

Ordinance of the Federal Minister of Agriculture and Forestry, Environment and Water Management on Waste Treatment Obligations (*Abfallbehandlungspflichtenverordnung*), BGBl. (Federal Law Gazette) II No. 459/2004

Having regard to Article 23(1) of the Waste Management Act 2002 (*Abfallwirtschaftsgesetz—AWG 2002*), BGBl. I No. 102, the following ordinance is adopted in agreement with the Federal Minister of Economic Affairs and Labour:

Chapter 1

General provisions

Objectives

Article 1. The Ordinance aims at defining minimum requirements for the collection, storage and treatment of wastes in order to achieve the objectives and principles of waste management, to promote recycling and material efficiency and to ensure the environmentally sound collection, storage, transport and treatment of wastes.

Scope/parties obligated

Article 2. (1) This Ordinance shall apply to hazardous and non-hazardous wastes pursuant to AWG 2002.

(2) The parties obligated shall be the waste owners.

Chapter 2

Section 1

Waste electrical and electronic equipment

Definitions

Article 3. (1) Electrical and electronic equipment or EEE means equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields falling under the following categories and designed for use with a voltage rating not exceeding 1000 Volt for alternating current and 1500 Volt for direct current:

1. Large household appliances, e.g. cooling equipment (equipment with a cooling element), washing machines, cooking appliances, induction hobs, electric heating appliances, microwaves, electric stoves;
2. Small household appliances, e.g. vacuum cleaners, toasters, fryers, clocks, watches, scales;
3. IT and telecommunications equipment, e.g. mainframes, PCs, printer units, pocket and disk calculators, telephones, cellular telephones;
4. Consumer equipment, e.g. radio sets, television sets, videocameras, video recorders, hi-fi recorders, DVD players;
5. Lighting equipment, e.g. luminaires for fluorescent lamps, lamps with the exception of filament bulbs, compact fluorescent lamps, discharge lamps;
6. Electrical and electronic tools (with the exception of large-scale stationary industrial tools), e.g. saws, drills, tools for mowing;
7. Toys, leisure and sports equipment, e.g. hand-held video game consoles, electric trains or car racing sets, computers for biking, diving, running and rowing;
8. Medical devices (with the exception of all implanted and infected products), e.g. diagnostic equipment and analysers, other appliances for detecting, preventing, monitoring, treating, alleviating illness, injury or disability;
9. Monitoring and control instruments, e.g. smoke detectors, thermostats;
10. Automatic dispensers, e.g. automatic dispensers for hot drinks, automatic dispensers for money or tickets, all appliances which deliver automatically all kind of products.

(2) Waste electrical and electronic equipment or WEEE means electrical and electronic equipment which is waste within the meaning of Article 2(1) AWG 2002, including:

1. all components,
2. all subassemblies, and
3. all consumables

which are part of the product at the time of waste generation.

(3) Lamps mean blended lamps, high-pressure mercury arc lamps, high-pressure metal halide lamps, high- and low-voltage neon lamps, high-pressure sodium discharge lamps, fluorescent lighting tubes and low-pressure sodium discharge lamps.

(4) Type 1 appliances mean household refrigerators with a storage volume of up to 180 litres, Type 2 appliances mean combined household refrigerators/freezers with a storage volume from 180 litres to 350 litres, and Type 3 appliances mean household freezers with a storage volume of up to 500 litres.

Storage and transport requirements

Article 4. (1) WEEE shall only be stored in suitable areas taking into account the type of wastes and their hazard potential with weather-resistant covering, with impermeable and, if necessary, oil- and solvent resistant surfaces, with spillage collection facilities and, if necessary, decanters and cleanser-degreasers.

(2) During the storage and transport of WEEE, measures shall be taken to ensure that damage is prevented that may result in the release of dangerous substances. WEEE shall be stored and transported in such a way that subsequent dismantling or recycling is not impeded or made impossible.

