



# **Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014**

## **The Sunshine Sugar mill mud and ash exemption 2020**

### **Introduction**

This exemption:

- is issued by the Environment Protection Authority (EPA) under clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation); and
- exempts a consumer of Sunshine Sugar mill mud and ash from certain requirements under the *Protection of the Environment Operations Act 1997* (POEO Act) and the Waste Regulation in relation to the application of that waste to land, provided the consumer complies with the conditions of this exemption.

This exemption should be read in conjunction with 'the Sunshine Sugar mill mud and ash order 2020'.

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

- 1.1. This exemption applies to mill mud and ash and composted mill mud and ash that is, or is intended to be, applied to land as a soil amendment.
- 1.2. Sunshine Sugar mill mud and ash means mill mud and mill ash, either in a mixture or singularly, from the processing of sugar cane and operation of the boilers at Sunshine Sugar sugar mills.

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

- 2.1. This exemption applies to any person who applies, or intends to apply, mill mud and ash or composted mill mud and ash to land as set out in 1.1.

### **3. Duration**

- 3.1. This exemption commences on 12 June 2020 and is valid until 12 June 2022 unless revoked by the EPA in writing at an earlier date.

## **4. Premises to which this exemption applies**

- 4.1. This exemption applies to the premises at which the consumer's actual or intended application of mill mud and ash or composted mill mud and ash is carried out.

## **5. Exemption**

- 5.1. Subject to the conditions of this exemption, the EPA exempts each consumer from the following provisions of the POEO Act and the Waste Regulation in relation to the consumer's actual or intended application of mill mud and ash and composted mill mud and ash to land as a soil amendment:
  - section 48 of the POEO Act in respect of the scheduled activities described in clauses 39 and 42 of Schedule 1 of the POEO Act;
  - Part 4 of the Waste Regulation;
  - section 88 of the POEO Act; and
  - clause 109, 110 and 114 of the Waste Regulation.
- 5.2. The exemption does not apply in circumstances where mill mud and ash or composted mill mud and ash is received at the 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)' of Schedule 1 of the POEO Act.

## **6. Conditions of exemption**

The exemption is subject to the following conditions:

- 6.1. At the time the mill mud and ash or composted mill mud and ash is received at the premises, the material must meet all chemical and other material requirements for mill mud and ash or composted mill mud and ash which are required on or before the supply of mill mud and ash or composted mill mud and ash under 'the Sunshine Sugar mill mud and ash order 2020'.
- 6.2. The mill mud and ash and composted mill mud and ash can only be applied to land as a soil amendment
- 6.3. Where mill mud and/or mill ash are directly applied to land i.e. without composting, 6.3.1 and 6.3.2 apply:
  - 6.3.1. The mill mud and/or ash may only be applied to land at premises operated by growers who supply sugar cane to Sunshine Sugar sugar mills for processing, or macadamia orchards, and
  - 6.3.2. The mill mud and/or ash must not be re-applied to land that has had mill mud and ash applied in the previous 4 years.
- 6.4. For mill mud and/or ash directly applied to land the consumer must keep a written record of the following for a period of six years:
  - the quantity of any mill mud and ash received; and
  - the name and address of the mill that the mill mud and ash was received.
- 6.5. The consumer must make any records required to be kept under this exemption available to authorised officers of the EPA on request.
- 6.6. The consumer must ensure that any application of mill mud and composted mill mud and ash to land must occur within a reasonable period of time after its receipt.

## 7. Definitions

In this exemption:

**application 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.

**consumer** means a person who applies, or intends to apply, Sunshine Sugar mill mud and ash to land.

**generator** means a person who generates Sunshine Sugar mill mud and/or ash for supply to a processor or consumer.

**mill ash** means the fly ash and bottom ash produced from the burning of biomass in the boilers at the Sunshine Sugar Broadwater, Condong and Harwood sugar mills.

