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## GENERAL NOTICE

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### NOTICE 68 OF 2014

#### DEPARTMENT OF ENVIRONMENTAL AFFAIRS

#### NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008

#### (ACT NO. 59 OF 2008)

#### DRAFT NATIONAL NORMS AND STANDARDS FOR ORGANIC WASTE COMPOSTING

I, Bomo Edith Edna Molewa, Minister of Water and Environmental Affairs, hereby give notice of my intention to set national norms and standards for organic waste composting, under section 7(1) (c) read with section 73 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), set out in the Schedule hereto.

Members of the public are invited to submit to the Minister, within 30 (thirty) days of the publication of this notice in the *Gazette*, written comments or objections to the following addresses:

By post to: The Director-General: Department of Environmental Affairs  
Attention: Mr Mpho Tshitangoni  
Private Bag X447  
Pretoria  
0001

By hand at: 2<sup>nd</sup> Floor (Reception), Fedsure Forum Building, 315 Pretorius Street, Pretoria 0001

By e-mail: [MTshitangoni@environment.gov.za](mailto:MTshitangoni@environment.gov.za), or by fax to: (012) 310 3753

Any inquiries in connection with the notice can be directed to Mr Mpho Tshitangoni at (012) 310 3380

Comments received after the closing date may not be considered.



**BOMO EDITH EDNA MOLEWA**

**MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS**

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## DEFINITIONS

### 1. DEFINITIONS

In these standards, any word or expression to which a meaning has been assigned in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) has the meaning so assigned, unless the context otherwise indicates.

**“Compost”** means a stabilised, homogenous, fully decomposed substance of animal or plant origin to which no plant nutrients have been added and that is free of substances or elements that could be harmful to man, animal, plant or the environment.

**“Compostable organic waste”** means a carbon-based material of animal or plant origin that naturally enhances fertility of soil through a natural degradation process but excludes human made organic chemicals and naturally occurring organic chemicals which have been refined or concentrated by human activity. This excludes infectious, poisonous, health-care and hazardous organic wastes.

**“Composting”** means a controlled biological process in which organic materials are broken down by micro-organisms.

**“Fertiliser”** means any substance which is intended or offered to be used for improving or maintaining the growth of plants or the productivity of the soil.

**“Garden waste”** means organic biodegradable waste material generated from the likes of a typical garden.

**“Handling”** means functions associated with the movement of waste, including storage, treatment and ultimate disposal, by the use of manual systems or automated systems.

**“Monitoring”** means continuous or non-continuous measurement of a concentration or other parameters for purpose of assessment or control of environmental quality or exposure and the interpretation of such measurements.

**“Offensive odour”** means any smell which is considered to be malodorous or a nuisance to a reasonable person.

**“Organic fertiliser”** means a fertiliser manufactured from substances of animal or plant origin, or a mixture of such substances, and that is free of any substances that can be harmful to man, animal, plant or the environment containing at least 40g/kg prescribed nutrients.

**“Organics”** means both processed and unprocessed compostable organic waste.

**“Organic waste”** means waste of biological origin which can be broken down, in a reasonable amount of time, into its base compounds by micro-organisms and other living things and/or by other forms of treatment.

### ACRONYMS

**DAFF**- Department of Agriculture, Forestry and Fisheries

**DEPARTMENT**- Department of Environmental Affairs

**NEMA**- National Environmental Management Act, 1998 (Act No. 107 of 1998);

**NEMWA**- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008);

**SANS**- South African National Standards;

**SDS**- Safety Data Sheet;

**SEMAs**- Specific Environmental Management Acts.

## 2. PURPOSE

The norms and standards aim at controlling the composting of organic waste at a facility that falls within the threshold as described in paragraph 3 of these norms and standards in order to prevent or minimise potential negative impacts on the bio-physical and socio-economic environment.

## 3. APPLICATION

- (1) These norms and standards apply to organic waste composting facilities that have the capacity to process in excess of 10 tonnes but less than 100 tonnes of compostable organic waste per day.
- (2) The norms and standards are applicable throughout the Republic of South Africa.