(3) Waste cooling equipment shall be transported and stored in such a way that damage is prevented that may result in the release of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), hydrocarbons (HCs), or other refrigerants. Waste cooling equipment shall be secured against slipping and shall not be transported or stored upside down or lying on parts of the refrigeration circuit.

(4) Lamps shall be adequately secured against breaking during storage and transport. Broken lamps shall be stored and transported in closed containers with adequate protection against mercury and dust emissions.

Requirements for treatment areas

Article 5. WEEE shall only be treated in suitable areas with impermeable and, if necessary, oil- and solvent resistant surfaces and waterproof covering, with spillage collection facilities and, where appropriate, decanters and cleanser-degreasers. Treatment facilities shall be provided with suitable weighing equipment for determining the weight of the waste equipment to be treated and appropriate containers for storing batteries and accumulators, capacitors containing PCB under the terms of Article 16(2) AWG 2002 and other hazardous wastes. A suitable storage area for dismantled components and subassemblies shall be provided.

Removal of substances, preparations and components (depollution)

Article 6. The substances, preparations and components listed in numbers 1 to 9, 11 to 14 and 18 shall be removed in such a way that other components and the environment are not contaminated and shall be treated properly. The substances, preparations and components listed in numbers 10 and 15 to 17 shall be completely removed from WEEE and shall be treated properly:

1. capacitors containing PCB;
2. components containing mercury, such as switches or backlighting lamps,
3. batteries and accumulators;
4. printed circuit boards of mobile phones in general, and printed circuit boards of other devices if the surface of the printed circuit board is greater than 10 cm²;
5. ink cartridges, toner cartridges for liquid and pasty, as well as colour toner;
6. plastic containing brominated flame retardants;
7. asbestos waste and components which contain asbestos;
8. components containing refractory ceramic fibres;
9. cathode ray tubes;
10. chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs), hydrocarbons (HCs);
11. gas discharge lamps;
12. liquid crystal displays (together with their casing where appropriate) of a surface greater than 100 cm² and all those back-lighted with gas discharge lamps;

13. external electric cables;
14. electrolyte capacitors with a height of 25 mm or more and a diameter of 25 mm or more as well as those with a comparable volume;
15. the ammonia-water solution containing chromium VI in the case of absorption refrigerators;
16. any other liquid, such as oils and acids in particular;
17. gases that are ozone depleting or have a global warming potential (GWP) above 15;
18. photo-conducting drums containing cadmium or selenium.

Selective treatment of materials and components

Article 7. (1) The following treatment steps shall be taken:

1. Mercury-containing components, PCB-containing components under the terms of Article 16(2) AWG 2002, batteries and accumulators, liquid crystal displays (LCDs) back-lighted with gas discharge lamps and electrolyte capacitors with a height of 25 mm or more and a diameter of 25 mm or more as well as those with a comparable volume shall be removed from assembled printed circuit boards.
2. Fluorescent coatings, getters and electron sources shall be removed from cathode ray tubes.
3. Electric and other cables shall be mechanically separated into metals and residual fractions. This shall not apply to electric and other cables with paper sheaths drenched in paraffin oil or creosote, if these are free of materials containing halogens (Article 13(8)).

(2) During the treatment of mercury-containing components, diffuse mercury emissions shall be prevented by suitable measures.

Treatment of the refrigeration circuit of cooling and air-conditioning equipment

Article 8. (1) Prior to the treatment of the insulating foam, the contents of the refrigeration circuit shall be extracted and preliminary dismantling shall be performed, with the following requirements having to be complied with:

1. Refrigerant and compressor oil shall be extracted together without any losses, and shall be separated or their separation shall be arranged.
2. The proper evacuation of the refrigeration circuit shall be ensured by monitoring devices that shall be adapted to the extraction system selected and to the volume of the appliance treated and shall be integrated into the extraction system.
3. Suitable measurement equipment shall be used to indicate the number of appliances treated and the quantity of CFC/HCFC/HFC extracted.
4. The annual average of CFC/HCFC/HFC (determined as pure substance) extracted from the refrigeration circuit shall be at least 115 g per cooling appliance.

