

# **Resource Recovery Order under Section 286A of the Protection of the Environment Operations Act 1997**

## **The biosolids order 2025**

### **Introduction**

This order, issued by the Environment Protection Authority (EPA) under Section 286A of the *Protection of the Environment Operations Act 1997* (POEO Act), imposes the requirements that must be met by suppliers of biosolids to which the 'biosolids exemption 2025' applies. The requirements in this order apply in relation to the supply of biosolids for application to land as a soil amendment.

### **1. Waste to which this order applies**

- 1.1. This order applies to biosolids. In this order, biosolids means organic solids generated after sewage sludge has been treated and stabilised to meet classification criteria enabling its beneficial reuse on land as required under the Biosolids Guidelines. The term biosolids products means any products derived from, containing, or blended with biosolids.
- 1.2. Biosolids do not include untreated or partially treated sewage sludge or any material generated from the thermal treatment of sewage sludge by burning, incineration, thermal oxidation, gasification, pyrolysis, plasma or other thermal treatment processes at temperatures exceeding 180°C (such as char).

### **2. Persons to whom this order applies**

- 2.1. The requirements in this order apply, as relevant, to any person who supplies biosolids that have been generated, processed or recovered by that person.
- 2.2. This order does not apply to the supply of biosolids to a consumer for land application at a premises for which the consumer holds a licence under the POEO Act that authorises the carrying out of the scheduled activities on the premises under clause 18A 'environmentally hazardous chemicals', clause 39 'waste disposal (application to land)' or clause 40 'waste disposal (thermal treatment)' of Schedule 1 of the POEO Act.

### **3. Duration**

- 3.1. This order commences on <date of gazettal> 2025 and is valid until revoked by the EPA by notice published in the Government Gazette.

### **4. Revocation**

- 4.1. 'The biosolids order 2014' which commenced on 24 November 2014, is revoked from <date of gazettal> 2025.

### **5. Supplier requirements**

Suppliers of biosolids must ensure the following steps are undertaken prior to the supply of any biosolids.

## **General conditions**

- 5.1. The supplier must ensure that biosolids and biosolids products meet all of the applicable requirements of the Biosolids Guidelines.
- 5.2. The supplier must sample and test all biosolids and biosolids products for contaminant grading in accordance with the Biosolids Guidelines.
- 5.3. For every sample tested in accordance with condition 5.2 of this order, a supplier must also test that sample for contaminant grading as follows:
  - 5.3.1. contaminants numbered 1 to 4 in column 1 of Table 1 of this order;
  - 5.3.2. for suppliers who are statutory State Owned Corporations, contaminants numbered 5 to 6 in column 1 of Table 1 of this order;
  - 5.3.3. for suppliers who are not statutory State Owned Corporations, contaminants numbered 5 to 6 in column 1 of Table 1 of this order at a frequency of 3 samples every two-year period from the date of their first transaction after the commencement of this order.
- 5.4. All samples collected for PFAS analysis in biosolids and biosolids products must be collected according to the protocols in Chapter 18 of the PFAS NEMP 3.0.
- 5.5. A supplier must not supply biosolids products to a consumer if it has been blended with, or contains, a substance that cannot lawfully be applied to soil as a soil amendment.
- 5.6. For the avoidance of doubt, a processor must ensure that any biosolids or biosolid products that are blended with materials and intended to be used for composting comply with the conditions of the 'compost order 2016' and the Biosolids Guidelines. Where a condition under the 'compost order 2016' conflicts with a requirement under the Biosolids Guidelines, a processor must comply with the most stringent requirement.

## **Contaminant and other material requirements**

- 5.7. The generator must not supply biosolids to any person if, in relation to any of the contaminants of the biosolids, the concentration of any sample collected and tested exceeds the absolute maximum concentration or other value listed in column 3 of Table 1 of this order, subject to condition 5.13 of this order.
- 5.8. The processor must not supply biosolids or biosolids products to any person if, in relation to any of the contaminants of the biosolids or biosolids products, the concentration of any sample collected and tested exceeds the absolute maximum concentration or other value listed in column 2 of Table 1 of this order.
- 5.9. The absolute maximum concentration or other value of that contaminant in any biosolids supplied under this order must not exceed the absolute maximum concentration or other value listed in column 3 of Table 1 of this order, subject to condition 5.13 of this order.
- 5.10. The absolute maximum concentration or other value of that contaminant in any biosolids products supplied under this order must not exceed the absolute maximum concentration or other value listed in column 2 of Table 1 of this order.
- 5.11. A supplier must not supply biosolids to a consumer unless they have received evidence from the consumer of the following:
  - 5.11.1. soil at the premises to which the consumer intends to apply the biosolids has been tested in accordance with Schedule 3 of the Biosolids Guidelines;
  - 5.11.2. the consumer's proposed application of the biosolids to that soil would not exceed the maximum allowable soil contaminant concentration (MASCC) for any contaminant specified in column 4 of Table 1 of this order;

