as vanadium	
13.	Tin and its compounds, expressed as tin	

2.4. The average values of total concentrations of dioxins and furans measured over the sample period of a minimum of six hours and a maximum of eight hours shall not exceed a limit value of 0,1 nanog/m³.

2.4.1. The total concentration of dioxins and furans in exhaust gases is determined according the concept of the toxic equivalent (2,3,7,8-tetrachloro-dibenzodioxin) as a sum of the products of concentrations of individual compounds and the corresponding coefficients of toxic equivalence (CTE), shown in Table 4.

Table 4

Table 4

Individual dioxins and furans		
Toxic equivalence		
coefficient		
2, 3, 7, 8	Tetrachlordibenzodioxin (TCDD)	1
1, 2, 3, 7, 8	Pentachlordibenzodioxin (PeCDD)	0,5
1, 2, 3, 4, 7, 8	Hexachlordibenzodioxin (HxCDD)	0,1
1, 2, 3, 6, 7, 8	Hexachlordibenzodioxin (HxCDD)	0,1
1, 2, 3, 7, 8, 9	Hexachlordibenzodioxin (HxCDD)	0,1
1, 2, 3, 4, 6, 7, 8	Heptachlordibenzodioxin (HpCDD)	0,01
	Octachlordibenzodioxin (OCDD)	0,001
2, 3, 7, 8	Tetrachlordibenzofuran (TCDF)	0,1
2, 3, 4, 7, 8	Pentachlordibenzofuran (PeCDF)	0,5
1, 2, 3, 7, 8	Pentachlordibenzofuran (PeCDF)	0,05
1, 2, 3, 4, 7, 8	Hexachlordibenzofuran (HxCDF)	0,1
1, 2, 3, 6, 7, 8	Hexachlordibenzofuran (HxCDF)	0,1
1, 2, 3, 7, 8, 9	Hexachlordibenzofuran (HxCDF)	0,1

2, 3, 4, 6, 7, 8	Hexachlordibenzofuran (HxCDF)	0,1
1, 2, 3, 4, 6, 7, 8	Hexachlordibenzofuran (HxCDF)	0,01
1, 2, 3, 4, 7, 8, 9	Octachlordibenzofuran (OCDF)	0,01
	Octachlordibenzofuran (OCDF)	0,001

2.5. The following admissible limit values for carbon monoxide (CO) concentrations, except during incinerator start-up and shut-down, shall not be exceeded in the flue gases:

2.5.1. 50 mg/m³ determined as daily average value;

2.5.2. 100 mg/m³ of all measurements determined as half-hourly average values;

2.5.3. 150 mg/m³ of at least 95 % of all measurements determined as 10-minute average values hour period.

2.6. Where hazardous wastes are used as a single or auxiliary fuel in installations under Article 19 (3) of this regulation, the admissible limit values provided in the preceding items are applied according to the procedure quoted in Section VIII of this Annex related to that part of the volume of exhaust gas, which is resulting from the incineration of waste.

The admissible limits standards for harmful substances in the exhaust gas of the quoted installations shall be determined in accordance with item 34.

III. Technical and Operational Requirements

3. The designer shall anticipate and the operator shall provide for the necessary measures ensuring:

3.1. the reaching of the maximum possible degree of incineration of waste - the weight of organic compounds contained in the incineration slag, and the bottom ash, determined as total organic carbon shall not exceed 3% of the dry matter (weight) of the wastes incinerated during the relevant period.

3.2. the application of adequate waste pre-treatment methods (crushing, pulverizing, mixing, etc.) with a view to achieving the level of incineration under sub-item 3.1;

3.3. the application of the available high-efficiency methods limiting the dioxin and furan emissions;

3.4. the recovery to the highest possible extent of the energy generated during the combustion.