(2) The CFC R12/CFC/HCFC/HFC residues in the compressor oil shall not exceed 0.1 percent by weight.

Treatment of the insulating foam of cooling equipment

Article 9. (1) On principle, it is permitted in the treatment of insulating foam to crush the insulating foam with the aim of collecting the CFCs/HCFCs/HFCs contained therein as completely as possible, or to incinerate it in order to destroy the CFCs/HCFCs/HFCs contained therein.

(2) In the case of crushing, the quantity of recovered CFCs/HCFCs/HFCs (determined as pure substance) shall be 240 g per Type 1 appliance, 320 g per Type 2 appliance and 400 g per Type 3 appliance.

(3) The CFC/HCFC/HFC residues in the insulating foam shall not exceed 0.2 percent by weight.

(4) The quantitative share of insulating foam residues adhering to metals and plastics shall not exceed 0.5 percent by weight each.

Incineration of cooling equipment

Article 10. (1) Cooling equipment shall not be incinerated without depollution and disposal of the refrigeration circuit. The incineration of cooling equipment after disposal of the refrigeration circuit and depollution shall be permitted until 31 December 2006.

(2) In the case of incineration of cooling equipment, the following provisions shall be complied with:

1. As far as technically feasible, components containing copper shall be removed prior to incineration and shall be recycled.

2. If the partly dismantled cases are crushed before incineration, the entire area—from the crushing mill to the incinerator—shall be sealed off and provided with an extraction system preventing the release of CFCs/HCFCs/HFCs into the free atmosphere both during normal operation and in case of malfunctions.
3. The air extracted and any filters contaminated by CFCs/HCFCs/HFCs during crushing as well as the exhaust air and filters contaminated by CFCs/HCFCs/HFCs during incineration shall be treated in such a way that CFCs/HCFCs/HFCs are destroyed to an adequate extent.

Documentation of compliance with the minimum requirements defined for cooling equipment

Article 11. Compliance with the requirements defined for the treatment of cooling equipment under Articles 4 to 10 shall be evidenced by suitable documentation providing information on the number of cooling appliances treated by appliance type (Type 1, Type 2 or Type 3) and on the output of fractions recovered during treatment with reference to a calendar year. Proof shall be furnished on the annual performance of the following tests and examinations by an authorised expert or expert body:

1. examination of transport conditions pursuant to Article 4(2) and (3),
2. examination of the annual material flow balance,
3. tests on the treatment of cooling equipment pursuant to **Annex 1**, and
4. preparation of an expert opinion on the material flow balance and the tests on the treatment of cooling equipment.

Treatment requirements for lamps

Article 12. (1) Whole straight fluorescent lamps, specially shaped fluorescent lamps, compact fluorescent lamps and high-pressure discharge lamps shall be treated by applying dismantling techniques (e.g. cutting-separating processes). Dismantling techniques are processes in which at least the end pieces and the fluorescent substance are removed before the lamps are crushed.

(2) Broken lamps, cullet from lamps and mercury-containing backlighting lamps shall be crushed in a shredder irrespective of the arrangement of the components. It is only after crushing that the components shall be separated.

(3) The fluorescent powder shall be separated from the glass envelope by a dry mechanical process and shall be collected separately.

(4) During the treatment of lamps, diffuse mercury emissions and diffuse dust emissions shall be prevented. Mercury released during the treatment process and the dusts generated shall be collected.

(5) Residual mercury and fluorescent materials still adhering to the glass and metal fractions obtained shall be treated in such a way that the limit value of 5 mg/kg dry mass is not exceeded by the residual mercury contamination. The same shall apply to broken lamps and cullet from lamps.

