

## **Draft Standard rules SR2008No17\_75kte - composting in closed vessels**

### **Introductory note**

This introductory note does not form part of these standard rules

When referred to in an environmental permit, these rules will allow the operator to operate a composting facility at a specified location, provided that the permitted activities are not carried out within 1 kilometre of a European Site<sup>1</sup>, Ramsar site or a Site of Special Scientific Interest (SSSI). The permitted activities must also be outside groundwater protection zones 1 (inner) or 2 (outer) and more than 250 metres from any water abstraction point. Furthermore, the storage, physical treatment, composting and maturation of wastes must be at least 250 metres away from any residential property or workplace.

Permitted wastes include green wastes, animal manures and cooked food waste and animal wastes that are covered by the Animal By-Products Regulations<sup>2</sup>. Any wastes controlled by the Animal By-Products Regulations must be handled and treated in accordance with any requirements imposed by those Regulations. The total quantity of waste that can be accepted at a site under these rules must be less than 75,000 tonnes a year. Composting can only be carried out under predominantly aerobic conditions in closed vessels fitted with bio-filters. This allows the temperature and residence time to be controlled so that composting destroys harmful pathogens. Maturation can only be carried out under predominantly aerobic conditions, in enclosed vessels fitted with bio-filters, or in windrows located either indoors or outdoors. Composting cannot be carried out under deliberately anaerobic conditions. These rules will also not permit the burning of any wastes, either in the open, inside buildings or in any form of incinerator.

These rules do not allow any point source emission into surface waters or groundwater. However, under the fugitive emissions of substances rule:

- Liquids may be discharged into a sewer subject to a consent issued by the local water company.
- Liquids may be taken off-site in a tanker for disposal or recovery.
- Clean surface water from roofs, or from areas of the site that are not being used in connection with storing and treating waste, may be discharged directly to surface waters, or to groundwater by seepage through the soil via a soakaway.

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<sup>1</sup> A candidate or Special Area of Conservation (cSAC or SAC) and proposed or Special Protection Area (pSPA or SPA) in England and Wales.

<sup>2</sup> The Animal By-Products Regulations 2005 (SI No. 2347) and The Animal By-Products (Wales) Regulations 2006 (SI No. 1293, W.127)

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# Rules

## 1 – Management

### 1.1 General management

- 1.1.1 The activities shall be managed and operated:
- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and closure and those drawn to the attention of the operator as a result of complaints; and
  - (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.
- 1.1.2 Records demonstrating compliance with rule 1.1.1 shall be maintained.
- 1.1.3 Any persons having duties that are or may be affected by the matters set out in these standard rules shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme or shall hold an appropriate certificate of technical competence or other approval issued by the Agency.

### 1.2 Accident management plan

- 1.2.1 The operator shall:
- (a) maintain and implement an accident management plan;
  - (b) review and record at least every 4 years or as soon as practicable after an accident, (whichever is the earlier) whether changes to the plan should be made;
  - (c) make any appropriate changes to the plan identified by a review.

## 2 – Operations

### 2.1 Permitted activities

- 2.1.1 The operator is authorised to carry out the activities specified in table 2.1 below ("the activities").

Table 2.1 activities	
Description of activities	Limits of activities
<p><b>R13:</b> Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p> <p><b>R3:</b> Recycling/reclamation of organic substances which are not used as solvents</p>	<p>Secure storage of wastes listed in table 2.2.</p> <p>Physical treatment, composting and maturation of the types of waste listed in table 2.2</p> <p>Any plant which has a treatment capacity exceeding 10 tonnes per day of animal waste.</p>

## 2.2 Waste acceptance

2.2.1 Waste shall only be accepted if:

- (a) it is of a type and quantity listed in table 2.2 below; and
- (b) it conforms to the description in the documentation supplied by the producer and holder.