## 4. MINIMUM REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF AN ORGANIC WASTE COMPOSTING FACILITY

- (1) A composting facility must not be constructed in an environmentally sensitive area such as floodplain, residential area, wetland and any other conservation or protected area and within 500m from such areas.
- (2) A composting facility must be constructed in an area that is accessible to emergency response personnel and equipment.
- (3) The construction of a composting facility and further development within the site must be carried out under the supervision of a registered professional engineer and in accordance with approved engineering drawings and practice, which must include, amongst others, the following:
  - (a) drainage systems for surface runoff and wastewater
  - (b) leachate collection and storage systems
  - (c) floor area design for:
    - (i) storage of incoming organics;
    - (ii) storage of final product/mature compost;

- (iii) material processing;
  - (iv) storage of process residuals and contaminated materials; and
  - (v) storage of waste
- (4) The facility's working surfaces, material processing and storage areas must have a contaminant containment barrier system consisting of a single composite liner with an overlying concrete slab to protect the liner from damage during production and handling of compost.
- (5) The facility must be constructed and maintained on a continuous basis in such a manner that drains and diverts all runoff from the site, including runoff which could be expected as a result of the estimated maximum precipitation during a period of 24 hours within an average of once in fifty years (one in fifty year storm of 24 hour duration).
- (6) The construction times and noise levels must comply with relevant applicable legislation or municipal by-laws in order to minimise the impact of noise on the neighboring properties.
- (7) Onsite fueling and servicing of construction equipment and motor vehicle must only occur in a designated area. A motor vehicle requiring maintenance must be removed from site and repaired at a service workshop or garage.
- (8) An area under construction must be demarcated to prevent unauthorised access during the construction phase.
- (9) The facility must be designed, constructed and maintained on a continuous basis and in such a manner that runoff from the site is prevented from coming into contact with the materials received and processed at the premises, including the final product and the process residuals stored at the facility.

## 5. MINIMUM REQUIREMENTS FOR SECURITY AND ACCESS CONTROL

- (1) Unauthorised access to the site must be prevented, as far as practicable. The site must be fenced off or secured to prevent unauthorised entry. Entrance gates must be manned during the hours of operation and locked outside the hours of operation.
- (2) A material-screening system must be put in place to prevent non permissible waste from entering the facility.
- (3) Non-conforming waste must be intercepted and diverted to the relevant waste disposal facility.

## 6. MINIMUM REQUIREMENTS DURING OPERATIONAL PHASE

- (1) Minimisation of airborne emissions
  - (a) Reasonable measures must be put in place to minimise odour emissions from potential odorous organic waste such as highly biodegradable organics. Should there be no other effective preventative measures, provisions must be made to process and store this waste in enclosed storage and processing facilities.
  - (b) Rapidly biodegradable organics such as food waste and organic sludge must be covered and the quantity of such material exposed to the atmosphere must be kept to a minimum. Alternatively, such organics must be stored in moisture and vermin-proof bins that are capable of withstanding the action of organic acids.
  - (c) Unsurfaced roads and ungrassed or unpaved areas, which give rise to dust problems, must be regularly watered to restrict dust to levels which do not pose threats to human health or the environment.
  - (d) Where leachate is to be used for dust suppression it may only be applied to areas that are within the facility's working surfaces such as the material processing and storage areas to ensure that leachate does not contaminate stormwater run-off.
  - (e) Contaminated runoff from the working surface may be sprayed over the compost to facilitate the decomposition process.

- (f) Organics that are being processed must always be kept reasonably moist (at least 25% (m/m) moisture content) to minimise the emissions of airborne pathogens.
- (g) Emissions of biogas in aerobic processes must be controlled by keeping the organics being processed adequately aerated.
- (h) Composting stockpiles or windrows must be regularly turned to ensure that they have sufficient moisture content.

