

WASTE MANAGEMENT & LEGAL COMPLIANCE

IWMSA Central Branch 15 September 2016

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NEMWA OVERVIEW



- Effective 1 July 2009 Extensive legal framework.
- Emphasises the 'Waste Management Hierarchy'.
- Main objectives 'Environmentally Sound' Waste Management; Diversion of waste from landfill & Utilisation of waste where possible.



WHAT IS 'WASTE'?



"...any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3" or any other substance/material/object defined by the Minister. [NEMWAA; 2014]

When does waste cease to be waste?

- Once re-used, recycled or recovered; or
- Exempted by Minister (S74); or
- 'Excluded' by the Minister.

NEMLA Bill, 2015 – Definitions, Schedule 3.

LEGISLATION



Robust, comprehensive & developing legal framework -

- NEMA (e.g. Section 28, 'Duty of Care').
- NWA (Section 21 water uses, 'Duty of Care').
- NEM:AQA (waste co-processing; thermal treatment etc.).
- NEM:WA (as amended):
 - List of Waste Management Activities That Have, or are Likely to Have, Detrimental Effects on the Environment (Updated 2013);
 - National Norms and Standards (2013) for the (i) Storage of Waste; (ii) Extraction, Flaring or Recovery of Landfill Gas; (iii) Scrapping & Recovery of Motor Vehicles; (iv) Remediation of Contaminated Land;
 - Waste Information ('WIS') Regulations;
 - Waste Classification and Management Regulations, and Norms & Standards for Assessment and Disposal of Waste to Landfill(2013);
 - Industry Waste Management Plans.



S16(1) Any holder of waste must take reasonable measures to –

- (a) Avoid the generation of waste, and if not avoidable, minimise the toxicity & amounts of waste;
- (b) Reduce, re-use, recycle & recover waste;
- (c) Ensure waste is treated & disposed in a sound manner;
- (d) Manage waste so that it does not endanger health or the environment, or cause a nuisance through noise, odour or visual impacts;
- (e) Prevent any employee or person under his/her supervision from contravening this Act; and
- (f) Prevent the waste from being used for an unauthorised purpose.



- A person commits an <u>offence</u> if that person contravenes or fails to comply with a provision of section 16(1) (c), (d), (e) or (f) [General Duties] and section 20 [Waste Licencing].
- A person <u>convicted</u> of an offence referred to in section 67(1)(a) is liable to a fine up to R10 000 000, or imprisonment up to 10 years, or both, in addition to other penalties that may be imposed in terms of NEMA.

Waste generators remain responsible for their waste ('Cradle-to-Grave'), and must ensure that they and their service providers (waste transporters & managers) are legally compliant, and able to manage waste in an environmentally sound manner.



and/or



Waste Management Activities & Licensing

Waste Activities that require a licence/registration include -

- Waste Storage (Registration),
- Sorting, shredding, grinding and bailing,
- Re-use and recycling,
- Recovery, incl. refining, utilisation and co-processing,
- Treatment,
- Disposal to land.

No person may commence, undertake or conduct a waste management activity unless a licence has been issued in respect of that activity.







No.	Waste Management Activity	Thresholds - No WML / Registration		
A: ST	A: STORAGE OF WASTE			
1	The storage of waste (general & hazardous) in lagoons	0m ³		
2 *	The storage of general waste	Storage capacity < 100m ³		
3 *	The storage of hazardous waste	Storage capacity < 80m ³		
4 *	The storage of waste tyres	Storage area < 500m ²		
B: PR	B: PROCESSING OF WASTE			
1	Sorting, shredding, grinding, crushing & bailing general waste	Operational Area < 1 000m ²		
2 *	The scrapping and recovery of motor vehicles	Operational Area < 500m ²		
C: REC	CYCLING AND RECOVERY OF WASTE			
1	General waste recycling	Operational Area < 500m ²		
2	Hazardous waste recycling	< 500kg per day (monthly average)		
3	General waste recovery	< 10tons per day		
4	Hazardous waste recovery	< 500kg per day		
D: TR	D: TREATMENT OF WASTE			
1	Treatment of general waste (any form of treatment)	Capacity to process < 10tons per day		
2	Treatment of hazardous waste (any form of treatment)	Capacity to process < 500kg per day		
3	Treatment of hazardous waste in lagoons	0m ³		
4 **	Construction and operation of facilities for treatment of	< 2 000m ³ per day		
	effluent, wastewater or sewage			
E: WASTE DISPOSAL				

CONTENTS



'Category C' Activities – Don't require a WML:

- > 80 m³ hazardous waste storage.
- > 100 m³ general waste storage.
- Waste tyre storage > 500 m²
- Contaminated Land Remediation.
- Motor Vehicle Scrapping & Recovery.
- Landfill Gas Recovery.

