

Order on the use of waste for agricultural purposes¹

Pursuant to § 7(1), points 6–8 and 11, § 7 a(1), (2) and (4), § 13(1) and (2), § 16, § 19(5), § 44(1), § 67, § 73(1) and (3), § 80, § 92, and § 110(3) of the Environmental Protection Act (see Consolidation Act No 966 of 23 June 2017, last amended by Act No 1444 of 12 December 2017), the following is laid down:

Chapter 1

Scope

§ 1. The order lays down the rules for the extent to which waste, see § 2, may be used for agricultural purposes, without adverse effects on the environment and humans, plants and animals.

Paragraph 2. The rules in this order shall not apply if they conflict with the provisions of other legislation on the prevention and control of diseases among livestock, zoonoses or pests of plants.

§ 2. The order covers waste from households, institutions and companies, including organically treated waste, process effluent and sewage sludge to the extent where this waste is intended to be used for agricultural purposes.

§ 3. The order does not cover:

1) Composted and non-composted waste from gardens and parks that may be used for agricultural purposes without prior authorisation.

2) Animal by-products and derived products covered by Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation), apart from animal by-products and derived products that are intended for use in biogas and composting plants.

3) Carcasses of animals that did not die in a slaughtering process, including animals put down in order to eradicate epizootic diseases and are disposed of in accordance with Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation).

4) Fields where waste is being spread for experimental purposes in order to assess its harmful effects on soil and crops.

Chapter 2

Definitions

§ 4. For the purposes of this order:

1) Waste: waste as defined in the Order on waste.

- 2) Waste producer: anyone generating, processing, selling or importing waste that is going to be used for agricultural purposes.
- 3) Bio-pulp: recovered organic waste from a pre-treatment facility.
- 4) Biological treatment: anaerobic or aerobic circulation of organic material by either degassing it in a biogas plant or by composting.
- 5) Treatment plant: a plant treating waste, e.g. by composting, drying, degassing and the like.
- 6) User: anyone with rights over the area where the waste is going to be used.
- 7) Solid waste: waste that remains unchanged when stacked or piled. This means that the pile or stack does not collapse and expand.
- 8) Fluid waste: waste that may be pumped and will collapse and expand if stacked or piled.
- 9) Pre-treatment plant: a plant pre-treating and recovering domestic organic waste and waste similar to domestic waste, including the possible stripping of any packaging and recover the waste into a bio-pulp.
- 10) Physical contaminants: this means the total volume of undesirable materials in the bio-pulp. These are materials like metal, glass, rubber, plastic, etc.
- 11) Livestock manure: livestock manure as defined in the Order on commercial animal husbandry, livestock manure, silage, etc.
- 12) Livestock manure-based biogas plant: biogas plants receiving livestock manure or biomass of vegetable origin.
- 13) Agriculture: plant or wood production from agriculture, forestry and horticulture, private gardening as well as park or cemetery operation, etc.
- 14) Agricultural purposes: the use of waste for fertilising soil or soil improvement in agriculture.
- 15) Domestic organic waste and waste similar to domestic waste: kitchen and food waste of vegetable and animal origin from households, restaurants, catering establishments, large kitchens and retailers and similar waste from food businesses and retailers, including food previously labelled as foodstuffs.
- 16) Domestic gardening: non-commercial plant and wood production that is only for the consumption or use for one or a few households.
- 17) Recreational areas: large and small parks, sports grounds and similar where it is customary to sojourn.
- 18) Sludge:
 - a) Sewage sludge from wastewater treatment plants treating domestic or urban waste water or from other waste water treatment plants treating waste water of a similar composition.
 - b) Sewage sludge from wastewater treatment plants other than those referred to in (a) above.
 - c) sludge from aquaculture.
 - d) sludge from the processing of raw animal materials.

Chapter 3

The use of waste listed in Annex 1

§ 5. Waste listed in Annex 1 may be used without prior authorisation under § 19 of the Environmental Protection Act for agricultural purposes in accordance with the provisions of Chapters 5–10 in this order and the rules of the Order on commercial animal husbandry, livestock manure, silage, etc., except as provided for in paragraphs 2–3.

