

End of Waste Code Dunder (ENEW07503118)

Waste Reduction and Recycling Act 2011



Version history

Version	Date	Description of changes
1.	12 July 2019	FINAL
1.01	23 June 2023	Minor update to reflect the definition of waste moving into the <i>Waste Reduction and Recycling Act 2011</i> . This does not impact the interests of the producer or user of the resource.

Prepared by: Waste and Contaminated Land Assessment, Department of Environment and Science

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1. Explanatory Statement

This End of Waste (EOW) code for **dunder** has been issued by the **chief executive** in accordance with section 159 of the *Waste Reduction and Recycling Act 2011* (WRR Act).

This EOW code states when the **dunder** becomes a **resource** and any relevant requirements and/or conditions for its use. If the **resource** is not being used in accordance with the relevant requirements and/or conditions of this EOW code, or another type of permit that allows for its use, it is considered a waste under section 8AA of the WRR Act and must be disposed of appropriately at a facility that is **lawfully** able to receive the waste.

2. Guidance

2.1 Resource use versus activity

An EOW code states when a waste stops being a waste following any necessary processing or treatment. A waste becomes a **resource** when it has been determined to meet the requirements of an EOW code. It may be necessary to treat or process the waste prior to meeting those requirements. An Environmental Authority (EA) under the *Environmental Protection Act 1994* (EP Act) is required where an activity being undertaken triggers the threshold for any environmentally relevant activity (ERA). This means that treating and/or processing the waste to meet the resource quality criteria under the EOW code may require an EA under the EP Act if the activity meets the threshold for an ERA.

2.2 Resource versus waste

A waste that is a **resource** under an EOW code is considered a **resource** only for the use(s) approved in an EOW code. If a **resource** does not meet the requirements of the EOW code and/or is not used in accordance with the EOW code, it is not deemed a **resource**. It remains a waste and must be managed in accordance with waste management requirements under the EP Act and the WRR Act and their subordinate legislation.

A **resource** approved under an EOW code, is deemed to be a waste again, if it is disposed of at a waste disposal facility, or if it is deposited at a place in a way that would, apart from its use approved under an EOW code, constitute a contravention of the general littering provision or the illegal dumping of waste provision under the WRR Act.

2.3 Failure to comply

It is an offence under section 158(1) of the WRR Act for a **registered resource producer** to produce the **resource**, or use, sell or give away the **resource** if they do not comply with the requirements under an EOW code. Further, it is an offence under section 158(2) of the WRR Act for a **person** to use the **resource** in a way, or for a purpose, that does not comply with an EOW code. These offences carry a maximum penalty of 1,665 penalty units for an individual and 8,325 penalty units for a corporation¹.

Please refer to Appendix A of this EOW code for general obligations for all **persons** operating under this EOW code, which includes **resource users**.

2.4 Lawfulness of the activity

The issuing of this EOW code for the use of a **resource** does not warrant or imply the **lawfulness** of the activity under all legislation, or that approvals necessary under other legislation have or will be approved. It is

¹ The value of a penalty unit is stated in the *Penalties and Sentences Regulation 2015* (Qld).

the responsibility of the **registered resource producer** and **resource user** to identify and obtain all other approvals necessary for the relevant activities.

3. Period of this EOW code

This EOW code takes effect from the day of gazettal of this EOW code and remains in force until it is amended, cancelled or suspended by the **chief executive**².

4. Waste to which this EOW code applies

This EOW code is limited to **dunder** which has been **lawfully** generated as a by-product during fermentation of molasses. The **dunder** becomes a **resource** when the requirements and conditions under this EOW code are met.

5. Person to whom this EOW code applies

5.1 Registered resource producers of the resource

- 5.1.1 Prior to operating under this EOW code, the producer of the **resource** must register with the **chief executive** by giving a notice in the approved form³ that the **person** intends to become a **registered resource producer** for this EOW code.
- 5.1.2 A **registered resource producer** for this EOW code must comply with the stated registered resource producer requirements in Section 6 – Registered Resource Producer Requirements.

5.2 Resource users

- 5.2.1 The **resource user** must only use the **resource** in a way, and for a purpose allowed under this EOW code.
- 5.2.2 The **resource user** must comply with the stated conditions of use in Section 7 – Conditions of Use.

² If an EOW code is to be amended, cancelled or suspended, the chief executive will provide an opportunity to make written submissions by providing a proposed action notice to the registered resource producers; and publishing the proposed action notice on department's website for anyone interested.

³ The approved form, *Registered Resource Producer for an EOW code*, is available on the Queensland Government website at www.qld.gov.au, using the publication number (ESR/2018/4082) as a search term.