**mill mud** means soil transported to the Sunshine Sugar Broadwater, Condong and Harwood sugar mills attached to the harvested sugar cane and which has been blended with fine bagasse as part of the processing at the sugar mill.

**processor** means a person who processes, mixes, blends, or otherwise incorporates Sunshine Sugar mill mud and ash into a material in its final form for supply to a consumer.



09.06.2020

**Director, Environmental Solutions (CLR)**  
**Environment Protection Authority**  
**(by delegation)**

## Notes

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

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

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

The consumer should assess whether or not the Sunshine Sugar mill mud and ash is fit for the purpose the material is proposed to be used for, and whether this use will cause harm. The consumer may need to seek expert engineering or technical advice.

Regardless of any exemption 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 receipt of Sunshine Sugar mill mud and ash remains subject to other relevant environmental regulations in the POEO Act and the 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 having an exemption, is guilty of an offence and subject to prosecution.

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

Failure to comply with the conditions of this exemption constitutes an offence under clause 91 of the Waste Regulation.



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

## **The Sunshine Sugar mill mud and ash order 2020**

### **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 suppliers of mill mud and ash to which 'the Sunshine Sugar mill mud and ash exemption 2020' applies. The requirements in this order apply in relation to the supply of mill mud and ash and composted mill mud and ash for application to land as a soil amendment.

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

- 1.1. This order applies to mill mud and ash and composted mill mud and ash. In this order, mill mud and ash means mill mud and mill ash, either in a mixture or singularly, from the processing of sugar cane and operation of the boilers at Sunshine Sugar sugar mills.

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

- 2.1. The requirements in this order apply, as relevant, to Sunshine Sugar (ABN: 27 193 549 446) and processors undertaking composting of mill mud and ash.
- 2.2. This order does not apply to the supply of mill mud and ash or composted mill mud and ash 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 12 June 2020 and is valid until 12 June 2022 unless revoked by the EPA in writing at an earlier date.

### **4. Generator requirements**

The EPA imposes the following requirements on the generator who supplies mill mud and ash.

## Sampling requirements

- 4.1. On or before supplying mill mud and ash, the generator must:
  - 4.1.1. Prepare a written sampling plan which includes a description of sample preparation and storage procedures for the mill mud and ash.
  - 4.1.2. Undertake sampling and testing of the mill mud and ash as required under clauses 4.2 below.
- 4.2. Where the Mill mud and ash is generated as part of a continuous process, the generator must undertake the following sampling:
  - 4.2.1. Routine sampling of the mill mud by collecting 3 composite samples per month during the "crush" period, 1 composite sample from each of the 3 Sunshine Sugar sugar mills. The composite samples must be tested for the chemicals and other attributes listed in Column 1 of Table 1. Each composite sample must be taken from a batch, truckload or stockpile that has not been previously sampled for the purposes of routine sampling; and
  - 4.2.2. Routine sampling of the mill ash by collecting 1 composite sample per fortnight from each of the 3 Sunshine Sugar sugar mills. The composite samples must be tested for the chemicals and other attributes listed in Column 1 of Table 1. Each composite sample must be taken from a batch, truckload or stockpile that has not been previously sampled for the purposes of routine sampling

## Chemical and other material requirements

- 4.3. The generator must not supply mill mud and ash to any person if, in relation to any of the chemical and other attributes of the mill mud and ash:
  - 4.3.1. The concentration or other value of that attribute of any sample collected and tested as part of the routine sampling of the mill mud and ash exceeds the absolute maximum concentration or other value listed in Column 3 of Table 1, or
  - 4.3.2. The average concentration or other value of that attribute (based on the arithmetic mean) exceeds the maximum average concentration or other value listed in Column 2 of Table 1. Average values must be calculated using the moving average model and calculated from each 6 month period.
- 4.4. The absolute maximum concentration or other value of that attribute in any mill mud and ash supplied under this order must not exceed the absolute maximum concentration or other value listed in Column 3 of Table 1.