Paragraph 2. The spreading in forests of waste listed in Annex 1 requires applying for an authorisation in accordance with § 19 of the Act. The municipal council shall stipulate terms to the effect that Chapters 5–10 in this order shall apply. The conditions of Chapters 5–10 may be toughened by the Municipal Council or it may stipulate additional terms.

Paragraph 3. Upon transfer to or for use in domestic gardening, § 13(3), point 2, § 14(2) and (3), § 15 and Chapters 9 and 10 shall not apply.

Chapter 4

Use of waste not listed in Annex 1

§ 6. The municipal council shall, when granting authorisation in accordance with § 19 of the Environmental Protection Act to use waste for agricultural purposes which is not listed in Annex 1, stipulate terms to the effect that the rules in Chapters 5–10 shall apply. These terms may be toughened by the municipal council in relation to what applies according to Chapters 5–10, or lay down additional terms, including stipulating that the waste may not be used on specified areas.

Paragraph 2. The municipal council shall obtain the opinions of the Danish Patient Safety Authority the Danish Veterinary and Food Administration before making the decision.

Chapter 5

General requirements for waste to be used for agricultural purposes

§ 7. Waste to be used for agricultural purposes or supplied to livestock manure-based biogas plants or treatment plants shall comply with the limit values set out in Annex 2 and not contain significant quantities of other environmentally harmful substances.

Paragraph 2. Waste with elevated levels of substances alien to the environment may, notwithstanding paragraph 1, be transferred to environmentally approved composting plants with a view to decomposing substances alien to the environment. The composting plant shall always be able to demonstrate to the inspection authority that substances alien to the environment are being decomposed.

Paragraph 3. The taking of samples from the waste and the analysis thereof must be done in accordance with Chapter 6.

§ 8. Waste to be used for agricultural purposes and digestate from biomass coming from livestock manure-based biogas plants or treatment plants shall, prior to its use for agricultural purposes, comply with the restrictions on the use of waste in Annex 3 that are applied for sanitary reasons.

§ 9. When mixing waste from several waste producers, including sewage sludge from various plants, and when mixing waste with products, samples shall be taken from the individual types of waste before mixing them with a view to establishing whether the limit values set out in Annex 2 are complied with.

Paragraph 2. Domestic waste from various households which is mixed before treatment shall be deemed to originate from one waste producer. The authority responsible for the collection scheme is, in this case, considered to be the waste producer.

Chapter 6

Sampling and analyses

§ 10. Waste to be used for agricultural purposes or supplied to livestock manure-based biogas plants or treatment plants shall be analysed based on representative samples and comply with the limit values set out in Annex 2. Animal by-products that are not mixed with other types of waste and supplied directly to livestock manure-based biogas plants or biogas plants in general are excluded from this.

Paragraph 2. Samples shall be taken from waste undergoing pre-treatment; the waste must comply with the limit values set out in Annex 2 before it is supplied to livestock manure-based biogas plants or biogas plants in general. In case a pre-treatment plant and a biogas or composting plant are jointly operated, samples shall be taken from the biomass digestate or the compost before handing it over to the end user.

Paragraph 3. The waste producer and pre-treatment plant shall make sure that samples are taken and analysed by laboratories or undertakings accredited by the Danish Accreditation Fund or a corresponding accreditation body that is party to the multilateral mutual recognition agreement of the European co-operation for Accreditation, except as provided for in paragraph 4.

Paragraph 4. It may be decided by the council of the municipality where the waste producer is established that samples may be taken or analysed by the waste producer in accordance with laboratory or company provisions.

Paragraph 5. The laboratory or company shall send the results of the analysis to the inspection authority before performing the initial delivery of the waste. Following the initial delivery, each analysis result shall be sent to the inspection authority as soon as it is made available.

§ 11. Sampling, analysis frequency, parameters for analysis and methods of analysis shall comply with the requirements set out in Annex 5, except as provided for in paragraph 4.