Table 2.2. Waste types and quantities	
<p><b>Maximum Quantities</b></p> <p>The total quantity of waste accepted at the site shall be less than 75,000 tonnes a year.</p>	
<p><b>Exclusions</b></p> <p>Wastes having any of the following characteristics shall not be accepted:</p> <ul style="list-style-type: none"> <li>• Consisting solely or mainly of dusts, powders or loose fibres</li> <li>• Wastes that are in a form which is liquid</li> <li>• Hazardous wastes</li> </ul>	
Waste Code	Description

Table 2.2. Waste types and quantities	
02	WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING
02 01	wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
02 01 02	animal tissue waste
02 01 03	plant-tissue waste
02 01 06	animal faeces, urine and manure (including spoiled straw)
02 01 07	wastes from forestry (comprising wood and plant tissue)
02 02	wastes from the preparation and processing of meat, fish and other foods of animal origin
02 02 02	animal tissue waste (excluding animal blood).
02 02 03	shells from shellfish processing (where all the flesh has been removed)
02 02 09	horse manure, farmyard manure and bedding
02 03	wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 04	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances)
02 03 05	sludges from on-site effluent treatment
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
02 04 03	sludges from on-site effluent treatment
02 05	wastes from the dairy products industry
02 05 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances)
02 05 02	sludges from on-site effluent treatment
02 06	wastes from the baking and confectionery industry
02 06 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances)
02 06 03	sludges from on-site effluent treatment
02 07	wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	spent grains or hops.
02 07 02	whisky filter sheets or cloths.
02 07 04	material unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD
03 01	wastes from wood processing and the production of panels and furniture
03 01 01	waste bark and cork
03 01 05	Sawdust, shavings, wood, particle board and veneer other than those containing dangerous substances other than 03 01 04 NO VENEERS OR PRESERVATIVES

03 03	wastes from pulp, paper and cardboard production and processing
03 03 01	waste bark and wood
03 03 10	fibre rejects (not containing hazardous substances)
04	WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES
04 02	Waste from the textile industry
04 02 10	organic and natural products (un-dyed and untreated)
15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01	packaging (including separately collected municipal packaging waste)
15 01 01	paper and cardboard packaging not containing veneers or plastic coated.
15 01 03	wooden packaging (untreated)
15 01 05	composite packaging only biodegradable organic packaging
15 01 09	textile packaging (only entirely natural fibres)
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 02	wood, glass and plastic
17 02 01	wood (untreated)
17 05	soils (excluding excavated soils from contaminated sites), stones and dredging spoil
17 05 06	dewatered dredging spoil and plant tissue waste from inland waters, not containing Japanese Knotweed.
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE
19 05	wastes from the aerobic treatment of solid wastes
19 05 03	off-specification compost (only from a process operated according to PAS 100 and QP requirements or another approved standard)
19 06	Waste from the anaerobic treatment of waste
19 06 03	Liquor from anaerobic treatment of municipal waste (source segregated municipal waste only)
19 06 04	Digestate from anaerobic treatment of municipal waste (source segregated municipal waste only)
19 06 05	Liquor from anaerobic treatment of animal and vegetable waste
19 06 06	Digestate from anaerobic treatment of animal and vegetable waste
19 08	waste from waste water treatment plants
19 08 05	sludges from treatment of urban waste water
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 01	paper and cardboard
19 12 07	wood other than wood containing dangerous substances
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	separately collected fractions (except 15 01)
20 01 01	paper and cardboard (where no non-biodegradable coating or preserving substance present)
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 01 38	wood other than that mentioned in 20 01 37 (where no non-biodegradable coating or preserving substance present)
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste (comprising wood and plant tissue)
20 03	other municipal wastes
20 03 02	biodegradable waste from markets

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## 2.3 The site

- 2.3.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan attached to the permit.
- 2.3.2 The activities shall not be carried out within:
- (a) 1 kilometre of a European Site or a SSSI;
  - (b) groundwater protection zones 1 (inner) or 2 (outer);
  - (c) 250 metres of a water abstraction point;
  - (d) 250 metres of a residential property or workplace.

## 3 – Emissions and monitoring

### 3.1 Emissions to air, water or land

- 3.1.1 There shall be no point source emissions to air, water or land, except from the sources and emission points listed in table 3.1.

Table 3.1 Point source emissions to air
Emission Point and Source
Outlets from bio-filters, emitting treated air from enclosed composting vessels. Second stage or open windrow composting area.
Outlets from bio-filters, (if fitted), emitting treated air from inside buildings.