(6) The soda-lime glass fraction collected separately and the metal fraction shall be recycled. The remaining fractions, in particular fluorescent powder, shall be recycled, especially in lamp production, where this makes environmental sense and is technically feasible and if the resulting additional cost is not unreasonable in comparison with other treatment processes.

Prohibited treatment methods

Article 13. (1) Without prejudice to the provisions of Article 12(1), non-depolluted WEEE shall not be crushed, e.g. by shredding them, if the release of environmentally relevant substances cannot be precluded by the treatment.

(2) Recycling of plastic and wood casings with additives, impregnating agents or varnishes containing halogens or heavy metals shall only be permitted in those cases in which the relevant substances or additives have to be added to new products due to technical requirements.

(3) Lead-containing glass fractions from WEEE treatment shall not be used as abrasive agents, in the production of building materials or as aggregates in the construction industry, or in the ceramic industry or in the production of foam glass.

(4) Recycling of barium- and strontium-containing glass from cathode-ray tubes shall only be permitted in those cases in which barium and strontium have to be added to new products due to technical requirements.

(5) The residual fraction of printed circuit boards separated from metals shall not be recycled.

(6) PCB-containing capacitors under the terms of Article 16(2) AWG 2002, PCB- and PCT-containing electrical equipment under the terms of Article 16(2) AWG 2002, CFCs and other refrigerants shall not be recycled.

(7) Liquid crystal displays (LCDs) with gas discharge lamps shall not be recycled.

(8) Electric and other cables shall not be removed by smouldering. This shall not apply to electric and other cables with paper sheaths drenched in paraffin oil or creosote, if these are free of materials containing halogens (Article 7(1)(3)).

(9) Fluorescent powder or mercury shall not be separated from lamps by wet chemical processes.

Section 2

Batteries and accumulators

General treatment requirements

Article 14. Batteries and accumulators collected shall be stored in weatherproof conditions in leak-proof containers that are acid- or lye-resistant depending on the electrolyte used.

Article 15. The mercury content of all fractions recovered, with the exception of the pure mercury fraction, shall not exceed 20 mg/kg dry mass.

Treatment of lead accumulators

Article 16. Lead accumulators shall be treated separately from all other batteries and accumulators. At any rate, the treatment of lead accumulators shall demonstrably recover lead and plastics of adequate purity so that they can be recycled and thus, shall ensure their re-introduction in the production cycle. The lead content of the plastics recovered shall not exceed 500 mg/kg. The treatment shall include measures to prevent diffuse lead emissions. Free sulphuric acid shall be recovered.

Treatment of nickel-cadmium accumulators and nickel metal hydride accumulators

Article 17. Nickel-cadmium accumulators and nickel metal hydride accumulators shall be recovered separately from all other batteries and accumulators. The joint treatment of nickel-cadmium accumulators and nickel metal hydride accumulators shall be permitted. Nickel shall be demonstrably recovered from nickel-cadmium accumulators with adequate purity so that it can be recycled. Cadmium shall be recovered as a separate fraction.

Treatment of button cells

Article 18. Button cells shall be treated thermally. Mercury shall be collected as a separate fraction.

Treatment of zinc-carbon batteries and alkaline-manganese batteries

Article 19. From zinc-carbon and alkaline-manganese batteries, at least zinc and either iron scrap or ferromanganese shall be recovered and recycled.

Treatment of lithium batteries

Article 20. Lithium batteries and accumulators shall be treated separately from all other batteries and accumulators. By way of exemption, it shall be permitted to treat lithium batteries and accumulators together with button cells and to treat lithium batteries together with zinc-carbon and alkaline-manganese batteries. From lithium accumulators, iron scrap or ferromanganese shall be recovered and recycled. Mercury shall be collected as a separate fraction.