Paragraph 2. It may be decided by the council of the municipality where the waste producer is established that sampling and analysis frequencies are to be increased or decreased. The municipal council may also decide that the samples must be analysed against more or fewer parameters, except as provided for in paragraph 3.

Paragraph 3. The provision in paragraph 2 does not include sampling and analysis frequencies for nitrogen and phosphorus.

Paragraph 4. By way of derogation from paragraph 1, samples must be taken from and analyses performed on sludge from public wastewater treatment plants and source-separated organic waste from households, institutions and private companies that does not undergo pre-treatment, in accordance with the Order on the inspection of sewage sludge, etc. to be used for agricultural purposes. In addition, paragraphs 2 and 3 shall not apply to such products.

Chapter 7

General requirements for the waste producer

§ 12. The obligations of the waste producer under §§ 13–15 shall be the responsibility of the waste producer supplying the waste to the user or to livestock manure-based biogas plants or treatment plants.

§ 13. The waste producer shall draw up a declaration including the following points:

- 1) Waste, including a description of its origin and production site and a reference to the designations used in Annex 1.
- 2) The individual constituents and mixing ratio of waste resulting from mixing several different types of waste.
- 3) The individual constituents and mixing ratio of waste that is mixed with fertilisers, soil improvers or other products.
- 4) Treatment, results of any analyses as well as any restrictions on its use. The designations listed in Annex 3 shall be used.
- 5) The results of analyses, see § 10, including an indication of the time of sampling and analysis.
- 6) Information on storage capabilities.

Paragraph 2. If the municipal council has decided on terms under §§ 6 or 83 of the Order on commercial animal husbandry, livestock manure, silage, etc., these terms shall appear in the declaration.

Paragraph 3. A copy of the declaration shall be sent to the council of the municipality where the waste producer is established, except as provided for in § 14(6). Said declaration shall be sent no later than 8 days prior to delivery to the user, livestock manure-based biogas plants or treatment plants.

§ 14. Any waste producer entering into an agreement on the delivery of waste is responsible for the declaration accompanying and corresponding to the waste, except as provided for in paragraph 5.

Paragraph 2. Waste can only be delivered under a written agreement between the waste producer and the user or the management at the livestock manure-based biogas plant or treatment plant.

Paragraph 3. When entering into the agreement on the delivery of waste to the user, the waste producer shall send a copy of the delivery agreement, declaration and map indicating where and when the waste is expected to be spread (maps with field block number) to the council of the municipality where the user is established, no later than 8 days before delivery, except as provided for in paragraph 6.

Paragraph 4. When agreeing on the delivery of waste to livestock manure-based biogas plants or treatment plants, the waste producer shall send a copy of the delivery agreement and the declaration to the inspection authority of the livestock manure-based biogas plant or treatment plant no later than 8 days before delivery.

Paragraph 5. In the event of any changes to the information submitted on the expected spreading referred to in paragraph 3, the user shall send the new information on the spreading to the council of the municipality where the user is established.

Paragraph 6. Paragraph 1, paragraph 3, point 1, paragraph 5 and § 13(3) shall not apply to livestock manure-based biogas plants.

§ 15. Before 1 March every year, the waste producer must notify the municipal council of the quantities of each waste type that have been supplied for agricultural purposes during the previous calendar year, broken down into the use in agriculture, forestry, biogas or treatment plants, horticulture, park operation and domestic gardening. Notification is made with reference to the declaration referred to in Article 13, for each waste type.

Paragraph 2. By 1 July every year, the municipal council will provide the Environmental Protection Agency with the information referred to in paragraph 1. Following negotiations with the municipal councils, the Environmental Protection Agency may lay down rules concerning the form of notification.

Chapter 8

Storage

§ 16. Storage of waste at the user's business premises requires no prior authorisation under § 19 of the Environmental Protection Act if a storage facility is placed, set up and operated in accordance with the Order on commercial animal husbandry, livestock manure, silage, etc., and if the quantity of waste stored is no larger than what the user is able to spread himself during the current and upcoming growing season.