**Table 1**

<b>Column 1</b>	<b>Column 2</b>	<b>Column 3</b>
<b>Chemicals and other attributes</b>	<b>Maximum average concentration for routine testing</b> (mg/kg 'dry weight' unless otherwise specified)	<b>Absolute maximum concentration</b> (mg/kg 'dry weight' unless otherwise specified)
1. Mercury	0.5	1
2. Cadmium	0.5	1
3. Lead	50	100
4. Arsenic	10	20
5. Chromium (total)	50	100

6. Copper	100	300
7. Molybdenum	5	10
8. Nickel	30	60
9. Selenium	2.5	5
10. Zinc	200	250
11. Total Nitrogen	NA	NA
12. Total Phosphorus	NA	NA
13. Electrical Conductivity	NA	NA
14. pH <sup>2</sup>	NA	NA
15. Ca <sup>2+</sup>	NA	NA
16. Mg <sup>2+</sup>	NA	NA
17. Na <sup>2+</sup>	NA	NA
18. k <sup>+</sup>	NA	NA
19. CEC	NA	NA
20. ESP	NA	NA

<sup>1</sup>Note: Whilst there are no thresholds for analytes 11-20, the analytes must be analysed and a record kept of the results.

## Test methods

- 4.5. The generator 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.
- 4.6. The generator must ensure that the chemicals and other attributes (listed in Column 1 of Table 1) in the mill mud and ash it supplies are tested in accordance with the test methods specified below or other equivalent analytical methods. Where an equivalent analytical method is used the detection limit must be equal to or less than that nominated for the given method below.
- 4.6.1. Test method for measuring the mercury concentration:
- 4.6.1.1. Analysis using USEPA SW-846 Method 7471B Mercury in solid or semisolid waste (manual cold vapour technique), or an equivalent analytical method with a detection limit < 20% of the stated maximum average concentration in Table 1, Column 2 (i.e. < 0.1 mg/kg dry weight).
- 4.6.1.2. Report as mg/kg dry weight.
- 4.6.2. Test methods for measuring chemicals 2 - 10:
- 4.6.2.1. Sample preparation by digesting using USEPA SW-846 Method 3051A Microwave assisted acid digestion of sediments, sludges, soils, and oils.
- 4.6.2.2. Analysis using USEPA SW-846 Method 6010C Inductively coupled plasma - atomic emission spectrometry, or an equivalent analytical method with a detection limit < 10% of stated maximum concentration in Table 1, Column 2 (i.e. 1 mg/kg dry weight for lead).
- 4.6.2.3. Report as mg/kg dry weight.
- 4.6.3. Test method for measuring the total nitrogen:

- 4.6.3.1. Sample preparation and analysis using method 7A1 Total soil N, semi micro Kjeldahl - Steam distillation from SOIL CHEMICAL METHODS - Australasia, Rayment and Lyon 2011.
- 4.6.3.2. Report as %N.
- 4.6.4. Test method for measuring the total phosphorus:
  - 4.6.4.1. Sample preparation and analysis using method 9A1 Total P - X-ray fluorescence from SOIL CHEMICAL METHODS - Australasia, Rayment and Lyon 201.
  - 4.6.4.2. Report as total P (%).
- 4.6.5. Test methods for measuring the electrical conductivity and pH:
  - 4.6.5.1. Sample preparation by mixing 1 part mill mud and ash with 5 parts distilled water.
  - 4.6.5.2. Analysis using Method 103 (pH) and 104 (Electrical Conductivity) in Schedule B (3): Guideline on Laboratory Analysis of Potentially Contaminated Soils, National Environment Protection (Assessment of Site Contamination) Measure 1999 (or an equivalent analytical method).
  - 4.6.5.3. Report electrical conductivity in deciSiemens per metre (dS/m).
- 4.6.6. Test method for measuring analytes 17-21:
  - 4.6.6.1. Sample preparation and analysis using method 15B3 Exchangeable bases and CEC - 1 M ammonium chloride at pH 7.0, adjusted for soluble Na<sup>+</sup> from SOIL CHEMICAL METHODS - Australasia, Rayment and Lyon 2011.
  - 4.6.6.2. Report as cmol<sub>e</sub>/kg.
- 4.6.7. Test method for calculating the exchangeable sodium percentage (ESP):
  - 4.6.7.1. Calculate using method 15N1 Exchangeable Na<sup>+</sup> percentage (ESP) from SOIL CHEMICAL METHODS - Australasia, Rayment and Lyon 2011.
  - 4.6.7.2. Report as %.