Section 3

Solvents and wastes containing solvents, waste paints and varnishes

Collection, storage and transport requirements

Article 21. (1) Solvents and wastes containing solvents with organic components shall be stored and transported in tightly closed solvent-resistant containers. These containers shall be stored in suitable spillage collection facilities that are adequately resistant to solvents. Gaseous and liquid emissions shall be prevented during collection.

(2) Notwithstanding Paragraph 1, the open storage of waste paints and varnishes containing solvents shall only be permitted if exhaust air is collected and scrubbed.

(3) Solvents containing halogen and wastes containing halogen and solvents shall not be mixed with halogen-free solvents and halogen-free wastes containing solvents.

Treatment processes

Article 22. (1) Solvents and solvent mixtures shall be treated in a distillation process or membrane process where this makes environmental sense and is technically feasible and if the resulting additional cost is not unreasonable in comparison with other treatment processes.

(2) Solvents and solvent mixtures that cannot be recycled pursuant to Paragraph 1 shall be treated thermally.

(3) Plastic sludge containing solvents and solvent-containing wastes from distillation (distillation residues) shall be treated thermally at any rate.

(4) Waste paints and varnishes shall be recycled where this makes environmental sense and is technically feasible and does not result in unreasonable cost. Waste paints and varnishes that cannot be recycled shall be treated thermally, if necessary after pre-treatment.

(5) Notwithstanding Paragraph 4, waste from mineral paints and varnishes, e.g. lime paints, may be directly disposed if their landfilling is permitted.

Section 4

Medical wastes involving the risk of injury

Article 23. (1) Syringes and other pointed or sharp objects involving the risk of injury, such as lancets, surgical knives and vial rests, shall be collected in containers that are adequately resistant to breaking and stabbing, leak-proof, tightly closeable and opaque.

(2) The filled containers shall be treated thermally. Containers pursuant to Paragraph 1 that only contain non-infectious medical wastes may be collected together with mixed municipal wastes subject to the provisions of provincial legislation if it is ensured that they are treated thermally.

(3) Before the containers are handed over to an authorised waste collecting or treatment operator or included in the collection of mixed municipal wastes, they shall be permanently and tightly closed.

Section 5

Residual amalgam

Article 24. (1) Mercury and alloying constituents (silver, zinc, tin, palladium, copper) shall be recovered from residual amalgam. During recovery, mercury emissions to air shall be limited to 0.05 mg/m³.

(2) If wastewater pipes contaminated with residual amalgam are removed in the course of modification, extension, repair or demolition works, the contents of the pipes and the pipes shall be collected together and treated as hazardous waste.

Section 6

PCB-containing electrical equipment and other PCB-containing wastes

Article 25. PCB-containing electrical equipment under the terms of Article 16(2) AWG 2002 and other PCB-containing wastes under the terms of Article 16(2) AWG 2002 shall be stored, transported and treated in such a way that PCBs and PCTs cannot be released to the media air, soil or water. Suitable oil- and solvent-resistant troughs shall be used during storage, transport and handling.

Article 26. (1) Oils containing PCBs or PCTs shall only be treated in processes that ensure that PCBs and PCTs are destroyed by at least 99.9999% when oils with a PCB or PCT content in the percentage range are input.

(2) For other wastes containing PCBs, disposal in an underground storage or thermal treatment or destruction (e.g. by dehalogenation) of PCBs/PCTs after separation shall be permitted.

Pre-treatment

Article 27. (1) The separation of oils containing PCBs/PCTs from equipment containing PCBs/PCTs shall be performed in a suitable plant unless provided otherwise in Paragraph 3.

(2) During treatment, all the work shall be performed in a separate, isolated zone. Suitable measures shall be taken to prevent that PCBs are released to the media air, soil or water through exhaust air. The

floor of the isolated zone shall be an oil- and solvent-resistant trough. Suitable measures shall be taken to ensure that PCBs are not carried out of the isolated zone.