(2) Waste management

- (a) Any liquid and solid waste generated at the facility, including contaminated products and process residuals that cannot be beneficially processed at the facility must be stored in such a manner to prevent water pollution and amenity impacts, following the requirements specified in the National Norms and Standards for Storage of Waste. Special attention must be paid in relation to the following:
  - (i) Waste must be sorted at source into various categories (recyclables and non-recyclables) and a documented procedure must be implemented to prevent any mixing of hazardous and general waste;
  - (ii) Waste must be managed in accordance with an approved integrated waste management plan and/or Industry Waste Management Plan, if any;
  - (iii) Liquid waste must be stored in leak resistant containers which must be inspected weekly for early detection of leaks;
  - (iv) Liquid waste containers must be of sufficient strength and structural integrity to ensure that they are unlikely to burst or leak in their ordinary use;
  - (v) Waste that is spilled or blown by wind during operation, handling or storage must be contained; and
  - (vi) Hazardous waste must be stored in covered containers that are only opened when waste is added or emptied.

(3) Stockpiling of incoming and processed organics



- (a) The quantities of incoming and processed organics must at all times not exceed the design requirements of the storage and processing areas.
  - (b) Operational measures must be put in place to ensure that the storage times for raw organics are controlled to minimise emissions of offensive odours.
  - (c) Design and operational measures must minimise contamination of final products to the lowest practicable levels.
  - (d) Records of the quantities of incoming organics and of processed organics/mature compost stored at the facility or leaving the facility must be kept.
- (4) Fire and methane gas management
- (a) A fire management plan or strategy must be in place that contains at least the following:
    - (i) Fire extinguishers that are always kept in good working conditions must be made available at the facility;
    - (ii) Accidental fires at the working surfaces must be extinguished immediately through procedures such as spreading and smothering of burning waste;
    - (iii) The sources of any fires that result at the site should be identified and appropriate operational procedures be undertaken to bring the fire under control;
    - (iv) A firebreak must be constructed around the perimeter of the site to avoid the spread of fires; and
    - (v) Fires should not be lit on or near areas where waste is deposited.
  - (b) The design and operation of aerobic composting must ensure that the generation of methane is minimised.
  - (c) The design and operational procedure for anaerobic composting must ensure that controls are in place for the containment, extraction and treatment of any biogas generated.

- (5) Minimising amenity impacts
  - (a) Operational measures must be put in place to keep the weed, pest and vermin populations as practicable low as possible.
  - (b) Operational measures must be put in place to ensure that vehicles leaving the processing site do not track loose mud and litter outside the facility.
  - (c) Operational procedures that minimise the generation and proliferation of windblown litter must be introduced at the composting facility.
  
- (6) Water pollution prevention
  - (a) The facility must be designed and operated in such a manner that surface water is prevented from mixing with organics received, processed and stored at the premises, including the final product.
  - (b) Rainfall and any leachate that run off the protection slab must be collected inside drains that lead to a sump that has the same liner configuration as the protection slab.
  - (c) Liquid in the sump should be used for the decomposition of compost, and any excess amount should be disposed of at a wastewater treatment works, with written permission from the local municipality.
  - (d) All water that has entered the processing and storage areas, including the contaminated water, must be handled and treated as leachate.

## 7. GENERAL REQUIREMENTS

- (1) These standards do not replace any other relevant requirements stipulated in terms of other legislation, unless the requirements in terms of the other legislation are less stringent than these requirements.
- (2) All incoming compostable organic waste must be accurately weighed upon entering the composting facility and accurate records of all measured weights must be safely kept at the facility.

- (3) The stockpiling of incoming and processed organics at the facility must not be permanent, but should be often moved to allow ready access to the liner should it needs repairing.
- (4) Pollution of the biological and physical environments (including habitats for animal and plant species, water resources, land, soil and air) as a result of operations within the facility must at all times be prevented or minimised.
- (5) Waste streams must not be mixed. While general waste generated during the construction, operation and decommissioning phases of the facility may be disposed of at a general waste management site, all hazardous waste material must be disposed of at a licensed hazardous waste disposal or handling facility.
- (6) A SDS for each of the chemical products utilised must be kept on site and must in easily accessible location to employees.
- (7) Non-recyclable general waste must be stored in a storage container designed for such waste and must be disposed of at a licensed waste disposal or handling facility.
- (8) The installation and maintenance of underground fuel storage tanks must comply with SANS 10089 or any other applicable and valid national standards.
- (9) All organic compost intended for use as fertilisers must be registered with the DAFF and meet all the necessary requirements as per the Regulations Regarding Fertilisers (GNR 732) of 10 September 2012 issued in terms of the Fertilizers, Farms Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947), including any other amended version/s thereof.

