

Draft generic risk assessment for draft standard rules set number SR2009No19

Activity type:	Waste Operation: Composting biodegradable waste
Permit Holder:	Applies to all potential permit holders.
Location:	Applies to all potential locations.
Location of environmentally sensitive sites (km / m):	Greater than 500m
Risk assessment carried out by:	Environment Agency
Date:	04-Feb-09

The scope of the standard permit is defined by the following risk criteria:

- Parameter 1 Permitted activities - The storage of waste prior to composting (R13) and composting including physical treatment (i.e. shredding) (R3)
- Parameter 2 Permitted waste types - No hazardous wastes. Two separate tables of waste types for open and contained systems.
- Parameter 3 Permitted quantity of wastes - 500 tonnes at any one time (encompasses storage, physical treatment, composting and maturation)
- Parameter 4 For both tables of waste types impermeable surfacing and sealed drainage is required when in groundwater protection zone 2.
- Parameter 5 For the table of waste types for contained composting they must be stored and treated on impermeable surfacing with sealed drainage.
- Parameter 6 The only point source emissions into surface or groundwater are surface water from the roofs of buildings and from areas of the facility not used for the storage or treatment of wastes.
- Parameter 7 The activities shall not be carried out within groundwater protection zone 1.
- Parameter 8 The activities shall not be carried out within 50 metres of any spring or well, or from any borehole not used to supply water for domestic or food production purposes, and not within 250 metres from any spring, well or borehole used to supply water for domestic or food production purposes.
- Parameter 9 The activities shall not be carried out within 250m of any residential property or workplace.
- Parameter 10 The activities shall not be carried out within 500 metres of a European site (SAC, SPA), Ramsar site or Site of Special Scientific Interest (SSSI).
- Parameter 11 The activities shall not be carried out within 10m of a watercourse.

Data and information				Judgement				Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population	Release of micro-organisms (bioaerosols)	Harm to human health - respiratory irritation and illness	Air transport then inhalation	High	High	High	Composting produces and is likely to release micro-organisms. There is potential for exposure if anyone living or working close to the site (excluding operator and employees)	Activities shall not be carried out within 250m of a residential property or workplace. Appropriate measure taken to prevent fugitive emissions. Fugitive emissions management plan (if required)	Low

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Local human population	Release of particulate matter (dust)	Harm to human health - respiratory irritation and illness	Air transport then inhalation	High	Medium	High	Dusts, powders or loose fibres are excluded from permitted waste types but composting process itself produces and is likely to release particulates. There is potential for exposure if anyone living or working close to the site (excluding operator and employees)	Activities shall not be carried out within 250m of a residential property or workplace. Appropriate measure taken to prevent fugitive emissions. Fugitive emissions management plan (if required)	Low
Local human population	Release of particulate matter (dust)	Nuisance - dust on property (cars, clothing etc.)	Air transport then deposition	High	Low	Medium	As above	As above	Low
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Gastro-intestinal illness	Air transport then deposition on garden fruit/vegetables and then ingestion.	Medium	Medium	Medium	Most dust will be washed off by rain or during food preparation. Illness likely to be mild and short term.	As above	Very Low
Local and distant human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols)	Gastro-intestinal illness. Includes eating crops grown within 250m metres of the site.	Air transport then deposition on commercial/wild fruit/vegetables then ingestion.	Medium	Medium	Medium	As above. Proportion of diet from this source will be low.	Appropriate measure taken to prevent fugitive emissions. Fugitive emissions management plan (if required)	Very Low
Local human population, livestock and wildlife	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition.	Medium	Medium	Medium	Local residents often sensitive to litter.	As above. Quality management controls on waste acceptance. Appropriate measure include dedicated storage, covering/netting and clearing litter arising from the activities from the affected area.	Low