MUST COMPLY WITH APPLICABLE NORMS AND STANDARDS !!



Waste Classification & Management Regulations; and Norms & Standards for Assessment and Disposal of Waste to Landfill (23 August 2013)



Came into full effect on 23 Aug 2016 -

- Formalises a revised waste classification & management system into SA legislative framework under NEM:WA.
- Supported by two Norms & Standards:
 - Assessment of Waste for Landfill Disposal Test methodologies, chemical concentration thresholds & disposal type assessment.
 - Disposal of Waste to Landfill Revised landfill liners, landfill acceptance criteria & disposal restrictions.
- The Regulations & Standards prescribe requirements for:
 - Waste classification & SDS (general vs. hazardous),
 - Labelling, storage & transport (manifest),
 - Assessment (Waste types) & disposal of waste to landfill (Classes).

APPLICATION OF REGULATIONS



Various obligations and duties prescribed for -

- <u>Waste Generators</u>: Any person whose actions, production processes or activities, results in waste.
- <u>Waste Transporters</u>: Any person who transfers waste between the generator & waste management facility, or between facilities.
- <u>Waste Managers</u>: Any person that re-uses, recycles, recovers, treats or disposes of waste.

The Regulations apply nationally to all waste generators, transporters and managers, except generators of domestic waste that is collected by a municipality (i.e. serviced by a municipal waste collection system).

OVERVIEW



Some fundamental changes, specifically landfill disposal -

- <u>Eliminates Minimum Requirements</u> concepts of hazard rating, EEC, ARL and de-listing.
- New methods to classify waste as hazardous, and to assess waste for landfill disposal.
- Revised landfill classes and containment barriers (liners).
- Sets time-frames for management of waste.
- Long term storage (e.g. in lagoons) to be phased out.
- Requires an SDS & transport manifest for hazardous waste.
- Landfill disposal restrictions over time, e.g. liquids, brines, and high calorific value waste.

WASTE CLASSIFICATION



<u>Waste Generators</u> *must ensure* their waste is classified within 180 days of generation based on physical, health and environmental hazards – SANS 10234 "Globally Harmonized System of classification and labelling of chemicals" (GHS).

	Physical Hazards	Health Hazards	Aquatic Hazards
\wedge	 Explosives 	 Acute toxicity 	 Acute aquatic
*	 Flammable gases 	Skin corrosion & irritation	toxicity
$\mathbf{\mathbf{\forall}}$	 Flammable aerosols 	Serious eye damage &	 Chronic aquatic
	 Oxidizing gases 	irritation	toxicity
	 Gases under pressure 	Respiratory & skin	
Sec >	 Flammable liquids 	sensitization	
\sim	 Flammable solids 	 Germ cell mutagenicity 	
•	 Self-reactive 	 Carcinogenicity 	
Pa	 Pyrophoric 	 Reproductive toxicity 	
₩ œ́	 Self-heating 	 Specific target organ 	
$\mathbf{\vee}$	 Emit flammable gases on 	toxicity: single exposure	
\wedge	contact with water	STOT: repeated exposure	
¥	 Oxidizing substances 	 Aspiration hazards 	
	 Organic peroxides 		
•	 Corrosive to metals 		

'PRE-CLASSIFIED' WASTES



Wastes in Annexure 1 of Regulations do not require classification -

PURPOSE OF CLASSIFICATION



- First step to determine whether a waste is hazardous or not raises initial 'red flag' to inform:
 - Appropriate consideration of suitable waste management options.
 - Adequate and safe storage, handling and transport.
- First level of Categorisation (Gen vs. Haz) for SAWIS reporting.
- Hazardous waste:
 - Require a Safety Data Sheet and Manifest.
 - Certain restrictions on disposal.

Classification does not pre-suppose/require any particular waste management option or disposal (landfill) requirement. Classification as hazardous does not mean waste cannot be reused/ recycled/ recovered.

WASTE MANAGEMENT REQUIREMENTS



- Waste Managers may not accept waste unless classified.
- Storage containers / facilities must be labelled (date, contents, classification) or records of storage kept.
- Waste must be managed within 18 months, e.g. re-used, recycled or disposed (no indefinite storage of waste).
- Waste currently stored must commence management in 5 years.
- Waste Generators must keep records of their waste generation and management.
- Waste Generators must ensure a Safety Data Sheet (SDS) is prepared for hazardous waste. The SDS must always accompany waste.
- All holders of waste (generator, transporter, manager) must maintain a manifest system during hazardous waste transport.