### 3.2 Fugitive emissions of substances

- 3.2.1 Fugitive emissions of substances (excluding odour and noise) shall not cause pollution. The operator shall not be taken to have breached this rule if appropriate measures, including, but not limited to, those specified in Table 3.2 below and any approved fugitive emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

Table 3.2 Appropriate measures for fugitive emissions	
Measures	
1.	The storage, physical treatment, composting and maturation of wastes shall take place in a well-ventilated building on an impermeable surface with sealed drainage system, or outdoors on an impermeable surface with sealed drainage system.
2.	The composting of wastes shall take place in an enclosed reactor vessel fitted with a bio-filter and/or scrubbing system.
3.	The maturation of wastes shall take place in an enclosed reactor vessel fitted with a bio-filter and/or scrubbing system, or in windrows located either indoors or outdoors.
4.	The biofilter shall be constructed to the specification demanded by the size of the processing area and the rate of flow of extraction. This shall be of sufficient size and have an extraction residence time to allow the biofilter to be effective. There shall be a suitable substrate with sufficient carbon available. The biofilter shall be constructed to the minimum industry standard.
5.	The storage, physical treatment, composting and maturation of wastes under anaerobic conditions shall be prevented, or where that is not practicable, minimised.

3.2.2 The operator shall:

- (a) if notified by the Agency that the activities are giving rise to pollution, submit to the Agency for approval within the period specified, a fugitive emissions management plan;
- (b) implement the approved fugitive emissions management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

3.2.3 All liquids, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

### 3.3 Odour

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in Table 3.2 below and in any approved odour management plan, to prevent or where that is not practicable, to minimise, the odour.

3.3.2 The operator shall:

- (a) maintain and implement an odour management plan;
- (b) if notified by the Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Agency for approval within the specified period, a revised odour management plan;
- (c) implement any approved revised odour management plan from the date of approval, unless otherwise agreed in writing by the Agency.

Table 3.2 Appropriate measures for odour emissions	
Measures	
•	Wastes likely to give rise to odours during storage shall be processed within 24 hours of receipt at the site
•	All other wastes shall be processed within one week of receipt at the site

## 3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan, to prevent or where that is not practicable, to minimise, the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Agency for approval within the period specified, a noise and vibration management plan;
  - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Agency.

## 3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing with the Agency, undertake monitoring for the parameters, at the locations and at not less than the frequencies specified in table 3.5
- 3.5.2 The operator shall maintain records of all monitoring required by these standard rules including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

Table 3.5 Activities - Monitoring requirements				
Monitoring point	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
Internal for each enclosed composting vessel	Temperature	Continuous	Thermocouple probe	None
	Moisture	Continuous	Moisture meter	None
Internal for each windrow and for any sample of waste or compost	Temperature	None specified	Thermocouple probe	Monitoring equipment shall be available on-site and used as required to ensure compliance with these standard rules.
	Moisture	None specified	Moisture meter or moisture touch test	
Biofilter	Temperature, moisture and thatching/compaction	as required	Thermocouple probe and moisture meter or touch test	Biofilters should be checked and maintained to ensure appropriate temperature and moisture content on a daily basis

# 4 – Information

## 4.1 Records

- 4.1.1 All records required to be made by these standard rules shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments



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- remain legible or are capable of retrieval; and
- (d) be retained, unless otherwise agreed by the Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
- (i) off-site environmental effects; and
  - (ii) matters which affect the condition of land and groundwater.

4.1.2 All records, plans and the management system required to be maintained by these standard rules shall be held on the site.

## 4.2 Reporting

4.2.1 All reports and notifications required by these standard rules shall be sent to the Agency using the contact details supplied in writing by the Agency.

4.2.2 Within one month of the end of each quarter, the operator shall submit to the Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.3 The operator shall submit to the Agency a bi-annual assessment of the efficiency of the biofilter in the first year of compost operations. This shall include but is not limited to, the assessment of the efficiency to reduce odours, the summary of maintenance and any recommissioning planned or conducted, assessment of back pressure, venting and cracking. The operator will take steps to remedy any breach or malfunction in the biofilter. Thereafter annually or for a period as agreed with the Agency the report will be produced and submitted to the Agency within 1 month following completion.

## 4.3 Notifications

4.3.1 The Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident or fugitive emission which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in these standard rules; or
- (c) any significant adverse environmental effects.

