

## **NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT 59 OF 2008**

### **NATIONAL NORMS AND STANDARDS FOR DISPOSAL OF WASTE TO LANDFILL**

Published under Government Notice R636 in Government Gazette 36784 of 23 August 2013 and amended by:

**GN 5523      GG 51521      20241107**

I, Bomo Edith Edna Molewa, Minister of Water and Environmental Affairs, hereby set national norms and standard for the assessment of waste for landfill disposal, under section 7(1)(c) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in the Schedule hereto.

**(Signed)**

**BOMO EDITH EDNA MOLEWA**

**MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS**

#### **SCHEDULE**

##### **CHAPTER 1**

###### **INTERPRETATION AND PURPOSE**

1. Definitions
2. Purpose and Application

##### **CHAPTER 2**

###### **STANDARD CONTAINMENT BARRIER DESIGN, WASTE ACCEPTANCE AND WASTE DISPOSAL REQUIREMENTS**

3. Landfill Classification and Containment Barrier Design
4. Waste Acceptance Criteria for Disposal to Landfill
5. Waste Disposal Restrictions

##### **CHAPTER 1**

###### **INTERPRETATION AND PURPOSE**

###### **1. Definitions**

In these National Norms and Standards, any word or expression to which a meaning has been assigned in the Act has that same meaning, and unless the context requires otherwise-

**"GHS"** means the latest version of the Globally Harmonised System of Classification and Labelling of Chemicals published by the United Nations, as may be updated from time to time, and commonly referred to as the UN Purple Book, which can be accessed at <https://unece.org/about-ghs>;

[Definition of "GHS" inserted by GN 5523/2024 w.e.f. 7 November 2024]

"**the Act**" means the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008);

"**the Regulations**" means the Waste Classification and Management Regulations, 2013.

## **2. Purpose and Application**

These Norms and Standards determine the requirements for the disposal of waste to landfill as contemplated in regulation 8(1)(b) and (c) of the Regulations.

## **CHAPTER 2**

### **STANDARD CONTAINMENT BARRIER DESIGN, WASTE ACCEPTANCE AND WASTE DISPOSAL REQUIREMENTS**

## **3. Landfill Classification and Containment Barrier Design**

(1) The containment barriers of landfills for the disposal of waste in terms of paragraph 4 of these Norms and Standards must comply with the following minimum engineering design requirements-

### **FIGURES**

[Para. 3(1) substituted by GN 5523/2024 w.e.f. 7 November 2024]

(2) The following containment barrier requirements must be included in an application for waste management licence approval of a landfill site or cell -

(a) design reports and drawings that must be certified by a registered, professional civil engineer prior to submission to the competent authority;

(b) service life considerations that must be quantified taking into account temperature effects on containment barriers;

(c) total solute seepage (inorganic and organic) that must be calculated in determining acceptable leakage rates and action leakage rates (the transport mechanism through geomembranes includes seepage through discontinuities and diffusion through intact areas, the latter not being significant when the volatile organic compound (VOC) content of the leachate is less than 0,03M/l);

[Para. 3(2)(c) substituted by GN 5523/2024 w.e.f. 7 November 2024]

(d) alternative elements of proven equivalent performance which has been considered, such as the replacement of-

(i) granular filters or drains with geosynthetic filters or drains;

(ii) protective soil layers with geotextiles; or

(iii) clay components with geomembranes or geosynthetic clay liners;

(e) All drainage layers must contain drainage pipes of adequate size, spacing and strength to ensure atmospheric pressure within the drainage application for the service life of the landfill;

(f) Alternative design layouts for slopes exceeding 1:4 (vertical: horizontal) may be considered provided equivalent performance is demonstrated;

(g) Construction Quality Assurance during construction;

(h) Geosynthetic materials must comply with relevant South African National Standard specifications, or any prescribed management practice or standards which ensure equivalent performance;

[Para. 3(2)(h) amended by GN 5523/2024 w.e.f. 7 November 2024]

(i) Consideration of the compatibility of liner material with the waste stream, in particular noting the compatibility of natural and modified clay soils exposed to waste containing salts; and

[Para. 3(2)(i) amended by GN 5523/2024 w.e.f. 7 November 2024]

(j) The Guideline for Pollution Control Barrier System Design can be accessed on <http://sawic@environment.gov.za>.