Paragraph 2. Waste that does not desorb liquid may be stored in field stacks at the user's business premises without prior authorisation under § 19 of the Environmental Protection Act. The field stacks shall be covered so that water cannot enter the stack and their location must follow the rules of the Order on commercial animal husbandry, livestock manure, silage, etc.

Paragraph 3. Storing sewage sludge in field stacks is not permitted.

§ 17. The storage of waste supplied to livestock manure-based biogas plants shall comply with the rules of the Order on commercial animal husbandry, livestock manure, silage, etc.

§ 18. The storage on the user's business premises of waste that is applied to containers with livestock manure shall comply with the rules of the Order on commercial animal husbandry, livestock manure, silage, etc.

§ 19. The municipal council shall have at its disposal storage facilities, which will hold 9 months' production, for sludge from public wastewater treatment plants in the municipality.

Paragraph 2. By 31 December every year, the municipal council shall report to the Environmental Protection Agency where and how sludge from public wastewater treatment plants will be stored the following year.

Chapter 9

User's use of waste

§ 20. The use of waste must not result in pollution of the groundwater.

§ 21. The rules laid down in §§ 22–24 do not apply when using waste with a mixing ratio of at least 75 % livestock manure or vegetable biomass digestate calculated on a dry matter basis.

§ 22. Liquid waste may not be spread in quantities of more than 3 000 m³ per hectare per planning period. In the period from 1 February to 1 April, only 1 000 m³ per hectare may be spread.

§ 23. Waste shall be used in accordance with the declaration and map indicating the area of spreading; see § 14(3).

§ 24. The sanitary restrictions on the use shall be complied with in accordance with Annex 3.

§ 25. Waste introduced into the soil may not contain more than 7 tonnes of dry matter per hectare per year, calculated as a 10-year average. For parks and forests without cultivation of edible crops, 15 tonnes of dry matter may be applied per hectare per year, calculated as a 10-year average.

Chapter 10

Special provisions concerning heavy metals in the soil

§ 26. Areas where waste is applied shall not contain more heavy metal than is set out in Annex 4.

Paragraph 2. On areas where the municipal council finds there is a risk that the limit values mentioned in Annex 4 for the content in soil are exceeded, the municipal council shall take and analyse soil samples in order to document whether the limit values have been respected.

Paragraph 3. The soil samples shall be taken and analysed by laboratories or undertakings accredited by the Danish Accreditation Fund or a corresponding accreditation body that is party to the multilateral mutual recognition agreement of the European co-operation for Accreditation. The costs for these tests shall be borne by the waste producer.

Paragraph 4. Sampling and analysis shall be carried out in accordance with Annex 4.

Chapter 11

Inspection and enforcement

§ 27. The municipal council shall carry out inspections in order to ensure that the rules in this order are complied with.

Paragraph 2. The Danish Agricultural Agency shall, notwithstanding paragraph 1, inspect the quality of sludge from public wastewater treatment plants and source-separated organic waste from households, institutions and private companies.

§ 28. The inspection authority may order the imposition of corrective measures if the use or storage of waste is likely to give rise to non-negligible nuisance or pollution.

Paragraph 2. The inspection authority may prohibit the use of waste for agricultural purposes where the use specifically causes pollution or a risk of pollution, or where the general requirements of §§ 7–9 above are not complied with.

Chapter 12

Derogation and appeal

§ 29. In special cases and upon specific application, the Environmental Protection Agency may derogate from the rules.

§ 30. Appeals against the following decisions may not be lodged with another administrative authority:

- 1) municipal council decisions in accordance with §§ 10, 11 and 28.
- 2) municipal council decisions in accordance with § 6, when the decision concerns less than 10 000 tonnes of waste per year.
- 3) Environmental Protection Agency decisions in accordance with § 29.