6. Registered Resource Producer Requirements

Approved resource																	
(6.1)	The approved resource is dunder .																
(6.2)	<p>The registered resource producer must not use, sell or give away the resource unless it complies with all of the following criteria and quality characteristics:</p> <ul style="list-style-type: none"> a) for the approved use as a feed or a feed additive, the resource must meet the requirements of the Biosecurity Regulation 2016; b) for the approved use as colouring agent in solid fertilisers and as a soil conditioner and/or fertiliser, the resource must not contain more than the 'maximum permissible concentration of impurities' for fertiliser in accordance with Biosecurity Regulation 2016; and c) for the approved use as a coal dust suppressant, the resource must not exceed the total maximum concentration limits in <i>Table 1: Resource quality criteria</i>. 																
(6.3)	Table 1: Resource quality criteria																
	<table border="1"> <thead> <tr> <th>Quality characteristic</th> <th>Total maximum concentration (mg/kg)</th> </tr> </thead> <tbody> <tr> <td>Cadmium</td> <td>0.1</td> </tr> <tr> <td>Mercury</td> <td>1.0</td> </tr> <tr> <td>Lead</td> <td>0.2</td> </tr> <tr> <td>Copper</td> <td>30</td> </tr> <tr> <td>Manganese</td> <td>100</td> </tr> <tr> <td>Zinc</td> <td>20</td> </tr> <tr> <td>Iron</td> <td>300</td> </tr> </tbody> </table>	Quality characteristic	Total maximum concentration (mg/kg)	Cadmium	0.1	Mercury	1.0	Lead	0.2	Copper	30	Manganese	100	Zinc	20	Iron	300
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Resource monitoring																	
(6.4)	The registered resource producer must sample, measure and record the composition of the resource for the quality characteristics in <i>Table 1: Resource quality criteria</i> and <i>Table 2: Resource quality (Monitor only)</i> , on an annual basis as a minimum.																
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(6.6)	Any determination of the suitability or characterisation of the resource (including ongoing sampling) for use under this EOW code must be made by an appropriately qualified person .
(6.7)	All analysis required under this EOW code must be carried out by a laboratory that has NATA certification, or an equivalent certification, for such analyses.
Information to be provided	
(6.8)	<p>The registered resource producer must provide the following to any person to whom they provide the resource, at least annually:</p> <ul style="list-style-type: none"> a) a copy of the EOW code for <i>Dunder (ENEW07503118)</i>; b) the registered resource producer's business name, ABN and address; c) confirmation in writing that the resource being supplied is compliant with the requirements of this EOW code; d) for the approved use as a coal dust suppressant as per <i>Condition (7.1(e))</i> of this EOW code, a most recent certificate of analysis for the quality of the resource being supplied which demonstrates compliance with the quality characteristics in <i>Table 1: Resource quality criteria</i>; and e) safety data sheet for the resource.
Records	
(6.9)	<p>The registered resource producer must keep the following records for each load of the resource provided to a resource user:</p> <ul style="list-style-type: none"> a) origin of the resource (e.g address, lot on plan or GPS coordinates); b) quantity (in tonnes) of the resource supplied; c) date of dispatch of the resource; d) business name, ABN and address for the person purchasing or receiving the resource; and e) quality criteria of the resource: <ul style="list-style-type: none"> i. for the approved use(s) as per <i>Requirement (7.1(a)–(d))</i> of this EOW code, the quality characteristics listed in <i>Table 2: Resource quality (Monitor only)</i>; or ii. for the approved use as per <i>Requirement (7.1(e))</i> of this EOW code, the quality characteristics listed in <i>Table 1: Resource quality criteria</i>.
(6.10)	<p>All records required to be kept by the registered resource producer under this EOW code must be:</p> <ul style="list-style-type: none"> a) kept by the registered resource producer for a period of not less than five (5) years; and b) provided to the chief executive upon request and in the format requested and time period specified.
Notification of emergencies, incidents and breaches	

(6.11)	Any breach of a requirement of this EOW code must be reported to the chief executive as soon as practicable within 24 hours of becoming aware of the breach.
(6.12)	Records of any breach of a requirement of this EOW code, including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request and in the format and time period specified.