[Para. 3(2)(j) inserted by GN 5523/2024 w.e.f. 7 November 2024]

(3) The classification and containment barrier design of all new landfills, as well as new working cells at existing landfills, must be implemented in accordance with section 3(1) and (2) of these Norms and Standards.

(4) Notwithstanding section 3(3) of these Norms and Standards, waste may be disposed of in terms of section 4(1), (2), (3) and (4) of these Norms and Standards at landfills with the liner design requirements for landfills contained in the Minimum Requirements for Waste Disposal by Landfill (2<sup>nd</sup> Edition, 1998; Department of Water Affairs and Forestry), or at landfills with an alternative liner design approved by the competent authority for the life-span of the operational cell, subject to the following conditions-

(a) the current working cell at the landfill was operating lawfully in terms of the Act prior to the Regulations coming into operation;

(b) the next working cell at the landfill was legally approved prior to the Regulations coming into operation; or

(c) an application for approval of a new landfill or working cell was submitted to the competent authority, and a decision has not been taken or is still under consideration prior to the Regulations coming into operation.

#### **4. Waste Acceptance Criteria for Disposal to Landfill**

(1) Waste assessed in terms of the *Norms and Standards for Assessment of Waste for Landfill Disposal* set in terms of section 7(1) of the Act must be disposed to a licensed landfill as follows:

Waste Type	Landfill Disposal Requirements
------------	--------------------------------

<b>Type 0 Waste</b>	The disposal of Type 0 waste to landfill is <b>not allowed</b> . The waste must be treated and re-assessed in terms of the <i>Norms and Standards for Assessment of Waste for Landfill Disposal</i> .
<b>Type 1 Waste</b>	Type 1 waste may only be disposed of at a <b>Class A</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a Hh / HH <b>landfill</b> as specified in the Minimum Requirements for Waste Disposal by Landfill (2 <sup>nd</sup> Ed., Department of Water Affairs and Forestry, 1998).
<b>Type 2 Waste</b>	Type 2 waste may only be disposed of at a <b>Class B</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a <b>GLB+</b> landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2 <sup>nd</sup> Ed., DWAF, 1998).
<b>Type 3 Waste</b>	Type 3 waste may only be disposed of at a <b>Class C</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a <b>GLB+</b> landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2 <sup>nd</sup> Ed., DWAF, 1998).
<b>Type 4 Waste</b>	Type 4 waste may only be disposed of at a <b>Class D</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a <b>GLB-</b> landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2 <sup>nd</sup> Ed., DWAF, 1998).

(2) Waste listed in section 2(a) of Annexure 1 to the Regulations and destined for disposal to landfill must be disposed of as follows-

Listed Waste	Landfill Disposal Requirements
--------------	--------------------------------

<p>(a)</p> <p>(i) Domestic waste.</p> <p>(ii) Business waste not containing hazardous waste or hazardous chemicals.</p> <p>(iii) Non-infectious animal carcasses.</p> <p>(iv) Garden waste.</p> <p>(v) Waste packaging not containing hazardous waste or hazardous chemicals.</p> <p>(vi) Expired, spoilt or unusable consumer products.</p>	<p>Disposal only allowed at a <b>Class B</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norm and Standards, at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed, DWAF, 1998).</p>
<p>(b)</p> <p>(i) Post-consumer packaging.</p> <p>(ii) Waste tyres.</p>	<p>Disposal only allowed at a <b>Class C</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed, DWAF, 1998).</p>
<p>(c)</p> <p>(i) Building and demolition waste not containing hazardous waste or hazardous chemicals.</p> <p>(ii) Excavated earth material not containing hazardous waste or hazardous chemicals.</p>	<p>Disposal allowed at a <b>Class D</b> landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a GLB- landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998)</p>