4. Following the last injection into the combustion chamber of air needed for the combustion process, the temperature of the homogeneous gas mixture obtained in the mixing of the injected air and the gasses from the incineration process shall reach under control a temperature of no less than 850°C (minimum temperature). Where there is incineration of hazardous wastes with a total content of halogenated organic compounds determined as chlorine, higher than 1% (by weight), the temperature may not be lower than 1100°C.

The homogeneous gas mixture residence time, even under the most unfavourable conditions of incineration, at the indicated minimum temperature measured in proximity to the inner wall of the combustion chamber shall not be less than 2 seconds at oxygen content of at least 6% (by volume).

5. Where there is incineration of liquid waste or waste representing a mixture of gaseous and solid powdered substances resulting from the preliminary thermal treatment of hazardous wastes under insufficient oxygen conditions, and if the gaseous phase carries more than 50% of the total quantity of heat obtained from the

incineration process, then the minimum oxygen content in the combustion chamber shall not be lower than 3 % (by volume) while the remaining conditions under paragraph 4 are complied with.

6. All incinerators shall be equipped with auxiliary (spare) burners switching on automatically when the maintenance of minimum temperature under item 4 is difficult. The auxiliary burners shall also be used during incinerator start-up or shut-down operations ensuring the minimum temperature under item 4 during the whole period of operation during which incompletely incinerated wastes remain in the combustion chamber.

7. In the cases during starting-up and shutting-down when the combustion gas temperature falls below the minimum temperature under item 4 or where the latter has not been reached, the auxiliary burners shall be fed with industrial grade gasoil, liquefied gasses, natural gas or low-sulphur heavy oil.

8. The installations shall be equipped with automatic systems preventing their feeding with wastes in the following cases:

8.1. during commissioning when the minimum temperature under item 4 is not reached,

8.2. the requirement for maintaining of the minimum temperature under item 4 is not met,

8.3. the automatic measurement results show exceedance of the emission limit value under item 2 resulting from operational disturbances or cleaning systems damages etc.

9. With the permits issued under Article 37, paragraph 2 of the LHIWEA, the competent authorities may allow deviations from the requirements under paragraph 4 where certain hazardous or industrial wastes are incinerated, but only upon the condition that the information submitted under Article 40, paragraph 1, item 3 proves that the following conditions are met:

9.1. the dioxin and furan concentrations in the incinerator exhaust gasses do not exceed those, that would result after the application of the requirements under item 4 without exceedance of the admissible levels under sub-item 2.4.

9.2. the concentrations of harmful substances in the incinerator exhaust gasses do not exceed the admissible levels under item 2.

10. In the cases under item 9, where the competent authority under Article 37, paragraph 2 of the LHIWEA is RIEW, the latter shall submit to the MEW a copy of the permit application, inclusive of the information from the conducted experiments, analyses and studies that prove the conformity with the conditions under sub-items 9.1 and 9.2, as well as a copy of the issued permit.

11. The incinerator exhaust gases shall be emitted into the atmospheric air in a controlled manner, via a stack (or stacks) in conformity with the provisions under Article 11, paragraphs 2 and 3 of the Clean Air Act (CAA).

IV. Monitoring and Control of the Emissions in the Atmospheric Air

12. The incinerators shall be equipped with the relative number of sampling points, needed for the measurements under items 17, 18 and 25 of the Annex according to the current standards and under the conditions and procedures of the Clean Air Act.

12.1. The sampling points shall be adequately sized, easily accessible in order to allow for the above stated measurements.

12.2. The sampling point locations shall allow correct measurement and determining of the emissions of harmful substances under item 2 from the entire

installation (including individual facilities and/or individual technological units - stationary sources of emissions), as well as the reliability of the results.

13. The installation, periodic calibration and the mandatory metrological control of the measuring devices, used in the automatic measurements under items 16 and 19, shall be carried out under the conditions and procedures of the Measurements Act (MA) and the Clean Air Act.

13.1. The installation operator shall make provisions for the annual inspection and calibration of the measuring devices used for automatic measurement of the emissions under item 16.