Chapter 13

Penalties

§ 31. Unless higher penalties are stipulated under other legislation, penalties will be imposed on those who:

- 1) use waste contrary to § 5(1),
- 2) violate the conditions laid down by the municipal council in accordance with § 6(1),
- 3) use waste that is not in compliance with the limit values set out in Annex 2 or contain significant quantities of other environmentally harmful substances; see § 7(1),
- 4) fail to take or analyse samples in accordance with § 10(1)–(3),
- 5) violate the regulations for sampling, analysis frequency, parameters for analysis or methods of analysis in Annex 5; see § 11(1),
- 6) violate the conditions laid down by the municipal council in accordance with § 11(2),
- 7) fail to draw up the declaration or provide incorrect information in the declaration in accordance with § 13(1) and (2),
- 8) fail to submit the declaration for the municipal council in accordance with § 13(3),
- 9) fail to submit the declaration with the waste in accordance with § 14(1),
- 10) fail to enter into a written agreement in accordance with § 14(2),
- 11) fail to submit a copy of the delivery agreement, the declaration or the map with an indication of where the waste is expected to be spread to the council of the municipality where the user is established no later than 8 days prior to the initial delivery in accordance with § 14(3) and (5),
- 12) fail to submit a copy of the delivery agreement or the declaration to the inspection authority for the livestock manure-based biogas plant or treatment plant no later than 8 days prior to the initial delivery in accordance with § 14(4).
- 13) fail to notify the municipal council in accordance with § 15(1),
- 14) store waste contrary to §§ 16 and 17,
- 15) use waste that results in pollution of the groundwater in accordance with § 20,
- 16) exceed the limitation to quantities of liquid waste that may be spread in accordance with § 22,
- 17) use waste contrary to § 23,

- 18) violate the sanitary restrictions in Annex 3 in accordance with § 24,
- 19) exceed the limitation to quantities of waste that may be applied to the soil in accordance with § 25,
- 20) apply waste containing more heavy metal than specified in Annex 4 to areas in accordance with § 26, or
- 21) fail to comply with injunctions or prohibitions under § 28.

Paragraph 2. The penalty may increase to up to 2 years' imprisonment if the infringement was committed deliberately or through gross negligence or said infringement:

- 1) harms the environment or brought about a threat thereof, or
- 2) achieved or intended to achieve financial benefits, including savings, for the perpetrator or others.

Paragraph 3. Entities, etc. (legal persons) may be held criminally liable in accordance with the regulations in Chapter 5 of the Penal Code [Straffeloven].

Chapter 14

Entry into force and transitional provisions

§ 32. This order shall enter into force on 1 August 2018.

Paragraph 2. Order No 843 of 23 June 2017 on the use of waste for agricultural purposes (the Sludge Order) is repealed.

§ 33. The processing of pending cases concerning the review of authorisations granted pursuant to § 6 of Order No 843 of 23 June 2017 shall be completed in accordance with the rules laid down in this order.

Ministry of Environment and Food of Denmark, [date]

ESBEN LUNDE LARSEN

/ Hans Christian Karsten

1) The order includes provisions implementing Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture, OJ L 181, 4.7.1986, p. 6., as last amended by Regulation (EC) No 219/2009 of the European Parliament and of the Council of 11 March 2009 adapting a number of instruments subject to the procedure referred to in Article 251 of the Treaty to Council Decision 1999/468/EC with regard to the regulatory procedure with scrutiny — Adaptation to the regulatory procedure with scrutiny — Part Two, OJ L 87, 2009, p. 109. A draft of this order has been notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (codification).

Annex 1

List of waste of agricultural value that may be used without prior authorisation in accordance with the rules laid down in this order

A. Sludge, wastewater and unpolluted product residues

- Sludge and wastewater from the processing of raw vegetable materials
- Unpolluted product residues from the processing of raw vegetable materials
- Sludge and wastewater from dairies

B. Sludge from aquaculture

- Sludge from freshwater aquaculture as well as sludge and waste water from recycled aquaculture plants
- Sludge from land-based mariculture

C. Sludge from the processing of raw animal materials

Sludge and flotation grease from water purification plants at slaughterhouses, the fishing industry and other food-processing companies

D. Organic domestic waste and waste similar to domestic waste, see § 4(15)

E. Sewage sludge

- Sludge from public wastewater treatment plants
- Sludge from private plants for the treatment of domestic wastewater

F. Animal by-products

Animal by-products, covered by Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption, that are intended for use in biogas and composting plants, except animal by-products included in organic domestic waste and waste similar to domestic waste under D above.

