Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014

The GreenTech Industries rapidly decomposed food waste order June 2018

Introduction

This order, issued by the Environment Protection Authority (EPA) under clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation), imposes the requirements that must be met by processors of rapidly decomposed food waste from specified GreenTech Industries units, to which 'the GreenTech Industries rapidly decomposed food waste exemption June 2018' applies. The requirements in this order apply to the supply of rapidly decomposed food waste for application to land as a soil amendment.

1. Waste to which this order applies

1.1. This order applies to rapidly decomposed food waste. In this order, rapidly decomposed food waste means the decomposed output from the mechanical mixing and heating of food waste produced by specified GreenTech Industries units.

2. Persons to whom this order applies

2.1. The requirements in this order apply, as relevant, to any person who supplies rapidly decomposed food waste that has been generated, processed or recovered by the person.

2.2. This order does not apply to the supply of rapidly decomposed food waste 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 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 28 June 2018 and is valid until 28 June 2020 unless revoked by the EPA in writing at an earlier date.

4. Processor requirements

The EPA imposes the following requirements on any processor who supplies rapidly decomposed food waste.

General conditions

4.1. On or before supplying rapidly decomposed food waste, the processor must ensure that the rapidly decomposed food waste:

4.1.1. does not include grease trap waste or animal waste.

4.1.2. does not contain any physical contaminants, including but not limited to glass, metal, rigid plastics, flexible plastics or polystyrene.

4.1.3. is in a form and condition that is suitable for land application as a soil amendment.

4.1.4. has completed at least one full operational cycle by the specified unit.

Sampling requirements

4.2. On or before supplying rapidly decomposed food waste, the processor must:

4.2.1. Prepare a written sampling plan for the rapidly decomposed food waste which includes a description of the input to the specific unit sampled, sample preparation, and storage procedures for the rapidly decomposed food waste samples. The sampling plan must include the appropriate holding times for all tests including microbiological testing.

4.2.2. Undertake sampling and testing of the rapidly decomposed food waste as required under clause 4.3. The sampling must be carried out in accordance with the written sampling plan.

4.3. The processor must undertake characterisation of the rapidly decomposed food waste by:

4.3.1. collecting 10 composite samples and testing each sample for the chemicals and other attributes listed in Column 1 of Table 1. Each composite sample must be taken from a single batch that has not been previously sampled for the purposes of characterisation. A maximum of two composite samples must be collected per month. Characterisation must be conducted on the rapidly decomposed food waste within 12 months following the commencement of the process[1]; or

4.3.2. an alternative sampling and testing program that is approved by the EPA.

Chemical and other material requirements

4.4. The processor must not supply rapidly decomposed food waste to any person if, in relation to any of the chemical and other attributes of the rapidly decomposed food waste:

4.4.1. The concentration or other value of that attribute of any sample collected and tested as part of the characterisation of the rapidly decomposed food waste exceeds the absolute maximum concentration or other value listed in Column 2 of Table 1.

4.5. The absolute maximum concentration or other value of that attribute in any rapidly decomposed food waste supplied under this order must not exceed the absolute maximum concentration or other value listed in Column 2 of Table 1.

[1] Processors should note that further testing will be required after the first year. Further testing will be determined on the review of the results from the first year.

Table 1

Column 1	Column 2
Chemical and other attributes	**Absolute maximum concentration[1]** (% 'dry weight' unless otherwise specified)
1. Salmonella spp.	Absent in 25 grams
2. Escherichia coli (E. coli)	Absent at limit of detection (Most probable number per gram)
3. Clostridium perfringens	Absent at limit of detection (colony forming units per gram)
4. Bacillus cereus	Absent at limit of detection (colony forming units per gram)
5. Particle size >9.5 mm	0 % mass
6. Electrical conductivity	N/A[2]
7. Sodium mg/kg	N/A[2]
8. Moisture content percentage	10%
9. pH	N/A[2]

[1]Processors should note that holding times for some of these tests are short and processors should check with the laboratories before sampling. For example, some microorganism samples must be analysed within 24 hours of collection.
[2] While limits are not included for 6, 7 and 9, these must be tested in each sample and records kept of the results.

Test methods

4.6. The processor 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.

4.7. The processor must ensure that the chemical and other attributes (listed in Column 1 of Table 1) in the rapidly decomposed food waste supplied are tested in accordance with the test methods specified below. 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.

4.7.1. Test method for the detection of Salmonella:

4.7.1.1. Australian Standard 5013.10-2009 Food microbiology - Microbiology of food and animal feeding stuffs - Horizontal method for the detection of Salmonella spp., or an equivalent analytical method.

4.7.1.2. Report as absent or present in 25 grams.

4.7.2. Test method for E. coli:

4.7.2.1. Australian Standard AS5013.15-2006 Food microbiology - Microbiology of food and animal feeding stuffs - Horizontal method for the detection and enumeration of presumptive. Escherichia coli - Most probable number (MPN) technique, or an equivalent analytical method.

4.7.2.2. Report as MPN / g.

4.7.3. Test method for Clostridium perfringens:

4.7.3.1. Australian Standard AS 5013.16-2006 Food microbiology – Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of Clostridium perfringens —Colony-count technique – Colony forming units (CFU) technique, or an equivalent analytical method.

4.7.3.2. Report as CFU / g.

4.7.4. Test method for Bacillus cereus:
  4.7.4.1. Australian Standard AS 5013.2-2007 Food microbiology - Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of Bacillus cereus - Colony-count technique at 30C - colony forming units (CFU) technique, or an equivalent analytical method.
  4.7.4.2. Report as CFU / g.