13.2. The location and the number of the measuring devices shall allow proper measuring and determining of the emissions of harmful substances from the entire installation (including individual facilities and/or individual technological units - stationary sources of emissions), as well as the reliability of the results.

14. Within 1 month after each putting into operation, restructuring or redesigning of the installation, the operator shall present to the competent authority under Article 37 of the LHIWEA a certificate (certificates) certifying the correct installation, calibration and verification of the measuring devices used for the measurements under item 16 and issued by a specially accredited laboratory.

V. Mandatory measurements

15. The designer shall anticipate and the operator must provide the measures according to paragraphs 16,17,18,19 and 25 in accordance to the conditions under items 23 and 24 during the operation of the incinerator installation.

16. Automatic (continuous) measurement, determination and registration of:

16.1. emissions of harmful substances according to sub-items 2.1, 2.2 and 2.5;

16.2. the operational parameters, necessary for the correct determination of the emissions from the installation - temperature, pressure and water vapour content in the exhaust gases from the installation, as well as the volumetric flow rate of the latter;

16.3. the minimum temperature according to paragraphs 4 or 9.

16.4. the oxygen concentration in the exhaust gases in per-cent by volume.

17. Periodic measurements are carried out of the emissions of harmful substances according items 2.3 and 2.4 at least twice per year under the conditions and the order of the CAA.

At least once in every three months during the first 12 months after each start-up (after start of operation, reconstruction or re-arrangement of the incineration plant) periodic measurements of emissions of harmful substances according to items 2.3 and 2.4 must be carried out by a licensed laboratory.

18. In each commissioning, restructuring or redesigning of the incinerator, at least one measurement shall be made, inclusive of accounting of the most unfavourable possible conditions for the incineration process, in order to establish:

- the possibility for achieving and maintenance of the minimum temperatures and residence times according to paragraphs 4 or 9;

- the oxygen concentration in exhaust gases.

The results from the periodic measurements under item 17 and 18 shall be submitted to the competent authorities under Article 37 of the LHIWEA for a period one month after their completion, but not later than 3 months considering the date of putting into operation (incl. installation restructuring or redesigning).

19. The competent authorities according to Article 37 of LHIWEA may require from the operators in the issued permits provisions of automatic (continuous)

measurements, determination and registration of emissions of harmful substances according to items 2.3 and 2.4, providing the measuring devices are accessible.

20. The competent authority in their permits (according to Article 37 of LHIWEA) may admit the following exceptions from the requirements of paragraph 16, providing an analogous protection of human health and environment is ensured as follows:

20.1. in cases, when the information presented according to Article 39, paragraph 1, item 3 and Article 40 of the LHIWEA proves that the installation includes technological processes and facilities designated to the limitation of hydrogen chloride emissions, which satisfy the limit values concentrations according to paragraph 2, the requirement for continuous measurement of hydrogen fluoride is not applies, upon condition that the latter are subjected to periodic measurements according paragraph 17.

20.2. automatic measurement and determination of water vapour content in exhaust gases from the installation is not mandatory, provided the latter are dried prior the measurement.

20.3. in the cases, when the information presented according to Article 39, paragraph 1, item 3 and Article 40 of LHIWEA proves that under no circumstances the emissions of hydrogen fluoride, hydrogen chloride, total organic carbon and sulphur dioxide do not exceed the limit values acc. paragraph 2, automatic measurements could be replaced by periodic ones according to item 17.

20.4. In the cases, when the periodic and control measurements shows exceeding the limit concentration values acc. to paragraph 2, as well as non-fulfillment of the other requirements, conditions and prescriptions of the competent authorities, the latter may cancel the validity of the allowed deviations according to paragraph 16 and to oblige the operator to start/resume the corresponding automatic measurements according to paragraph 16.