G. Inactivated biomass from fermentation production as well as surplus sludge from associated industrial sewage plants.

Annex 2

A. Limit values for heavy metals

Table 1

	mg/kg dry matter	mg/kg total phosphorus
Cadmium	0.8	100
Mercury	0.8	200
Lead ¹⁾	120	10 000
Nickel	30	2 500

1) The lead limit value is 60 mg/kg dry matter or 5 000 mg/kg total phosphorus for domestic gardening. For the use of arsenic in domestic gardening, the limit value is 25 mg/kg dry matter.

Table 2

	mg/kg dry matter
Chromium	100
Zinc	4 000
Copper	1 000

B. Compliance with limit values for heavy metals

The values of the analyses shall comply with the dry-matter related or phosphorus-related limit values in table 1.

The waste producer may choose to comply with the limit values as set out in Annex 1 related to either dry matter or phosphorus. The analysis values shall comply with the limit values in table 2. Out of the 5 most recent samples, the analysis results from at least 75 % shall be below the limit values. However, no sample may exceed a limit value by more than 50 %. A sample exceeding a limit value by 0–50 % shall prompt an immediate re-sampling and analysis.

C. Limit values for substances alien to the environment

Table 3

	mg/kg dry matter
LAS ¹⁾	1 300
Σ PAH ²⁾	3
NPE ³⁾	10
DEHP ⁴⁾	50
Σ PCB ⁷⁵⁾	0.2 ⁶⁾

1) LAS: linear alkylbenzene sulfonates.

2) PAH: polycyclic aromatic hydrocarbons. Σ PAH = Σ acenaphthene, phenanthrene, fluorene, fluoranthene, pyrene, benzofluoranthenes (b+j+k), benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene.

3) NPE: nonylphenol (+ethoxylates). NPE includes the substance of nonylphenol itself plus nonylphenol ethoxylates with 1–2 ethoxy groups.

4) DEHP: bis(2-ethylhexyl) phthalate.

5) PCB7: PCB28, PCB52, PCB101, PCB118, PCB138, PCB153 and PCB180. Applies to sewage sludge covered by Annex 1, point E only.

6) Sampling and analysis for PCB7 shall be carried out only upon indication of the presence of PCB7.

D. Compliance with limit values for substances alien to the environment

Every single analysis result shall comply with the limit values in table 3.

E. Limit values for physical contaminants in pre-treated bio-pulp

The limit value for physical contaminants (plastic, glass and composite materials) larger than 2 mm is 0.5 % by weight/dry matter and 1 cm²/ kg dry matter for plastic.

F. Limit value for physical contaminants in compost

Maximum content in compost: 0.5 % of dry matter

G. Compliance with limit values for physical contaminants

Every single analysis result shall comply with the limit values in points E and F.

Annex 3

Usage restrictions on waste based on sanitary aspects

Usage restrictions on various types of waste based on sanitary aspects

Usage restrictions on various types of waste based on sanitary aspects, see Annex 1, after various treatments. These treatments are defined below.

Treatment Waste	Not treated	Stabilised	Controlled composting	Controlled sanitation
A) Sludge, etc. from vegetable production	+	+	+	+
B) Sludge from aquaculture	Not to be used for recreational areas and private gardening	+	+	+
C) Sludge from the processing of raw animal materials (1)	Not to be used for agricultural purposes	Not to be used for agricultural purposes	Not to be used for agricultural purposes	+
D) Domestic organic waste and waste similar to domestic waste	Not to be used for agricultural purposes	Not to be used for agricultural purposes	(2)	+
E) Sewage sludge	Not to be used for agricultural purposes	Not for edible crops or recreational areas and private gardening. Injected or worked into the soil within 6 hours of delivery. (3)	Not for edible crops or recreational areas and private gardening. (3)	+
G) Inactivated and lime-stabilised biomass with dry matter higher than 30 % derived from a fermentation production, as well as surplus sludge from associated industrial sewage plants	+	+	+	+

+ May be used without restrictions based on sanitary aspects.