7. Conditions of Use

Approved uses	
(7.1)	The approved resource is dunder which complies with <i>Requirement (6.2)</i> of this EOW code and is used for the following purposes: <ul style="list-style-type: none"> a) feed; b) feed additive; c) colouring agent in solid fertilisers; d) application to land as a soil conditioner and/or fertiliser; or e) coal dust suppressant.
Resource use as feed or feed additive	
(7.2)	The use of the resource as a feed or feed additive must be carried out in accordance with, and meet the requirements of the <i>Code of practice for feed for food producing animals</i> pursuant to the Biosecurity Regulation 2016 .
Resource use as a colouring agent in solid fertilisers	
(7.3)	The use of the resource as a colouring agent in solid fertilisers must be carried out in accordance with, and meet the requirements of the <i>Code of practice for the labelling of fertilisers and for contaminants in fertilisers</i> pursuant to the Biosecurity Regulation 2016 .
Resource use as soil conditioner and/or fertiliser	
(7.4)	Where the resource is used as a fertiliser and/or a soil conditioner : <ul style="list-style-type: none"> a) the resource must only be applied to agricultural land under the direction of an appropriately qualified person; b) the resource application must be conducted at an agronomic loading rate which considers the resource composition, crop nutritional demand and soil characteristics; c) the use of the resource must be carried out in accordance with and meet the requirements of the <i>Code of practice for the labelling of fertilisers and for contaminants in fertilisers</i> pursuant to the Biosecurity Regulation 2016; d) pooling and/or runoff of the resource must be minimised; and e) percolation of the resource beyond the plant root zone must be minimised.
(7.5)	The resource user must maintain the following records for all applications of the resource to land:

	<ul style="list-style-type: none"> a) details of the land on which application occurs (e.g. soil pH, farm map block/paddock details and/or GPS coordinates); b) date of application of the resource; c) actual application rate (expressed as the quantity e.g. tonnes per hectare per application) for each application; and d) application method.
Resource use as coal dust suppressant	
(7.6)	<p>Where the resource is used as a coal dust suppressant:</p> <ul style="list-style-type: none"> a) it must only be applied at application rates determined by an appropriately qualified person; b) application must not occur within 50 metres of surface waters; c) the application of the resource must not occur if: <ul style="list-style-type: none"> i. 50mm or more of rainfall is reasonably expected in the application area within a 24 hour period from the proposed application; or ii. 10mm or more of rainfall is expected in the application area within a half hour period from the proposed application; and d) pooling and/or runoff of the resource must be minimised.
Storage of the resource	
(7.7)	The resource must be stored in a way that prevents or minimises contact with stormwater or runoff.
(7.8)	Stormwater or runoff that has come in contact with the stored resource must be managed to prevent environmental harm to the environmental values of the receiving environment.
Preventing environmental harm	
(7.9)	All reasonable and practicable measures must be taken to prevent or minimise environmental harm caused by storage and/or use of the resource .
(7.10)	The resource must not be released directly or indirectly to land, air, or waters in a way that is not in accordance with the conditions of the EOW code.
Records	
(7.11)	<p>For each load of the resource received, the resource user must keep the following records:</p> <ul style="list-style-type: none"> a) quantity (in tonnes) of the resource; b) date of receipt; and c) business name, ABN and address of the registered resource producer who supplied the resource.
(7.12)	<p>All records required to be kept by the resource user under this EOW code must be:</p> <ul style="list-style-type: none"> a) kept by the resource user for a period of not less than five (5) years; and

	b) provided to the chief executive upon request and in the format requested and time period specified.
Notification of emergencies , incidents and breaches	
(7.13)	Any breach of a condition of this EOW code must be reported to the chief executive as soon as practicable within 24 hours of becoming aware of the breach.
(7.14)	Records of any breach of a condition of this EOW code, including full details of the breach and any subsequent actions taken, must be kept and provided to the chief executive upon request and in the format requested and in the time period requested.

8. Definitions

Words and phrases used throughout this EOW code **in bold** are defined below. Where a definition for a term used in this EOW code is sought and the term is not defined within this EOW code the definitions provided in the relevant legislation shall be used.

'ABN' means Australian Business Number which is a unique 11 digit number issued by the Australian Business Register and identifies a business in Australia.

'agricultural land' means land used for agricultural crops which includes horticulture, turf and land growing field crops or pastures.

'appropriately qualified person' means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relating to the subject matter using the relevant protocols, standards, methods or literature.

'Biosecurity Regulation 2016' means the most recent version of the Queensland Biosecurity Regulation which is in force at the time of generation and/or use of the **resource**.

'chief executive' means the Department of Environment and Science or its successor.

'coal dust suppressant' means a dust suppressant on mine sites licensed to carry out mining activities under Chapter 5 of the *Environmental Protection Act 1994*.

'contaminants' (as defined in Section 11 of the *Environmental Protection Act 1994*), unless authorised under this EOW code means —

- a) a gas, liquid or solid; or
- b) an odour; or
- c) an organism (whether alive or dead), including a virus; or
- d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- e) a combination of contaminants.

'dunder' is a liquid by-product which has been **lawfully** generated during fermentation of molasses.

'emergency(ies)' means a situation where either human health or safety is threatened, or serious or material **environmental harm** has been or is likely to be caused; and urgent action is necessary to protect the health or safety of persons, or prevent or minimise the harm, or rehabilitate or restore the environment because of the harm.

'environmental harm' means environmental harm as defined in Chapter 1 of the *Environmental Protection Act 1994*.

'environmental value' means environmental value as defined in Chapter 1 of the *Environmental Protection Act 1994*.