SAFETY DATA SHEET & MANIFEST



Safety Data Sheet (SDS)					
1. Waste & generator description	6. Accidental release	11. Toxicological information			
2. Hazard identification &	measures	12. Ecological information			
classification	7. Handling & storage	13. Disposal considerations			
3. Composition / information on	8. Exposure controls &	14. Transport information			
ingredients	personal protection	15. Regulatory information			
4. First aid measures	9. Physical & chemical	16. Other information (incl. revision of			
5. Fire-fighting measures	properties	SDS)			
	10. Stability & reactivity				
	Manifest Information	n			
Waste Generator:	Waste Transporter:	Waste Manager:			
 Consignment ID No 	 Transporter name 	Name, address & contact details			
 SAWIS Reg. No 	Address & phone no	 Facility name, address & contact 			
 Contact details 	 Declaration 	 Facility licence number 			
 Generation address 	acknowledging receipt	 Date of receipt 			
 Emergency contact number 		 Quantity received 			
 Origin of waste (activity) 		 Management (recovery / disposal etc.) 			
 Classification & SDS 		 Info discrepancies (quantity, type, etc.) 			
 Quantity (volume/weight) 		 Management description & code 			
 Date of dispatch 		(SAWIS)			
 Intended receiver (manager) 		 Details on waste diverted & facility 			
 Declaration (accurate 		 Declaration of receipt & final 			
information, law etc.)		management of the waste			

WASTE DISPOSAL REQUIREMENTS



- Waste Generators must ensure all wastes destined for landfill are assessed and disposed i.t.o. the landfill Norms & Standards:
- Assessment of Waste for Landfill Disposal Determine total & leachable concentrations of specific listed elements & substances in the waste. Compare with threshold limits, and determine the type of waste (Type 0, 1, 2, 3, 4).
- Disposal of Waste to Landfill Specifies the class of landfill (new Class A, B, C, D) where each type of waste can be disposed. The standard also prohibits the disposal of certain wastes over time.

Assessment for Disposal applicable to hazardous & general waste, but not pre-classified waste or waste collected by the municipality.



Waste Types	Disposal Requirements	
	Disposal not allowed . The waste must be treated	
Type 0 Waste	first and then re-tested to determine the risk	
	profile for disposal.	
Type 1 Waste	Disposal only allowed at a landfill with a Class A or	
Type I waste	Hh/HH containment barrier design.	
Type 2 Waste	Disposal only allowed at a landfill with a Class B or	
Type z waste	GLB+ containment barrier design (or Class A).	
Tupo 2 Masto	Disposal only allowed at a landfill with a Class C or	
Type 5 waste	GLB+ containment barrier design (or Class B or A).	
Type 4 Waste	Disposal allowed at a landfill with a Class D or	
Type 4 Waste	GLB- containment barrier design.	



DISPOSAL CRITERIA – 'PRE-CLASSIFIED'

Non-hazardous Waste	Landfill Disposal Requirements
(i) Domestic waste.	Disposal only allowed at a landfill
(ii) Business waste not containing hazardous waste or hazardous	with a Class B or GLB+
chemicals.	containment barrier design.
(iii) Non-infectious animal carcasses.	_
(iv) Garden waste.	
(v) Post consumer (waste) packaging	Disposal only allowed at a landfill
(v) Post-consumer (waste) packaging.	with a Class C or GLB+
(VI) Waste tyles.	containment barrier design.
(vii) Building and demolition waste not containing hazardous waste	Disposal only allowed at a landfill
or hazardous chemicals.	with a Class D or GLB- containment
(viii) Excavated earth material not containing hazardous waste or	barrier design.
hazardous chemicals.	
Hazardous Waste	Landfill Disposal Requirements
(i) Asbestos Waste.	Disposal only allowed at a landfill
(ii) Expired, spoilt or unusable hazardous products.	with a Class A or Hh/HH
(iii) PCB containing waste (>50ppm).	containment barrier design.
(iv) General waste, excluding domestic waste, which contains	
hazardous waste or hazardous chemicals.	
(v) Mixed, hazardous chemical wastes from analytical laboratories	
and laboratories from academic institutions in containers <100	
litres.	