21. The results of the automatic (continuous) measurements, the periodic and control measurements are carried out under the following conditions:

21.1. temperature 273 K, pressure 101,3 kPa, 11 % by volume oxygen and dry gas,

21.2. temperature 273 K, pressure 101,3 kPa, 3 % by volume oxygen and dry gas, in case of incineration of waste according to paragraph 5, as well as of waste oils.

21.3. when the hazardous wastes are incinerated in an oxygen-enriched atmosphere - the oxygen content which is determined with the permit under Article 37 of the LHIWEA, reflecting the special circumstances of the individual case.

21.4. in a case when a certain installation is equipped by facilities for limitation of the emissions of harmful substances in ambient air, during the performance of the latter rendering of the measurements results to oxygen contents according to the preceding paragraphs is mandatory only upon condition that the measured content exceeds the standard oxygen content according to items 21.1, 21.2 and 21.3.

22. The standards for admissible emissions are not exceeded under the following circumstances (the average values measured and determined within the periods according to paragraph 32 are not taken into account):

22.1. no one of the registered (measured and determined) daily averaged concentrations of the corresponding harmful substances within one year does not exceed the limit concentration value according to item 2.1 (Table 1) and according to item 2.5.1.

22.2. no one of the registered (measured and determined) 30 minutes- averaged concentrations of the corresponding harmful substances within one year does not exceed the limit concentration value, shown in column A of Table 2 of item 2.2.

22.3. at least 97% of the registered (measured and determined) 30 minutes-averaged concentrations of the corresponding harmful substances within one year does not exceed the limit concentration value shown in column B of Table 2 of item 2.2.

22.4. no one of the measured and determined values, averaged for the corresponding sampling periods does not exceed the limit concentration value, according to items 2.3 and 2.4.

22.5. no one of the registered (measured and determined) 30 minutes-averaged concentrations of carbon monoxide within a random chosen period of 24 hours within one year does not exceed the limit concentration value according to item 2.5.2.

22.6. at least 95% of the registered (measured and determined) 10 minutes-averaged concentrations of carbon monoxide within one year does not exceed the limit concentration value according to item 2.5.3..

22.7. the 30 minutes- and 10 minutes- averaged values are determined for the periods of real operation, including the periods of start-up and shut-down, during which waste are burnt, based on the values measured at the confidence range specified in item 24. The daily averaged values are determined on the basis of the so estimated average values (10 and 30 minutes- ones).

22.8. all of the average values within the corresponding averaging periods, including the periodic determination of the emissions of hydrogen fluoride, are determined with respect to the requirements of item 24.

23. The operator provides sampling, determinations, analyses and results processing of the measurements of harmful substances concentrations in the exhaust gases according to paragraph 2 by measuring devices and by methods approved by standardisation documents, identical to the corresponding European (CEN) and international (ISO) standards, the first being of priority;

23.1. The operator provides sampling, determinations, analyses and results processing of the measurements of dioxins and furans concentrations according to paragraph 2.4, according to BDS, identical to the European CEN 1948 standard.

23.2. The operator provides calibration of the measuring devices according to paragraph 16, approved by standardisation documents, identical to the corresponding European (CEN) standards, in case they exist.

24. The measurements for determination of concentrations of harmful substances in exhaust gases are carried out representatively keeping following requirements:

24.1. At determination of emissions of the harmful substances the values of the 95% confidence interval at the emission limit values shall not exceed the following percentage of the emission limit values under item 2.1:

- Carbon monoxide-	10 %
- Sulphur dioxide -	20 %
- Total particulates -	30 %
- Total hydrocarbons -	30 %
- Hydrogen chloride -	40 %

24.2. The procedure and equipment to monitor dioxins and furans have to provide sufficiently low threshold of sensitivity to allow the representative sampling and analysis of the individual dioxins and furans acc.. Table 4 and the mandatory use of the concept for toxicity equivalent.

25. The control measurements for test of keeping the limit concentration values acc. paragraph 2 and the technical requirements acc. paragraphs 4 or 9 are carried out by the competent authorities under the conditions and the order of the CAA.