(1) Sludge and flotation grease from water purification plants in slaughterhouses and cutting plants, collected after the wastewater has been subjected to a primary treatment at drain traps or screens with apertures or a mesh opening of no more than 6 mm in the downstream end of the process or equivalent systems that ensure that the solid particles in the wastewater passing through them are no more than 6 mm; see the Animal by-products Regulation.

(2) Only after sanitation at 70 °C for 60 minutes when degassing in a biogas plant.

(3) For up to 1 year after applying sewage sludge, only cereals or seed crops may be grown to maturity as well as grass or similar for the industrial manufacture of cattle fodder on areas where sewage sludge is applied. In addition, no edible crops may be grown. For example, growing potatoes, grass and maize for silage and fodder or sugar beet is not permitted.

When delivering to forests, the forest shall remain closed to the public for at least 6 months after application.

The closure shall be complete with signs prohibiting the picking of berries, mushrooms and the like.

Equipment for storage, transport, spreading and injecting shall be cleaned properly immediately after use.

Definitions for Annex 3:

1. Not treated:

without treatment in accordance with any of the treatments stated below.

2. Stabilisation:

upon delivery, stabilised waste shall have undergone one of the treatments mentioned under (a)–(e) below.

Furthermore, stabilised waste shall not give off a significant odour.

a) Anaerobic stabilisation by digestion in a heated digester or treatment in a biogas plant.

b) Aerobic stabilisation by aeration of sludge, either in a specially adapted sludge aeration tank or in a long-term aerated and activated sludge plant.

c) Composting without regulating the temperature.

d) Chemical stabilisation by adding lime.

e) Sludge that has mineralised in sludge mineralisation plants for at least 6 months since the last injection.

3. Controlled composting:

composting with daily measuring of temperature so that all the waste is subjected to a temperature of at least 55 °C for at least 2 weeks. The treatment shall be documented in the form of logged temperature measurements.

4. Controlled sanitation:

upon delivery, controlled sanitised waste shall have undergone one of the treatments mentioned below in point 8(a) and (b).

In addition, controlled sanitised waste shall, upon delivery, meet the following requirements for sanitary quality:

– No contamination with salmonella permitted

– The E.coli concentration shall be less than 100 CFU/g wet weight

– The enterococci concentration shall be less than 100 CFU/g wet weight after the sanitation process

Sampling and analysis shall be carried out in accordance with the methods indicated by the Environmental Protection Agency.

5. Edible crops:

crops that may be consumed raw by animals or humans. However, crops from fruit trees are excluded from this.

6. Composting:

reduction and subsequent aeration. Aeration may be active, e.g. by turning it, or passive by maintaining a structure that allows the passage of air.

7. Injection or working into the soil:

turning over, harrowing, direct injection or other method of working the waste into the soil.

8. Treatments:

a) Treatment in a reactor that ensures a temperature of at least 70 °C for at least 1 hour or similar sanitation. The treatment shall be documented in the form of time and temperature logs.

b) Treatment in a biogas reactor at a thermophilic digestion temperature and treatment in separate sanitation tank combined with digestion in a thermophilic or mesophilic reactor tank and with guaranteed minimum retention times of one of the following combinations:

Temperature	Retention time when digesting in a thermophilic(1) reactor tank	Retention time when treated in a separate sanitation tank(2)	
		before or after digesting in a thermophilic reactor tank(3)	before or after digesting in a mesophilic reactor tank(4)
°C	Hours	Hours	Hours
52.0	10		
53.5	8		
55.0	6	5.5	7.5
60.0		2.5	3.5
65.0		1.0	1.5

(1) Thermophilic digestion in this context means digestion at 52 °C or higher. The minimum guaranteed retention time (MGRT) in the reactor tank is indicated in hours. At the same time, it is assumed that the hydraulic retention time (HRT) in the reactor tank is at least seven 24-hour periods.