5.11.3. the consumer's proposed application of the biosolids to that soil would not exceed the MASCC for any contaminant specified in either Tables 4-5 or 4-12 (page 33) of the Biosolids Guidelines in accordance with the applicable land use at the consumer's premises;

5.11.4. The evidence must include a summary table of the contaminant testing data, any calculations, and laboratory reports of analytical results from soil sampled at the application site after the previous application of biosolids or any other waste at that location in accordance with condition 7.4 of the "biosolids exemption 2025".

**Table 1**

Column 1	Column 2	Column 3	Column 4
Contaminants	Absolute maximum concentration Contaminant grades A & B (µg/kg 'dry weight')	Absolute maximum concentration Contaminant grade C (µg/kg 'dry weight')	Maximum allowable soil contaminant concentration (MASCC) (µg/kg 'dry weight')
1. PFOS+PFHxS	0.55	15	0.55
2. PFOA	1.5	40	1.5
3. HHCB* (Galaxolide)	NA^	NA	NA
4. Triclosan*	NA	NA	NA
5. Br1-Br9	5.1	140	NA
6. Br10	9,200	1,300,000	NA

\*Absolute maximum concentrations for HHCB (Galaxolide) and Triclosan may apply in the future. To assist with future planning and biosolids management, indicative thresholds are provided in the notes to the order.  
^NA means not applicable.

5.12. In this order, biosolids meeting the thresholds in column 2 may receive a contaminant grade of either A or B, but only if the acceptance criteria for all other contaminants in Table 3-1 of the Biosolids Guidelines are met.

5.13. Where the concentration in biosolids of contaminants 1 and 2 in column 1 of Table 1 of this order exceed the contaminant grade C threshold in column 3 of Table 1 of this order, the biosolids may still be supplied to a consumer if:

5.13.1 the contaminant limited biosolids application rate (CLBAR) is greater than 15 dry t/ha; or,

5.13.2 if the CLBAR is less than 15 dry t/ha, the supplier has received an expert report from the consumer that satisfies the requirements of condition 7.10 of the 'biosolids exemption 2025'.

## Test methods

5.14. The supplier must ensure that any testing of samples required by this order is undertaken by analytical laboratories accredited by the National Association of Testing Authorities (NATA), or equivalent, to carry out the relevant test method.

5.15. Where biosolids are required to be tested for contaminants listed in Table 1 of this order, the supplier must ensure that the contaminants are tested in accordance with either the test methods specified below or an equivalent analytical method. Where an equivalent analytical method is used, the detection

limit must be equal to or less than the detection limit for the method given below:

5.15.1. Test method for contaminants 1-2 listed in column 1 of Table 1 of this order:

- (a) Samples must be prepared and analysed using USEPA method 1633A Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS, or an equivalent analytical method;
- (b) All measured PFAS must be reported as µg/kg dry weight and must include as a minimum all perfluoroalkyl carboxylic acids, perfluoroalkyl sulfonic acids and fluorotelomer sulfonic acids listed in Table 1 of USEPA method 1633A.
- (c) The limit of reporting (LOR) for PFOS, PFHxS and PFOA must not be greater than 0.1 µg/kg and for other individual PFAS compounds must be between 0.1-0.5 µg/kg.

5.15.2. Test method for HHCB (Galaxolide) and triclosan (contaminants 3-4 listed in column 1 of Table 1 of this order):

- (a) Sample must be prepared and analysed using USEPA method 1694: Pharmaceuticals and Personal Care Products in Water, Soil, Sediment, and Biosolids by HPLC/MS/MS, or an equivalent analytical method.
- (b) The LOR for triclosan must not be greater than 0.05 µg/kg and for Galaxolide not greater than 100 µg/kg.
- (c) All triclosan and Galaxolide must be reported as µg/kg dry weight.