'feed' (as defined in *Schedule 3 - Code of Practice for Feed for Food Producing Animals* of the **Biosecurity Regulation 2016**) means a single material, or more than 1 material, intended to be fed to an animal for the purposes of maintaining the animal's life, normal growth, productivity, work capacity and reproductive capacity. Feed includes a lick, a premix and a medicated premix. Feed may be made up of—

- a) 1 or more feed ingredients; or
- b) 1 or more feed additives; or
- c) a combination of the things mentioned in (a) and (b) above.

'feed additive' (as defined in *Schedule 3 - Code of Practice for Feed for Food Producing Animals* of the **Biosecurity Regulation 2016**) means a substance—

- a) purposefully added to **feed**;
- b) that is not normally consumed as a feed ingredient; and
- c) which affects the characteristics of the feed or the animal that the substance is fed to.

'fertiliser(s)' (as defined in *Schedule 2 – Code of Practice for the Labelling of Fertilisers and for Contaminants in Fertilisers* of the **Biosecurity Regulation 2016**) means a 'substance that is manufactured, represented, supplied or used for the purpose of directly or indirectly—

- a) fertilising soil; or
- b) supplying nutrients to plants; or
- c) conditioning the soil by altering the chemical, physical or biological condition of the soil;

however, does not include a substance declared, under a Commonwealth Act or regulation, to be an agricultural chemical product or a veterinary chemical product.

'lawful(ly)' means allowed or permitted by law and not contrary to law.

'load' means the volume of **resource** put in or on something for conveyance or transportation, carried at one time. A truck and trailer carrying the **resource** is considered as one load as well as multiple bins travelling by rail. Where the **resource** is transported via conveyor systems, information should be recorded on a daily basis until the transfer ceases.

'measures' have the broadest interpretation and includes plant, equipment, physical objects, monitoring, procedures, actions, directions and competency.

'NATA' means the National Association of Testing Authorities.

'person' means an individual or a corporation.

'records' include breach notifications, written procedures, analysis results, monitoring reports and monitoring programs required under a condition or requirement of this EOW code.

'registered resource producer(s)' means a **person** who has registered with the **chief executive** to use, sell or give away the **resource** to be used under this EOW code.

'resource(s)' means **dunder** that meets the criteria and quality characteristics in *Requirement (6.2)* of this EOW code.

'resource user(s)' means a **person** who uses the **resource** for a use approved under this EOW code and in such a manner which does not cause any **environmental harm**, and includes the producer who uses the **resource**.

'safety data sheet' means a document containing data regarding the properties of the **resource** which provides information on handling or working with that substance in a safe manner; and includes information such as physical data toxicity, environmental characteristics, health effects, first aid, reactivity; and storage, disposal, protective equipment and spill handling procedures.

'soil conditioner' means a substance added to soil to improve the growing conditions for plant roots by providing nutritional requirements.

'surface waters' means visible bodies of water on the earth's surface, including rivers, streams, lakes, creeks, dams, reservoirs, ponds, swamps and wetlands, and includes the bed and banks of these bodies of water.

'waters' includes river, stream, lake, lagoon, pond, swamp, wetland, **surface water**, natural or artificial watercourse, bed and bank of any watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

- END -

Appendix A —General obligation for all persons

This appendix is not intended to provide a comprehensive assessment of all obligations under Queensland law. It provides some general information and persons are encouraged to familiarise themselves with all requirements related to their specific operation.

Responsibilities under the *Environmental Protection Act 1994*

All persons within the State of Queensland must also meet their obligations under the *Environmental Protection Act 1994*, and the regulations made under that Act.

General environmental duty

Section 319 of the *Environmental Protection Act 1994* states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to consider:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty. However, maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Science (DES) website www.des.qld.gov.au.

Some relevant offences under the *Environmental Protection Act 1994*

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is when the harm is not trivial or negligible in nature. Serious environmental harm is harm that is irreversible, of a high impact or widespread, or that is caused to an area of high conservation value or special significance. Damages, or costs required to rehabilitate the environment, of over \$5000 constitutes material environmental harm and damages, or costs required to rehabilitate the environment, of over \$50,000 constitutes serious environmental harm.

Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed water contaminants include a wide variety of contaminants listed in Schedule 9 of the Environmental Protection Regulation 2008.

It is your responsibility to ensure that prescribed water contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the *Waste Reduction and Recycling Act 2011*

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200 litres or more) at a place.

Failure to comply with EOW code (section 158)

A registered resource producer for an EOW code must not use, sell or give away the resource unless the registered resource producer complies with the requirements of the EOW code relating to the resource.

A person, other than a registered resource producer, must not use a resource in a way, or for a purpose, that does not comply with an EOW code for the resource.

Approved:

12 July 2019

Enquiries:

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Industry and Development Assessment
Ph. **13 QGOV** (13 74 68)