(2) The controlled sanitation shall take place in a separate sanitation tank in connection with a thermophilic or a mesophilic biogas reactor. The digestion shall take place either before or after sanitation. The MGRT in the sanitation tank is indicated in hours.

(3) Thermophilic digestion in this context means digestion at 52 °C or higher. At the same time, it is assumed that the HRT in the reactor tank is at least seven 24-hour periods.

(4) Mesophilic digestion in this context means digestion at a temperature ranging between 20 °C and 52 °C. At the same time, it is assumed that the HRT in the reactor tank is at least fourteen 24-hour periods.

Annex 4

Limit values and sampling and analysis methods for content in soil; see § 26

Limit values; see § 26(1)

Table 4.

	mg/kg dry matter in soil
Cadmium	0.5
Mercury	0.5
Lead	40
Nickel	15
Chromium	30
Zinc	100
Copper	40

Sampling and analyses methods; see § 26(4).

Representative soil samples shall be taken. Normally, this includes mixed samples of 25 single samples, taken from an area that is less than or equal to 5 hectares and is cultivated in a uniform manner.

Samples shall be taken to a depth of 25 cm unless the depth of the turned layer is less than this value; however, in this case, the sampling depth may not be less than 10 cm.

Heavy metals shall be analysed following digestion; see DS 259. The limit of detection for the individual metal may not be higher than 10 % of the relevant limit value.

Annex 5

Sampling, analysis frequency, parameters for analysis and methods of analysis; see § 11

A. Sampling

Sampling and analysis shall be carried out in accordance with methods indicated by the Environment Protection Agency; see the Order on quality requirements for environmental measurements performed by accredited laboratories, certified persons, etc.

B. Parameters for analysis

The samples shall be analysed against the following parameters:

Cadmium

Mercury

Lead

Nickel

Chromium

Zinc

Copper

Dry matter

Total phosphorus

Total nitrogen

The council of the municipality where the waste producer's plant, etc., is located may approve the omission of one or more parameters in accordance with the following guidelines:

The parameters chromium, zinc, copper, cadmium, mercury, lead and nickel may be omitted if the waste producer can prove or render it likely that they do not occur in the waste or only to a limited extent.

C. Parameters for analysing substances alien to the environment

The samples shall be analysed against the following parameters:

LAS(1)

PAH(2)

NPE(3)

DEHP(4)

If approved by the council of the municipality where the waste producer is established, the parameters may be omitted if the waste producer can prove or render it likely that they do not occur in the waste or only to a limited extent.

D. Analysis frequency concerning physical contaminants

12 consecutive, representative samples shall be taken per year, 4 of which shall be carried out by an accredited laboratory and 8 by the pre-treatment plant.

E. Analysis frequency concerning substances under B

Sampling and analysis shall be carried out at least every 3 months.

F. Analysis frequency concerning substances alien to the environment

Sampling and analysis shall be carried out at least every 12 months.

G. Methods for analysing heavy metals

Heavy metals shall be analysed following digestion; see DS 259. The limit of detection for the individual metal may not be higher than 10 % of the relevant limit value.

H. Analysis methods concerning substances alien to the environment

Substances alien to the environment shall be analysed in accordance with methods indicated by the Environment Protection Agency; see the Order on quality requirements for environmental measurements performed by accredited laboratories, certified persons, etc.

I. Methods for analysing physical contaminants

Physical contaminants shall be analysed in accordance with methods and guidelines specified in the Environment Protection Agency's guidance paper on sampling for physical contaminants. All pre-treatment facilities are obliged to draw up their own self-monitoring programme based on the Environment Protection Agency's guidance paper on sampling for physical contaminants.