5.15.3. Test method for PBDEs (contaminants 5-6 listed in column 1 of Table 1 of this order):

- (a) Samples must be prepared and analysed using USEPA method 1614A Brominated Diphenyl Ethers in Water, Soil, Sediment, and Tissue by HRGC/HRMS, or an equivalent analytical method.
- (b) All measured PBDEs, as well as the sum of Br1-9 and Br10, must be reported as µg/kg dry weight.
- (c) Due to differences in individual congeners analysed by commercial laboratories no limits of reporting have been included here. The most sensitive available LOR for analysis of congeners is recommended to allow detection and summation of individual congeners. At a minimum, congeners representing all levels of bromination must be analysed, and must include: 2,4,4'-TrBDE (BDE 28), 2,2',4,4'-TeBDE (BDE 47), 2,2',4,4',5-PeBDE (BDE 99), 2,2',4,4',6-PeBDE (BDE 100), 2,2',4,4',5,5'-HxBDE (BDE 153), 2,2',4,4',5,6-HxBDE (BDE 154), 2,2',3,4,4',5,6-HpBDE (BDE 183), 2,2',3,3',4,4',5,6'-OcBDE (BDE 196), 2,2',3,3',4,4',5,6,6'-NoBDE (BDE 207), DeBDE (BDE 209).

## Notification

5.16. On or before each transaction, the supplier must provide the following to each person to whom the supplier supplies the biosolids:

- 5.16.1. a written statement of compliance certifying that all the requirements set out in this order have been met;
- 5.16.2. all test results in relation to the biosolids and biosolids products that are being supplied;
- 5.16.3. a copy of 'the biosolids exemption 2025', or a link to the EPA website where the 'biosolids exemption 2025 can be found; and

- 5.16.4. a copy of 'the biosolids order 2025', or a link to the EPA website where 'the biosolids order 2025' can be found.

## **Record keeping and reporting**

- 5.17. A supplier must keep a written record of the following for a period of six years:
- 5.17.1. all test results in relation to biosolids and biosolids products supplied;
  - 5.17.2. the quantity of biosolids and biosolids products supplied; and
  - 5.17.3. the name and address of each person to whom the supplier supplied biosolids and biosolids products.
  - 5.17.4. a copy of the evidence required in accordance with condition 5.11 of this order and required to be given to the supplier by condition 7.6 of the 'biosolids exemption 2025'.
- 5.18. A supplier must provide, on request, the most recent test results for biosolids and biosolids products supplied to the consumer of the biosolids.
- 5.19. A supplier must notify the EPA within seven days of becoming aware that it has not complied with the requirements in conditions 5.1 - 5.13 of this order.
- 5.20. If a supplier has supplied biosolids or biosolids products, a supplier must provide the EPA with the following information within 6 months of that transaction via email at [EnvSolCLR.Requests@epa.nsw.gov.au](mailto:EnvSolCLR.Requests@epa.nsw.gov.au):
- 5.20.1. all testing results for the contaminants listed in column 1 of Table 1 of this order for testing conducted in the preceding 6-month period before the transaction. Testing results must be provided in an excel worksheet accompanied by laboratory reports.
  - 5.20.2. a documented sampling procedure or plan including but not limited to:
    - (a) whether sampling was conducted on a batch or a continuous basis,
    - (b) the sampling frequency (for example 1 sample collected every 100 dry tonnes of biosolids produced or the volume of biosolids in dry tonnes that the sample represents);
    - (c) the size of the samples collected, whether they were a composite, and if so the number and size of the subsamples and time period over which they were collected;
    - (d) a description of the steps that have been taken to determine the biosolids contaminant grade using either the contaminant concentration (Q) or the target grade coefficient ( $C_t$ ), and the procedure for determining the mean and standard deviation as required in Schedule 2 of the Biosolids Guidelines.
- 5.21. For the avoidance of doubt, information covering more than one transaction within that six month period may be provided in a single report to the EPA under condition 5.20.
- 5.22. The obligation in condition 5.20 continues for the duration of this order.

## **6. Definitions**

In this order:

**application to land** or **applied to land** or **apply to land** means applying to land by:

- spraying, spreading or depositing on the land; or
- ploughing, injecting or mixing into the land; or
- filling, raising, reclaiming or contouring the land.