[Para. 4(2) substituted by GN 5523/2024 w.e.f. 7 November 2024]

(3) Unless assessed in terms of the *Norms and Standards for Assessment of Waste for Landfill Disposal* set in terms of section 7(1) of the Act and disposed of in terms of section 4(1) of these Norms and Standards, the following wastes included in section 2(b) of Annexure 1 to the Regulations and destined for disposal to landfill must be disposed of as follows-

Listed Waste	Landfill Disposal Requirements
<p>(a)</p> <p>(i) Asbestos Waste.</p>	<p>Disposal allowed at a Class A or Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards or, subject to section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998). Disposal at Class B landfill will require specific approval by the relevant Competent Authority (National or Province) based on considerations on how the site is managed.</p>
<p>(b)</p> <p>(i) Expired, spoilt or unusable hazardous products.</p> <p>(ii) PCBs (or rather PCB containing waste (&gt;50pp))</p> <p>(iii) General waste, excluding domestic waste, which contains hazardous waste or hazardous chemicals.</p> <p>(iv) Mixed, hazardous chemical waste from analytical laboratories and laboratories from academic institutions in containers less than 100 litres.</p>	<p>Disposal only allowed at a Class A landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for Hh / HH landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998).</p>

[Para. 4(3) substituted by GN 5523/2024 w.e.f. 7 November 2024]

(4) Waste that has been classified in terms of the Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste (2<sup>nd</sup> Edition, 1998; Department of Water Affairs and Forestry) prior to the Regulations coming into operation, may be accepted and disposed of as set out

below for a period not exceeding three (3) years after the date of coming into operation of the Regulations-

Waste	Landfill Disposal Requirements
Hazardous Waste - Hazard Rating 1 or 2	Disposal only allowed at a Class A landfill designed in accordance with Section 3(1) and 3(2) of these Norms and Standards, or, subject to Section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a HH landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998).
Hazardous Waste - Hazard Rating 3 or 4	Disposal only allowed at a Class A landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a Hh landfill as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998).
Hazardous Waste - Delisted	Disposal only allowed at a Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of this Norms and Standards, at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste
	Disposal by Landfill (2nd Ed., DWAF, 1998).
General Waste	Disposal only allowed at a Class B landfill designed in accordance with Section 3(1) and (2) of these Norms and Standards, or, subject to Section 3(4) of these Norms and Standards, at a landfill site designed in accordance with the requirements for a general waste site, G S/M/L B-/B+ as specified in the Minimum Requirements for Waste Disposal by Landfill (2nd Ed., DWAF, 1998).

(5) Notwithstanding the requirements of section 4(1), (2) and (3) of these Norms and Standards, waste may be disposed of at landfills with a higher level of containment design than specified, subject to the restriction in section 5(2)(a)(ii) of these Norms and Standards.



## 5. Waste Disposal Restrictions

(1) The following prohibitions and restrictions on the disposal of waste to landfill comes into effect after the timeframes indicated for each waste from the date of the Regulations coming into operation-