WASTE DISPOSAL RESTRICTIONS



Waste Prohibited or Restricted in terms of Disposal	Timeframe
Waste which, in the conditions of a landfill, is explosive, corrosive or oxidizing	Immediate
(according to SANS 10234 or SANS10228).	
Waste with a pH value of <6 or >12.	Immediate
Flammable waste with a closed cup flashpoint lower than 61° C.	Immediate
Reactive waste that may react with water, air, acids or components of the	Immediate
waste, or that could generate unacceptable amounts of toxic gases within the	
landfill.	
Waste compressed gases (according to SANS 10234 or 10228).	Immediate
Untreated Healthcare Risk Waste (HCRW).	Immediate
(i) POPs pesticides listed under the Stockholm Convention.	8 years
(ii) Other waste pesticides.	4 years
Lead acid batteries.	Immediate
Other batteries	8 years
Re-usable, recoverable or recyclable used lubricating mineral oils, as well as oil	4 years
filters, but excluding other oil containing wastes.	
Re-usable, recoverable or recyclable used or spent solvents.	5 years
PCB containing wastes (>50 mg/kg or 50 ppm).	5 years
Hazardous Waste Electric and Electronic Equipment (WEEE) – Lamps.	3 years
Hazardous Waste Electric and Electronic Equipment (WEEE) – Other.	8 years

WASTE DISPOSAL RESTRICTIONS



Waste Prohibited or Restricted in terms of Disposal	Timeframe
Waste tyres: Whole.	Immediate
Waste tyres: Quartered.	5 years
Liquid waste— (i) Waste which has an angle of repose of less than 5 degrees, or becomes free-flowing at or below 60 °C or when it is transported, or is not generally capable of being picked up by a spade or shovel; or (ii) Waste with a moisture content of >40% or that liberates moisture under	6 years
pressure in landfill conditions, and which has not been stabilised by treatment.	
Hazardous waste with a calorific value of:	
(i) > 25 MJ/kg.	4 years
(ii) > 20 MJ/kg.	6 years
(iii) > 10 MJ/kg.	12 years
(iv) > 6% TOC.	15 years
Brine or waste with a high salt content (TDS > 5%), and a leachable concentration for TDS of more than 100 000 mg/l.	8 years
Disposal of garden waste:	
(i) 25% diversion from baseline at a particular landfill of separated garden waste.	5 years
(ii) 50% diversion from baseline at a particular landfill of separated garden waste	10 years
Infectious animal carcasses and animal waste.	Immediate



Legal Amendments & New Developments

2014 – 2015 – 2016???

CONTAMINATED LAND – MAY 2014



- Part 8 of the Waste Act in effect from 2 May 2014 Applies to land contaminated before commencement of the act & provides for:
 - Identification of investigation areas,
 - Site assessment reports,
 - Orders to remediate contaminated land,
 - Transfer of remediation sites,
 - National contaminated land register.
- For site assessments Norms & Standards for the Remediation of Contaminated Land & Soil Quality (2 May 2014); includes Soil Screening Values (SSV) for metals & organics to determine contamination status of investigation areas.
- 'Rehabilitation of Contaminated Land' removed from waste activities.



National Environmental Management Laws 3rd Amendment Act -

- Many provisions/amendments of NEMA & NEMWA related to mining & competent authority.
- Residue Deposits & Stockpiles not excluded from the Waste Act, but DMR becomes authority for Waste Licences.
- National Environmental Management: Waste Amendment Act
 - Waste Definition changed;
 - No more 'By-product';
 - Schedule 3: Lists of waste per industry sector 'Defined Wastes';
 - Residue Deposits & Stockpiles;
 - Waste Management Bureau & Waste Charges ('Pricing Strategy').



National Environmental Management Laws 4th Amendment Bill -

- Proposed amendments to NEMA & NEMWA.
- Changes to definitions, including 'Waste' & Schedule 3.
- No general & hazardous waste lists in Schedule 3.
- Exemption from Waste Licence Not possible.
- Contaminated land Assessment & Remediation Reports.
- Residue Deposits & Stockpiles not excluded from the Waste Act, but DMR becomes authority for Waste Licences.



- National Pricing Strategy for Waste Management Final.
- 12 Aug: Notice to Prepare and Submit Industry Waste Management Plans Paper and Packaging Industry, Electrical and Electronic Industry, and Lighting Industry.
- 12 Sep: Withdrawal of Notice calling for IndWMPs, and re-publication of Draft for Comment. Comments – 12 October.
 - 2015 'Producers';
 - Aug 2016 Producers & Applicants;
 - Sep 2016 'Category of Person or Industry'.
- Registration, and then Preparation/Submission or Belong to/Subscribe (?) to an approved IndWMP.
- Draft Amendments to Waste Tyre Regulations.





Regulation of waste management in South Africa has significantly increased & can be very onerous / complicated.

Significant increase in compliance requirements and potential liabilities for waste generators, transporters and waste managers.

Cannot be ignored.











THANK YOU

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