**Biosolids Guidelines** has the same meaning as in the POEO Act.

**Br1-9** means the sum of individual polybrominated diphenyl ethers (PBDEs) with between 1 and 9 bromine atoms.

**Br10** means the fully brominated polybrominated diphenyl ether (PBDE).

**CLBAR** means the contaminant limited biosolids application rate as defined in the Biosolids Guidelines.

**consumer** means a person who applies, or intends to apply, biosolids to land.

**generator** means a person who generates biosolids at a sewage treatment plant, and then supplies, or intends to supply it, to a consumer or processor.

**HHCB** means 4,6,6,7,8,8-hexamethyl-1,3,4,6,7,8-hexahydrocyclopenta[g]isochromene; Galaxolide.

**LOR** means the limit of reporting.

**PBDEs** means polybrominated diphenyl ethers

**PFAS** means Per- and Polyfluoroalkyl Substances as defined in the PFAS NEMP 3.0.

**PFAS NEMP 3.0** means HEPA 2025, PFAS National Environmental Management Plan Version 3.0, Heads of EPA Australia and New Zealand 2025. CC by 4.0.

**PFHxS** means perfluorohexane sulfonate and its salts.

**PFOA** means perfluorooctanoic acid and its salts.

**PFOS** means perfluorooctane sulfonate and its salts.

**processor** means a person who processes, mixes, blends, or otherwise incorporates biosolids into a material in its final form, and then supplies, or intends to supply it, to a consumer.

**sewage treatment plant** means any facility that operates a sewage treatment system, including but not limited to sewage treatment works, wastewater treatment plants, wastewater treatment works, and water reclamation plants.

**soil amendment** means any material that is incorporated into soil or applied on the soil surface to enhance plant growth or improve soil physical, chemical or biological properties or processes.

**Statutory State Owned Corporations** means a corporation listed in Schedule 5 of the *State Owned Corporations Act 1989*.

**supplier** includes a generator, or processor, of biosolids.

**transaction** means:

- in the case where the supplier does not have any arrangements with the consumer for more than a single supply of biosolids, the supply of a batch, truckload or stockpile of biosolids.
- in the case where the supplier has an arrangement with the consumer for more than one supply of biosolids, the first supply of biosolids as required under the arrangement.

**Director Technical – Chemicals, Land and Radiation**

**Environment Protection Authority**

**(by delegation)**



## Notes

The EPA may amend or revoke this order at any time. It is the responsibility of each of the generator to ensure they comply with all relevant requirements of the most current order. The current version of this order will be available on [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au)

In gazetting or otherwise issuing this order, the EPA is not in any way endorsing the supply or use of this substance or guaranteeing that the substance will confer benefit.

The conditions set out in this order are designed to minimise the risk of potential harm to the environment, human health or agriculture, although neither this order nor the accompanying exemption guarantee that the environment, human health or agriculture will not be harmed.

Indicative limits that may be applied to Galaxolide and triclosan in the future

Column 1	Column 2	Column 3	Column 4
Contaminants	Absolute maximum concentration Contaminant grades A & B (µg/kg 'dry weight')	Absolute maximum concentration Contaminant grade C (µg/kg 'dry weight')	Maximum allowable soil contaminant concentration (MASCC) (µg/kg 'dry weight')
HHCB (Galaxolide)	750	20,000	750
Triclosan	65	1,700	65

Any person or entity which supplies biosolids should assess whether the material is fit for the purpose the material is proposed to be used for, and whether this use may cause harm. The supplier may need to seek expert engineering or technical advice.

Regardless of any exemption or order provided by the EPA, the person who causes or permits the application of the substance to land must ensure that the action is lawful and consistent with any other legislative requirements including, if applicable, any development consent(s) for managing operations on the site(s).

The supply of biosolids remains subject to other relevant environmental regulations in the POEO Act and Protection of the Environment Operations (Waste) Regulation 2014. For example, a person who pollutes land (s. 142A) or water (s. 120), or causes air pollution through the emission of odours (s. 129), or does not meet the special requirements for asbestos waste (s. 144AAB), regardless of this order, is guilty of an offence and subject to prosecution.

This order does not alter the requirements of any other relevant legislation that must be met in supplying this material, including for example, the need to prepare a Safety Data Sheet.

Failure to comply with a condition of this order constitutes an offence under section 286A of the POEO Act. Failure to make or keep records in accordance with this order constitutes an offence under section 268B of the POEO Act. It is also an offence under section 286C of the POEO Act to fail to give another person information or records where required under this order.