VI. Processing, evaluation and presentation of the measurements results

26. All of the results of the measurements carried out are registered, processed and presented to the competent authorities according to Article 37 of LHIWEA in a way, enabling the verification of its compatibility with the requirements of this Annex.

27. The waste incinerator operator shall evaluate the annual measurement results under item 15 in the annual report, in accordance with the conditions and procedures of the CAA.

27.1. The operator shall present the annual report under item 27 (for the corresponding year) to the competent authorities under Article 37 of LHIWEA, not later than April 1 of the subsequent year.

27.2. The operator shall keep the measurement results under item 15 for 8 years, as of the date of their carrying out.

VII. Obligations and responsibility of the operators of incineration plants

28. The operator is responsible for violations of the limit concentration values of harmful substances in ambient air and water.

29. In case, when the measurements will show exceeding of the limit concentration values acc. items 2 and 39, the operator is obliged to inform immediately the competent authorities, who issued the permit according to Article 37 of LHIWEA, taking in the same time without postponing the necessary actions for rendering the plant in correspondence with the emissions standards.

29.1. In case, when the opportunely rendering of the plant in accordance with the requirements of limit concentration values acc. paragraphs 2 and 39 is technically unfeasible, the operator must take immediately measures for ceasing the plant feeding with waste and to stop its operation in the possible shortest time in accordance with the requirements in items 8.2 and 8.3. Under no circumstances the term for shut-down the plant operation could not exceed 4 consecutive hours.

29.2. After removal of the reasons leading to violation of the standards for the limit concentration values the competent authorities under Article 37, paragraph 2 of LHIWEA, allow to the operator to continue normal operation.

30. In case of an industrial breakdown, the operator shall reduce or close down operations as soon as practicable until normal operations can be restored in accordance the requirements of items 8.2 and 8.3.

The period for operational stop or for bringing the plant in compliance with the allowable limits shall not exceed 4 consecutive hours.

31. Under no circumstances shall the plant continue to incinerate waste, when obligatory technical interruptions, failures and damages in the clean-up and/or measuring devices take place, for a time period of more than four hours uninterrupted; when exceeding of the standards for the limit concentration values is possible or occurs

32. Under no circumstances, the cumulative duration of the periods acc. items 29, 30 and 31 over one year shall be less than 60 hours.

33. In each case under items 29, 30 and 31 mandatory the following requirements have to be met:

33.1. The concentration of particulates (total dust content) of the discharges in ambient air shall not exceed 150 mg/m³ expressed as a half-hourly average (under normal conditions);

33.2. The emission limit value of total organic carbon acc. item 2.2. should not be exceeded.

33.3. Requirements of emission limit values of acc. items 4 and 9 should not be violated.

VIII. Determination of emission limit for plants according to Article 19(3) for incineration of waste as basic and supplementary fuel

34. The limit value for each relevant pollutant according to paragraph 2 for plants, using hazardous or industrial waste as basic or supplementary fuel for industrial processes (cement production, energy production, etc.) in the exhaust gas must be calculated by the equation:

$$C = (V_{waste} \cdot C_{waste} + V_{proc} \cdot C_{proc}) / (V_{waste} + V_{proc})$$

where:

V_{waste} is the volume of the exhaust gases obtained solely as a result of waste incineration, determined with respect to the waste with the least heat capacity from the pointed out in the application form acc. to of Article 39 paragraph 1, item 1 and 40 of LHIWEA, standardised acc. to item 21;

C_{waste} - the standard of limit concentration values of the corresponding harmful substances acc. item 2;

V_{proc} - the volume of the exhaust gases obtained at the processes of incineration in the plant, including the burnt fuels (excluding the incinerated waste);

C_{proc} - limit concentration values of the corresponding harmful substances in the exhaust gases, established for the corresponding category of the industrial or incineration plant according to the provisions of Article 9, paragraph 1 of the CAA.