Waste Prohibited or Restricted in terms of Disposal	Compliance Timeframe
(a) Waste which, in the conditions of a landfill, is explosive, corrosive, oxidizing (according to GHS).	Immediate
[Para. 5(1)(a) substituted by GN 5523/2024 w.e.f. 7 November 2024]	
(b) Waste with a pH value of <6 or >12.	Immediate
(c) Flammable waste with a closed cup flashpoint lower than 61° Celsius.	Immediate
(d) Reactive waste that may react with water, air, acids or components of the waste, or that could generate unacceptable amounts of toxic gases within the landfill.	Immediate
(e) Waste compressed gases (according to GHS).	Immediate
[Para. 5(1)(e) substituted by GN 5523/2024 w.e.f. 7 November 2024]	
(f) Untreated Healthcare Risk Waste (HCRW).	Immediate
(g) (i) POPs pesticides listed under the Stockholm Convention, (ii) Other waste pesticides.	Eight (8) years Four (4) years
(h) Lead acid batteries.	Immediate
(i) Other batteries.	Eight (8) years
(j) Re-usable, recoverable or recyclable used lubricating mineral oils, as well as oil filters, but excluding other oil containing wastes.	Four (4) years
(k) Re-usable, recoverable or recyclable used or spent solvents.	Five (5) years
(l) PCB containing wastes (>50 mg/kg or 50 ppm).	Five (5) years
(m) Hazardous Waste Electric and Electronic Equipment (WEEE) - Lamps.	Three (3) years
(n) Hazardous Waste Electric and Electronic Equipment (WEEE) - Other.	Eight (8) years

(o) Waste tyres: Whole.	Immediate
(p) Waste tyres: Quartered.	Five (5) years
(q) Liquid waste-  Waste which has an angle of repose of < 5 degrees and has a moisture content of > 40%	Six (6) years
[Para. 5(1)(q) substituted by GN 5523/2024 w.e.f. 7 November 2024]	
(r) Hazardous waste with a calorific value of:  (i) > 25 MJ/kg. (ii) > 20 MJ/kg. (iii) > 10 MJ/kg. (iv) > 6% TOC.  CM determination be undertaken on the waste as received.	Four (4) years Six (6) years Twelve (12) years Twenty-five (25)
[Para. 5(1)(r) substituted by GN 5523/2024 w.e.f. 7 November 2024]	
(s) Brine or waste with a high salt content (TDS > 5%), and a teachable concentration for TDS of more than 100 000 mg/l.	Eight (8) years
(t) Disposal of garden waste:  (i) 25% diversion from the baseline at a particular landfill of separated garden waste.  (ii) 50% diversion from the baseline at a particular landfill of separated garden waste	Five (5) years  Ten (10) years
(u) Infectious animal carcasses and animal waste.	Immediate

(v) Mercury and mercury containing waste: (i) must undergo treatment and conversion prior to being disposed of (ii) where intended to be disposed of in above-ground facilities, must undergo treatment and conversion and solidification prior to being disposed of	Two (2) years
[Para. 5(1)(v) inserted by GN 5523/2024 w.e.f. 7 November 2024]	
(w) Co-disposal of flue gas desulphurization waste with dry wall / gypsum waste	Immediate
[Para. 5(1)(w) inserted by GN 5523/2024 w.e.f. 7 November 2024]	
(x) General waste with a calorific value of: (i) > 25 MJ/kg. (ii) > 20 MJ/kg. (iii) > 10 MJ/kg. (iv) > 6% TOC.	Four (4) years Six (6) years Twelve (12) years Fifteen (15) years
[Para. 5(1)(x) inserted by GN 5523/2024 w.e.f. 7 November 2024]	

(2) The following prohibitions and restrictions on activities related to the disposal of waste to landfill comes into effect after the timeframes indicated for each activity from the date of the Regulations taking effect-

Prohibited or Restricted Waste Disposal Activities	Timeframe
(a) Disposal of-	
(i) Type 1 Waste that has been treated, with waste listed in	Five (5) years

<p>paragraph (2)(a) of Annexure 1 to the Regulations;</p> <p>(ii) Waste classified as hazardous in terms of regulation 4(1), or waste listed in paragraph (2)(b) of Annexure 1 to the Regulations, with waste listed in paragraph (2)(a) of Annexure 1 to the Regulations; and</p> <p>(iii) Type 4 Waste with any waste other than Type 4, unless part of treatment.</p>	<p>Five (5) years</p> <p>Five (5) years</p>
<p>(b) Macro-encapsulation of waste, meaning the isolation (or long-term storage) of waste through containment in containers within a sealed or reinforced cell in a specifically prepared and engineered area within a permitted hazardous waste landfill.</p>	<p>Eight (8) years</p>