### **Notification**

- 4.7. On or before each transaction, the generator must provide the following to each person to whom the generator supplies the mill mud and ash:
  - a written statement of compliance certifying that all the requirements set out in this order have been met;
  - a copy of the 'Sunshine Sugar mill mud and ash exemption 2020' or a link to where it can be found; and
  - a copy of the 'Sunshine Sugar mill mud and ash order 2020' or a link to where it can be found.

### **Record keeping and reporting**

- 4.8. The generator must keep a written record of the following for a period of six years:

- the sampling plan required to be prepared under clause 4.1.1;
  - all routine sampling results in relation to the mill mud and ash supplied;
  - the quantity of the mill mud and ash supplied; and
  - the name and address of each person to whom the generator supplied the mill mud and ash.
- 4.9. The generator must provide, on request, the most recent characterisation or routine results for mill mud and ash supplied to any consumer of the mill mud and ash.
- 4.10. The generator must notify the EPA within seven days of becoming aware that it has not complied with any requirement in clause 4.1 to 4.7. Notification must be made in writing to [waste.exemptions@epa.nsw.gov.au](mailto:waste.exemptions@epa.nsw.gov.au).

## 5. Processor requirements

- 5.1. The EPA imposes the following requirements on any processor who supplies composted mill mud and ash.
- 5.1.1. The processor must, otherwise than for the addition of mill mud or mill ash, comply with all of the requirements needed on or before supply of compost under *the compost order 2014*.

## 6. Definitions

In this order:

**application 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.

**composted** means materials that have undergone composting.

**composting** means a process of managed biological transformation:

- a) to achieve pasteurisation, and
- b) for a period of not less than a total of 6 weeks of composting and curing at an adequate moisture level (>40 % by weight), and/or until an equivalent level of biological stability can be demonstrated, and;
- c) produce a product that passes the threshold level for 3 tests, including at least one from Group A and one from Group B specified in Australian Standard AS 4454 – 2012 Composts, soil conditioners and mulches, “Appendix N – Table N3.2 – Biological Stability and Plant Growth Tests Compost Maturity”.

Composting does not include drying or dehydration processes.

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

**consumer** means a person who applies, or intends to apply, mill mud and ash to land.

**generator** means a person who generates mill mud and/or ash for supply to a processor or consumer. The generator in this order is the Sunshine Sugar.

**mill ash** means the fly ash and bottom ash produced from the burning of biomass in boilers operated by Sunshine Sugar at their Harwood sugar mill and operated by Cape Byron Management Pty Ltd at the Sunshine Sugar Broadwater and Condong sugar mills.

**mill mud** means soil transported to the Sunshine Sugar Broadwater, Condong and Harwood sugar mills attached to the harvested sugar cane and which has been blended with fine bagasse as part of the processing at the sugar mill.

**processor** means a person who composts mill mud and/or ash with other materials to produce a material in its final form for supply to a consumer.

**transaction** means:

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

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**Director, Environmental Solutions (CLR)**

**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 and generator to ensure it complies with all relevant requirements of the most current order. The current version of this order will be available on

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.

Any person or entity which supplies mill mud and ash 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 mill mud and ash 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 for example, the need to prepare a Safety Data Sheet. Failure to comply with the conditions of this order constitutes an offence under clause 93 of the Waste Regulation.