## 8. TRAINING AND CAPACITY BUILDING

- (1) An organic waste composting facility must, during the safety, health and environment induction, train a new employee or employees on waste management in order to identify, prevent, minimise or manage actions or behaviour that is likely to cause adverse impacts on air, water, land, fauna and flora as a result of construction, operation and decommissioning of the facility.

- (2) Members of staff must be trained to manage all types of wastes in accordance with the provisions of these standards and any other relevant legislative requirements applicable to composting facilities.

## **9. MANAGEMENT OF EMERGENCY SITUATIONS**

- (1) Response measures must be put in place to deal with any eventuality of fires resulting from the working surfaces or at any other area within the facility.
- (2) Emergency incidents must be dealt with in accordance with section 30 of NEMA.

## **10. MONITORING, AUDITING AND REPORTING**

- (1) The site must be inspected on a daily basis to ensure early detection and addressing of environmental pollution.
- (2) The relevant authority must be given access to audit or inspect the site at any time and at such frequency as the authority may decide. The audit or inspection reports by the authority must be made available to the facility owner within sixty (60) days of the audit or inspection.
- (3) The site owner must, during the audit or inspection, make any records or documentation available to the audit or inspection team as may be required.
- (4) Safe disposal certificates for hazardous waste removed from site must be kept on record.
- (5) A certificate of compliance with relevant SANS standards regarding the installation of above ground or underground waste storage containers must be kept in a file and made available to the relevant authority on request.
- (6) A record of any non-compliance findings by the relevant authority and the manner such non-compliances were addressed must be kept in a file.
- (7) Internal audits detailing environmental performance of the facility must be conducted bi-annually and official reports thereof must be prepared. Each of the internal audits must be made available to the external auditor referred to in sub-paragraph (9) below and to the relevant authority upon request.

- (8) External audits of the facility must be conducted biennially by an independent auditor and the auditor must prepare an official audit report documenting the audit findings. The external audit report must be submitted to the Department upon request and must include, but not limited to the following:
- (a) Confirmation of compliance of the facility to these standards.
  - (b) Confirmation of compliance with any specific requirements issued by the relevant authority either at national, provincial or local sphere of government.
  - (c) Confirmation of any major environmental incidents that occurred and details of the manner the incidents were addressed.
  - (d) Confirmation that hazardous waste is separated from non-hazardous waste and that such waste is removed by a registered waste handling company for either recycling or disposal at licensed disposal facility.
  - (e) Confirmation of the presence of records of safe disposal certificates for all hazardous waste removed from the facility.
- (9) For the purposes of compliance monitoring, all facilities that fall within the scope as described in paragraph 3 of these standards must prior to commencement with the construction of this activity inform the Department for a once off registration of the activity in the Departmental database.
- (10) The registration application referred to in paragraph (9) above must as a minimum include the following:
- (a) the name of the owner of the facility where the activity is intended to take place;
  - (b) the location of the facility in terms of the name of the local municipality, erf number and geographical coordinates;
  - (c) the size of the facility;
  - (d) the proximity of the facility to the nearest residential area; and
  - (e) the land use or zoning.

**11. MINIMUM REQUIREMENTS DURING DECOMMISSIONING PHASE**

- (1) A facility to be discontinued, for whatever reasons, must be rehabilitated to the satisfaction of the Department.
- (2) A rehabilitation plan for the site, including the indication of end use of the area must be developed and submitted to the Department for approval not more than one (1) year prior to the intended closure of the facility.
- (3) The site must be rehabilitated according to the rehabilitation plan.
- (4) The owner of the facility, including the subsequent owner of the facility will remain responsible for any adverse impacts on the environment, even after operations have ceased.

**12. TRANSITIONAL ARRANGEMENTS**

A person who lawfully conducted an organic waste composting activity in a facility that falls within the scope as described in paragraph 3 of these standards, prior to and on the date of coming into operation of these standards may continue with the activity for the duration as stipulated in the approval, authorisation or licence and after the expiry of the approval, authorisation or licence comply with the provisions of these standards.

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