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Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity and road traffic accidents	Vehicles entering and leaving the site.	Medium	Medium	Medium	Local residents often sensitive to mud on roads.	As above. Appropriate measures could include clearing waste, litter and mud arising from the activities from affected areas outside the site.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation			High	Composting produces and is likely to release odour. There is potential for exposure for anyone living or working close to the site (excluding operator and employees). Local residents often sensitive to odour.	Activities shall not be carried out within 250m of a residential property or workplace. Appropriate measure taken to prevent fugitive emissions. Such measures could include covering and damping down of windrows. Odour management plan. (if required).	Low
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep	Noise through the air and vibration through the ground.	Medium	Medium	Medium	Local residents often sensitive to noise and vibration	Appropriate measures taken to ensure levels of noise and vibration likely to cause annoyance outside the site are prevented or minimised. Noise and vibration management plan (if required).	
Local human population	Scavenging animals and scavenging birds	Harm to human health from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land.	Medium	Medium	Medium	Permitted wastes may attract scavenging birds and animals.	Appropriate measures taken to prevent or minimise nuisance from scavenging birds or animals. Appropriate measures could include site 'housekeeping' procedures, covering windrows and pest control visits.	Low

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Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land.	Medium	Medium	Medium	Insect pests can multiply on permitted wastes, especially during summer months	As above. High temperatures achieved during composting in closed vessels will destroy any insect pests present in the waste.	Low
Local human population and local environment.	Flooding of site	If waste is washed off site it may contaminate buildings/ gardens/ natural habitats downstream.	Flood waters	Low	Medium	Medium	Permitted waste types are non-hazardous so likely to add to volume of local post flood clean-up rather than adding to the hazard.	The operator is required to maintain and implement an accident management plan.	Low
Local human population and/or livestock after gaining unauthorised access to the waste operation.	All on-site hazards. Wastes, machinery and vehicles.	Bodily injury	Direct physical contact	Medium	Medium	Medium	Permitted waste types are non-hazardous.	Operations must be managed and operated in a cooordance with a management system (this includes site security measures to prevent unauthorised access.	Low
Local human poulation and local environment	Arson and or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Low	Low	Low	Waste is normally moist so not readily combustible. Permitted waste types are organic and non-hazardous.	As above. The operator is required to maintain and implement an accident management plan.	Very Low
Local human population and local environment.	Accidental fire causing the release of polluting materials to air (smoke or fumes), waste or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	As above.	Low	Low	low	Waste is normally moist so not readily combustible. Permitted waste types are organic and non-hazardous.	As above. Permitted activities do not include the burning of waste.	Low

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All surface waters close to and downstream of the site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Acute effects; oxygen depletion, fish kill and algal blooms.	Direct run-off from site across ground surface, via surface water drains, ditches etc.	High	Medium	High	There is a high potential for contaminated rainwater run-off from waste operations outside especially during heavy rain.	Permitted waste types do not include sludges or liquids. All storage of liquids must be provided with secondary containment. No point source emissions to water are permitted.	Low
All surface waters close to and downstream of the site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Chronic effects; deterioration of water quality	As above. Indirect run-off via the soil layer.	High	Low	Medium	There is a high potential for contaminated rainwater run-off or leachate from waste operations outside. Pollution is likely to be detected quickly and effects are temporary and reversible.	As above.	Low
Abstraction from watercourse downstream of facility (for agricultural or potable use)	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Acute effects; closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	High	Medium	High	There is a high potential for contaminated rainwater run-off from waste operations outside especially during heavy rain. Watercourse must have medium/ high flow for abstraction to be permitted, which will dilute contamination.	As above.	Low
Groundwater	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Chronic effects; contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	High	High	High	There is a high potential for contaminated rainwater run-off or leachate from waste operations outside. Pollution may continue for a long time before it is detected.	As above. The activities must not be carried out within groundwater protection zone 1 or 250m of an abstraction borehole. Containment is required in zone 2	Low

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Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro intestinal illness.	Direct contact or ingestion.	Low	Medium	Medium	Unlikely to occur but might restrict recreational use.	Appropriate measure taken to prevent fugitive emissions. Fugitive emissions management plan (if required).	Low
Protected sites - Eoruropean sites and SSSIs	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Medium	Medium	Medium	Waste composting operations may cause harm to and deterioration of nature conservation sites.	The activities cannot take place within 500m of a European site or SSSI. (Distance criteria agreed with Natural England/Countryside commission for Wales).	Low