C - total limit concentration value of the corresponding harmful substances, replacing that acc. to item 2. The total oxygen content, which is to replace the standard content acc. to item 21, is calculated on the basis of the presented data, taking into account the different partial volumes.

34.1. The presented information acc. to Article 39 paragraph 1, item 1 or Article 40 of the LHIWEA are to contain a motivated proposal for the values of *V_{waste}* and *V_{proc}* as well as the oxygen content, to which the results of the measurements should be rendered (in case the latter is not available according to the conditions and the order of CAA); the results of the investigations carried out, as well as of experiments, analyses and calculations shall be attached.

34.1.1. In the cases when the amount of heat, obtained as a result of waste incineration is less than 10% of the total amount of heat, obtained from the plant, *V_{waste}* is calculated with respect to (hypothetically) amount of waste the combustion of which heat equivalent of 10% of the total amount would be released, while the latter is fixed preliminary.

34.1.2. For calculation of *V_{proc}* the standard oxygen content for the corresponding class of plants, established by the provisions of Article 9 paragraph 1 of Clean Air Act; in cases when there are not provisions for the very industrial activity (class of the plant) the real oxygen content in exhaust gases is used, without taking into account the dilution because of addition of air, which is not necessary for the normal

performance of the processes in the plant; the rest of the parameters are rendered to the conditions according to item 21.

34.2. Carbon monoxide not resulting directly from the combustion of wastes or, as well as CO directly resulting from such combustion, shall not be considered when determining the plant emission:

34.2.1. The higher CO concentrations in the flue gas are required by the production process, and

34.2.2. Cwaste (as defined above) for dioxins and furans, and also for total organic carbon are met,

34.3. The final determination of the values for V_{waste} and V_{proc} is carried out by the competent authorities acc. Article 37 of LHIWEA. When necessary the latter may require additional information acc. item 34.1.

IX. Residues

35. Residues resulting from the operation of the incineration plant shall be disposed of in accordance with the provisions of this regulation. When necessarily this may require a pre-treatment of the residues.

36. Residues resulting from the operation of the plant should be kept separate from each other pending proper decision for their recycling or disposal via appropriate technologies.

37. Transport and temporary storage of dry residues in the form of dust, e.g. boiler dust and dry residues from the treatment of exhaust gases, shall take place in closed containers.

38. Prior to determining the routes for the disposal or recycling of the residues from incineration, appropriate tests shall be carried out by the treatment facility operator in order to establish the physical, chemical and eco-toxic characteristics and the polluting potential of environment of the different incineration residues. The tests obligatory include analyses on soluble fraction and contents of heavy metals.

X. Requirements to the wastewater discharged from the incineration facilities

39. Any waste water discharged from an incineration plant shall be subject to a permit granted by the competent authorities acc. to the Water Act or by the corresponding enterprises operating the sewage systems, for the cases when the waste water is discharged in the sewage networks of the settlements.

39.1. The discharged waste water from incineration plant have to meet the following requirements:

a) Regulation No.7/1986 for the indicators and the standards for the quality of flowing surface water (State Gazette 96/1986);

b) Regulation No.8/1987 on the Indicators and the Standards for the Quality of Coastal Water (State Gazette 2/1978);

c) Regulation No.2/1978 for the Standards of the Admissible Contents of Harmful Substances in Waste Water Released in Sewage Networks in Settlements (State Gazette 72/1987);

d) Regulation No.6/1981 for Leading away of Waste Water Containing Harmful Substances Underground (State Gazette 87/1981).

39.2. For the same quantity of disposed waste the mass of heavy metals, dioxins and furans contained in the waste water shall not exceed the mass of the quoted substances released in the air.

40. Incineration plant, including the storage facilities for the input waste and the incineration residue, shall be designed and operated in such a way as to prevent

against soil or groundwater pollution, which is not to exceed the existing limit value of admissible content of harmful substances.

On the territory of the incineration plant is envisaged to operate system for surface water collection (rain water, water spillage, water for fire precaution) and will be discharged into the respective intake bodies.