(3) Oils containing PCBs/PCTs shall only be removed at the site of stationary operating facilities or installations if this is required for technical reasons.

(4) Before metal parts are recovered from PCB-containing wastes, the metal parts shall be completely disassembled and decontaminated so that the PCB content is below the detection limits.

Chapter 3

Transposition of Community legislation

Article 28. This Ordinance transposes Directive 2002/96/EC on waste electrical and electronic equipment (WEEE), OJ L 37 of 13.02.2003, p. 24, as amended by Directive 2003/108/EC amending Directive 2002/96/EC on waste electrical and electronic equipment (WEEE), OJ L 345 of 31.12.2003, p. 106.

Entry into force

Article 29. (1) Unless provided otherwise in Paragraph 2, this Ordinance shall enter into force on 1 January 2005.

(2) Articles 3 to 13 and Article 23(2) shall enter into force on 13 August 2005.

(3) Article 10(2) of this Ordinance shall cease to be effective at the end of 31 December 2006.

Annex 1

Tests on the treatment of cooling equipment

To prove compliance with the minimum requirements defined for the treatment of cooling equipment, an inspection shall be performed by an authorised expert or expert body once a year.

1. CFC quantity extracted from the refrigeration circuit

In this examination, the requirements of Test 1 or, alternatively, Test 2 shall be met.

Test 1: Test 1 is based on an input of 1,000 or more complete, undamaged appliances to the treatment plant. The input shall be made up as follows:

- 60% by numbers of Type 1 appliances (household refrigerators with a storage volume of up to 180 litres),
- 25% by numbers of Type 2 appliances (combined household refrigerators/freezers with a storage volume from 180 litres to 350 litres), where only Type 2 appliances with a shared refrigeration circuit shall be input, and
- 15% by numbers of Type 3 appliances (household freezers with a storage volume of up to 500 litres).

Refrigeration circuits shall be evacuated completely. The containers held ready for CFCs/HCFCs/HFCs shall be weighed empty before work starts and with their contents after the end of work. After deduction of the water quantity, the weighing result for CFCs/HCFCs/HFCs in kilogram is divided by the number of appliances treated. The CFC/HCFC/HFC quantity in gram per appliance shall be recorded as the result.

The plant or the treatment process are only considered to comply with the state of the art if the CFC/HCFC/HFC quantity collected amounts on average to at least 115 g per appliance.

Test 2: On the basis of an input of at least 100 appliances to the plant, the nominal CFC/HCFC/HFC quantities according to the data plates shall be recorded in detail for all 100 appliances. The CFC/HCFC/HFC quantities collected shall amount at least to 90% of the total nominal quantities.

2. CFC quantity recovered from insulating foam

The treatment is considered to comply with the state of the art if the following quantities of CFCs/HCFCs/HFCs (determined as pure substance) are recovered from insulating foam during crushing on an annual average:

- for Type 1 appliances (household refrigerators with a storage volume of up to 180 litres): 240 g per appliance,
- for Type 2 appliances (combined household refrigerators/freezers with a storage volume from 180 litres to 350 litres): 320 g per appliance,
- for Type 3 appliances (household freezers with a storage volume of up to 500 litres): 400 g per appliance.

These values shall be calculated on the basis of an input of at least 1,000 complete and undamaged appliances.

3. CFC residues in the insulating foam

The CFC/HCFC/HFC residues in the insulating foam shall be measured by means of suitable procedures by an authorised expert or expert body once a year and shall not exceed 0.2 percent by weight.

4. CFC residues in the compressor oil

The CFC R12/CFC/HCFC/HFC residues in the compressor oil shall be measured by a suitable procedure and shall not exceed 0.1 percent by weight per cooling appliance on an annual average.

5. Insulating foam residues

The quantitative share of insulating foam residues adhering to metals shall not exceed 0.5 percent by weight. The quantitative share of insulating foam residues adhering to plastics shall not exceed 0.5 percent by weight.