4.7.5. Test method for measuring maximum particle size:
  4.7.5.1. Analysis using Australian Standard AS4454-2012 Composts, soil conditioners and mulches, Appendix G – Method for Determination of Particle Size Grading.
  4.7.5.2. Results must be reported as % by mass retained on a sieve with 9.5 mm apertures.
  4.7.5.3. The entire sample must pass through the sieve.

4.7.6. Test method for electrical conductivity:
  4.7.6.1. Analysis using Method 3A1 Electrical Conductivity (EC) of 1:5 rapidly decomposed food waste/water extract from SOIL CHEMICAL METHODS – Australasia, Rayment and Lyons 2011.
  4.7.6.2. Report in dS/m on an air-dry basis.

4.7.7. Test method for sodium:
  4.7.7.1. Sample preparation using USEPA SW-846 Method 3050B Acid digestion of sediments, sludges, and soils.
  4.7.7.2. Analysis using USEPA SW-846 Method 6010C Inductively coupled plasma – optical emission spectrometry.
  4.7.7.3. Report as mg/kg.

4.7.8. Test method for moisture content:
  4.7.8.1. Analysis using method Method 2A1 Air dry moisture content from SOIL CHEMICAL METHODS – Australasia, Rayment and Lyons 2011.
  4.7.8.2. Report as %.

4.7.9. Test method for pH:
  4.7.9.1. Prepare sample by mixing one part of rapidly decomposed food waste with 5 parts of water using analysis method 4A1 pH of 1:5 soil/water suspension from SOIL CHEMICAL METHODS – Australasia, Rayment and Lyons 2011, or an equivalent analytical method.
  4.7.9.2. Report as pH on an air-dry basis.

Notification

4.8. On or before each transaction, the processor must provide the following to each person to whom the processor supplies the rapidly decomposed food waste:

- a written statement of compliance certifying that all the requirements set out in this order have been met;
- a copy of “the GreenTech Industries rapidly decomposed food waste exemption June 2018”, or a link to the EPA website where the exemption can be found; and
- a copy of “the GreenTech Industries rapidly decomposed food waste order June 2018”.

Record keeping and reporting

4.9. The processor must keep a written record of the following for a period of six years:

- the sampling plan required to be prepared under clause 4.2.1;

- all test results in relation to the rapidly decomposed food wastes supplied;
- the quantity of any rapidly decomposed food waste supplied; and
- the name and address of each person to whom the processor supplied the rapidly decomposed food waste.

4.10. The processor must notify the EPA within seven days of becoming aware that it has not complied with any requirement in clauses 4.1- 4.5.

5. Definitions

In this order:

animal waste means dead animals and animal parts and any mixture of dead animals and animal parts[2].

application or apply to land means applying to land by:

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

consumer means a person who applies, or intends to apply, rapidly decomposed food waste to land.

composite sample means a sample that combines five discrete sub-samples of equal size into a single sample for the purpose of analysis.

food waste means food waste from the manufacture, preparation, sale or consumption of food but does not include grease trap waste or animal waste.

grease trap waste means any grease, oils, solids, water or other matter resulting only from the preparation or manufacturing of food that is collected in a grease trap in the usual course of the operation of the grease trap. This definition includes dissolved air flotation (DAF) units used to treat grease trap waste, but does not include grease trap waste collected from grease traps in hospitals and shopping centres other than those solely from the preparation of food.

specified GreenTech Industries unit means the Wastestation units by Greentech Industries Pty Ltd. The Wastestation is an enclosed vessel that uses a start-up culture of aerobic thermophilic bacteria and operates with turning at an internal temperature of 75^0C to 95^0C for a minimum period of 3 to 8 hours.

processor means a person who processes rapidly decomposed food wastes for supply to a consumer.

transaction means:

- in the case of a one-off supply, the supply of a batch, truckload or stockpile of rapidly decomposed food waste that is not repeated.
- in the case where the supplier has an arrangement with the recipient for more than one supply of rapidly decomposed food waste, the first supply of rapidly decomposed food waste as required under the arrangement.

Manager Waste Strategy and Innovation

Environment Protection Authority **27.06.18**

(by delegation)

[2] see Notes section for guidance

Notes

The EPA may amend or revoke this order at any time. It is the responsibility of the processor to ensure it complies with all relevant requirements of the most current order.

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.

While this order requires that the rapidly decomposed food waste must not contain physical contaminants including but not limited to glass, metal, rigid plastics, flexible plastics, or polystyrene, the EPA recognises that the rapidly decomposed food waste may contain extremely low or incidental amounts of physical contaminants. The processor must implement procedures to prevent the presence of physical contaminants in the rapidly decomposed food waste. These procedures must be formally documented and their implementation demonstrated. However, as noted in this order, the rapidly decomposed food waste must not contain any grease trap waste or animal waste.

Animal waste is defined as dead animals and animal parts and any mixture of these. Under the food waste definition in this order, it is intended that for example, meat waste from commercial kitchens and plate scrapings would be considered as food waste. However, animal carcasses or parts of animals from an animal slaughtering process are excluded.

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 rapidly decomposed food waste remains subject to other relevant environmental regulations in the POEO Act and Waste Regulation. For example, a person who pollutes land (s. 142A) or water (s. 120), or causes air pollution through the emission of odours (s. 126), or does not meet the special requirements for asbestos waste (Part 7 of the Waste Regulation), 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, but not limited to the *Biosecurity Act 2015* and *Biosecurity Regulation 2017*.

Failure to comply with the conditions of this order constitutes an offence under clause 93 of the Waste Regulation.