41. If necessary the wastewater from waste incineration plant and the total area of the facility shall be treated before their inflow into the respective intake bodies.

XI. Access to information

42. The operators of the plants for incineration of hazardous and/or industrial waste provide a public access to the permits acc. to Article 37(2) of LHIWEA, the application forms for their issuing and the annual reports acc. to items 27 and 39, under the conditions and procedure of Environmental Protection Act and LHIWEA.

Table 4

Dioxins and furans (individual compounds) TE

2,3,7,8-tetrachloro-dibenzodioxin (TCDD)	1
1,2,3,7,8-pentachloro-dibenzodioxin (PcCDD)	0.5
1,2,3,4,7,8-hexachloro-dibenzodioxin (HxCDD)	0.1
1,2,3,6,7,8-hexachloro-dibenzodioxin (HxCDD)	0.1
1,2,3,7,8,9-hexachloro-dibenzodioxin (HxCDD)	0.1
1,2,3,4,6,7,8-heptachloro-dibenzodioxin (HpCDD)	0.01
Octachloro-dibenzodioxin (OCDD)	0.001
2,3,7,8-tetrachloro-dibenzofuran (TCDF)	0.1
2,3,4,7,8-pentachloro-dibenzofuran (PeCDF)	0.5
1,2,3,7,8-pentachloro-dibenzofuran (PeCDF)	0.05
1,2,3,4,7,8-hexachloro-dibenzofuran (HxCDF)	0.1
1,2,3,6,7,8-hexachloro-dibenzofuran (HxCDF)	0.1
1,2,3,7,8,9-hexachloro-dibenzofuran (HxCDF)	0.1
2,3,4,7,8,9-hexachloro-dibenzofuran (HxCDF)	0.1
1,2,3,4,6,7,8-heptachloro-dibenzofuran (HpCDF)	0.01
1,2,3,4,7,8,9-heptachloro-dibenzofuran (HpCDF)	0.01
Octachloro-dibenzofuran (OCDF)	0.001

**ANNEX 4
to Article .21**

**REQUIREMENTS FOR THE PLANTS FOR PHYSICAL AND CHEMICAL
DISPOSAL OF WASTE**

1. Definitions

For the purposes of this Annex:

a) 'physical disposal' is the separation by components of the wastes by state of aggregation, fractions, particle sizes etc., while using differences in the physical properties of various components.

b) 'chemical disposal' of wastes is the use of chemical reactions where reagents thereof settle, binding in non-soluble forms, or destruction or conversion of the hazardous components in less hazardous or mobile ones.

II. General requirements

1 The technological lines for treatment of predominantly organic or inorganic wastes must be separate.

2. The chemical and physical process reactors must be closed and designed in a way to prevent the release of harmful emissions into environment.

3. All tanks and reactors must be equipped with level gauges, monitoring systems for pressure and temperature control. The inorganic waste processing reactors must be equipped with a pH- and redox-potential measurement systems.

4. All deviations from the threshold values for a process must be marked visually and be signaled by an alarm system.

5. All chemical processes, pH-values and effluent water parameters must be monitored continuously. Deviation of the values from their threshold levels should be followed by an automatic shut off.

III. Organic waste installations

1. The processes used for this purpose may include separation of emulsion, distillation, chemical separation of emulsions and membrane filtering.

2. The distilling installations must be equipped for the following functions:

- a) separation of solid substances;
- b) distillation;
- c) extraction of oil from sediments, and
- d) neutralisation.

3. The installations for chemical separation of emulsions shall be equipped to provide for the following processes at the least:

- a) thickening of sedimenting solid substances;
- b) collection of light fractions;
- c) measurement of added chemicals;
- d) chemical separation of emulsions;
- e) separation of the reaction products.

4. The membrane filtering installations must be basically equipped for the following functions:

- a) thickening of sedimenting solid substances;
- b) collection of light fractions;
- c) fine filtration;
- d) membrane filtration.