4.3.2 Written confirmation of actual or potential pollution incidents and breaches of emission limits shall be submitted within 24 hours.

4.3.3 Where the Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Agency when the relevant monitoring is to take place. The operator shall provide this information to the Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Agency shall be notified within 14 days of the occurrence of the following matters except where such disclosure is prohibited by Stock Exchange rules:

- a) Where the operator is a registered company:
  - any change in the operator's trading name, registered name or registered office address; and
  - any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- b) Where the operator is a corporate body other than a registered company:
  - any change in the operator's name or address; and
  - any steps taken with a view to the dissolution of the operator.
- c) In any other case:
  - the death of any of the named operators (where the operator consists of more than one named individual); and
  - any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the

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partnership.

## 4.4 Interpretation

4.4.1 In these standard rules the expressions listed below shall have the meaning given.

4.4.2 In these standard rules references to reports and notifications mean written reports and notifications, except when reference is being made to notification being made “without delay”, in which case it may be provided by telephone.

*“accident”* means an accident that may result in pollution.

*“authorised officer”* means any person authorised by the Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(4) of that Act.

*“biofilter”* means an actively managed and monitored organic, microbially active substrate (medium) which is rich in carbon and low in nitrogen on which micro-organisms will grow. Allowing odours and VOC to be filtered through the action of micro - organisms that grow on the substrate.

*“building”* means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

*“compost”* means a solid particulate material that is the result of composting, which has been *sanitised* and *stabilised*, and which confers beneficial effects when added to soil, used as a component of growing media or used in another way in conjunction with plants.

*“composting”* means the biological decomposition of organic materials, under conditions that are predominantly aerobic and that allow the development of thermophilic temperatures as a result of biologically produced heat.

*“emissions to land”*, include emissions to groundwater.

*“enclosed reactor vessel”* means an enclosed system in which waste is fully contained, with an impermeable surface, and efficient air management odour abatement systems are demonstrated. This may cover a wide range of technology, and where necessary is in compliance with Animal By-Products Regulations 2005 (SI No. 2347) and/ or the Animals By-Products (Wales) Regulations 2006 (SI No. 1293, W.127);

*“European Site”* means candidate or Special Area of Conservation and proposed or Special Protection Area in England and Wales, within the meaning of Council Directives 79/409/EEC on the conservation of wild birds and 92/43/EEC on the conservation of natural habitats and of wild flora and fauna under The Conservation (Natural Habitats &c) Regulations 1994. Internationally designated Ramsar sites are dealt with in the same way as European sites as a matter of government policy and for the purpose of these rules will be considered as a European Site.

*“fugitive emission”* means an emission to air, water or land from the activities from a localised or diffuse source which is not controlled by an emission limit.

*“groundwater”* means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

*“groundwater protection zones 1 and 2”* have the meaning given in the document titled “Groundwater Protection: Policy and Practice” published by the Agency in 2006.

*“impermeable surface”* means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface, and should be read in conjunction with the term “sealed drainage system” (below).

*“maturation”* - means a stage when by agitating and turning the compost it no longer results in reheating and the monitored temperature falls to ambient without the compost being too dry or anaerobic. Phytotoxins that are formed during the 'active' composting phase are metabolised by micro-organisms, which will result in the final material not being harmful to plants. This usually coincides with drop in pH toward neutral, and the conversion of ammonia into nitrates and recolonisation of beneficial micro-organisms. The maturation phase may need active management by turning to prevent the material becoming anaerobic.

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*"pollution"* means emissions as a result of human activity which may—

- (a) be harmful to human health or the quality of the environment,
- (b) cause offence to a human sense,
- (c) result in damage to material property, or
- (d) impair or interfere with amenities and other legitimate uses of the environment.

*"quarter"* means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

*"R"* means a recovery operation provided for in Annex IIB to Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on Waste.

*"sealed drainage system"* in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- (a) no liquid will run off the surface otherwise than via the system;
- (b) except where they may lawfully be discharged, all liquids entering the system are collected in a sealed sump.

*"SSSI"* means Site of Special Scientific Interest within the meaning of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

*"waste code"* means the six digit code referable to a type of waste in accordance with the List of Wastes (England) Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

*"year"* means calendar year commencing on 1<sup>st</sup> January.

**End of *draft* standard rules**