5. The above emulsion separation processes may be followed by subsequent treatment such as stripping, active carbon adsorption or biological treatment.

6. Mixtures of water with oils which contain chlorinated hydrocarbons, cyanides or nitrites must be pretreated prior to being mixed with the remaining water-oil emulsions.

IV. Inorganic waste installations

1. The inorganic waste treatment installations shall utilize processes such as neutralisation, sedimentation, flocculation, oxidation, reduction and dewatering, the choice depending on the specific objective. They can be located in such a manner that different parts of the installation could treat one waste type (mono-functionality) or form a multi-functional scheme by choice (to treat different waste).

2. The inorganic waste treatment installations must be basically equipped for the following functions:

- a) light fractions collection;
- b) measurement of added chemicals;
- c) initiation of chemical reactions, and
- d) conditioning of sludge and dewatering.

3. The above processes of emulsion separation may be followed by subsequent treatment such as stripping or active carbon adsorption.

4. The heavy metals are settled as hydroxides or oxi-hydrates, at a suitable pH value.

5. Additional treatment such as sulfide sedimenting, ion exchange or reverse osmosis may also be necessary.

V. Working requirements

1. Prior to waste disposal, the working conditions must be established based on laboratory or industrial tests. The type and quantity of the used chemicals must be determined and calculated, and documented in the terms of reference.

2. Other wastes may be used for the purposes of disposal, provided that this is not unfavourable for the process itself and does not cause dilution.

3 The equipment must always be cleaned after work.

VI. Sludges

1. Where possibility exists, the sludge shall be recycled or recovered.

2. The liquid sludge, following the organic waste treatment, shall be subjected to thermal treatment.

3. Following organic waste treatment, the semi-liquid and solid sludge are subjected to thermal treatment, unless can be landfilled in accordance with the requirements in the Regulation on the Conditions and Requirements for the Construction and Operation of Waste Landfills.

4. Following the inorganic waste treatment, the semi-liquid and solid sludge can be landfilled in accordance with the requirements in the Regulation on the Conditions and Requirements for the Construction and Operation of Waste Landfills

**ANNEX 5
to Article 26**

**EXEMPLARY CONTENT OF WRITTEN EMERGENCY RESPONSE
INSTRUCTIONS**

General data about the cargo

Formal code (name) of the cargo or the group of cargoes with identical hazards, class and number of the cargo or group of cargoes, UN hazard number.

Description with physical-chemical properties - such as state of aggregation, possible coloration, odour etc., allowing discovery of lack of seal in the packaging/delivery.

Type of hazard (brief description)

Main hazard.

Additional hazards, including possible long-term impacts and hazards for the environment.

Behaviour of the waste in fire or heating (disintegration, explosion, poisonous gas release etc.).

Possible hazardous reactions with water.

Personal protective equipment for the crew

Data on the materials and personal protective equipment allocated for the transport vehicle crew members, depending on the hazardous cargo type.

Emergency measures (data on the driver activities)

Stopping the engine.

Restriction of the possibilities for contact with an open flame or source of sparks.

Isolation and marking of the emergency site; warning the other participants in the traffic or passers-by.

Informing the public, such as instructing the public about staying upwind of the vehicle.

Informing the police and the fire brigade.

Emergency actions

In the event of unrestricted leakage of the cargo:

Data on the activities of the crew for the restriction of the flowing out of the cargo and the use of personal protective equipment to the extent to which it is not dangerous for the crew.

In the event of fire:

Data on the activities of the crew in the event of fire and on the fire-fighting resources, to the extent to which it is not dangerous for the crew.

First aid

Data on the activities of the crew in its members or other persons have been in contact with the cargo.

Additional instructions

As deemed necessary by the waste generator or the cargo holder.

ANNEX 6
under Article 30

SAMPLE PLACARD UNDER ARTICLE 30, ITEM 5

background - white
edge and letter - black, 15 mm wide