



NATIONAL INSTITUTE FOR
OCCUPATIONAL HEALTH

Division of the National Health Laboratory Service



MANAGEMENT of HEALTH CARE WASTE

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Healthy, Safe, Happy & Sustainable Workplaces

PROMOTING DECENT WORK THROUGH CUTTING EDGE RESEARCH, SPECIALISED SERVICES, INFORMATION, TEACHING AND TRAINING

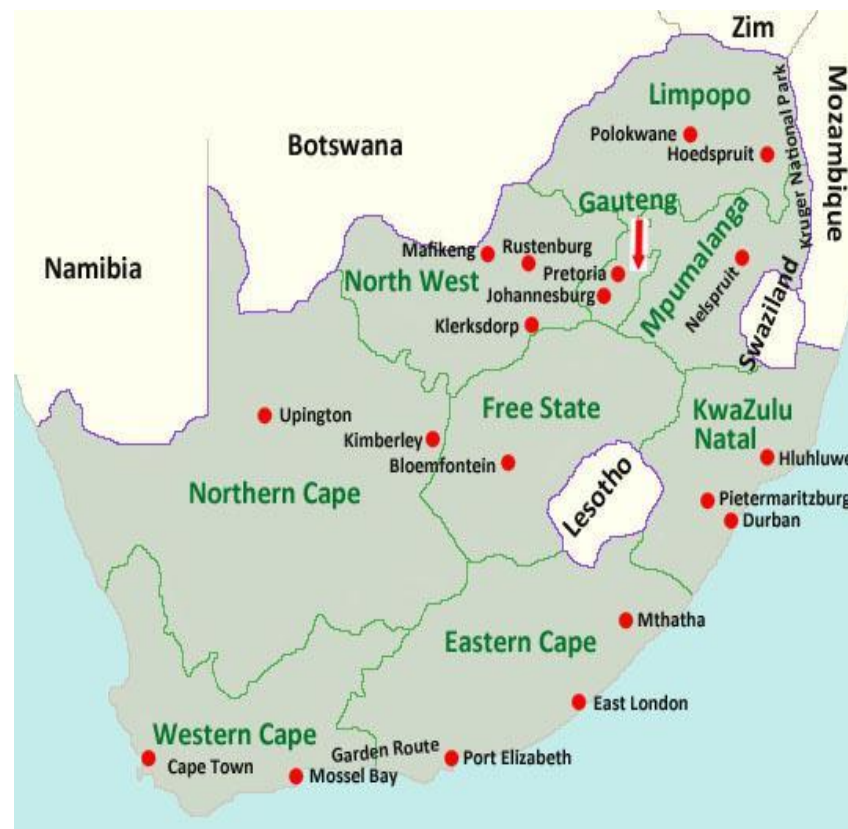




Background

- The World Health Organisation (WHO) suggests that of the health care waste generated in a health care facility is **85%** general waste and the remaining **15%** is hazardous waste
- The National Waste Information Baseline Report, 2012 indicates that a patient in a health care facility generates **1 to 3 kg** of waste per day
- The South African Waste Information Centre (SAWIC) reports volumes of HCRW treated in South Africa

www.environment.gov.za



<https://showme.co.za/facts-about-south-africa/the-maps-of-south-africa/>

What is health care waste (HCW)?

Health care waste is waste generated from activities in a health care facility, includes-

- General waste (poses minimum risk to human health and the environment)
e.g. office paper, flowers, magazines, food packaging, etc.

excluding general waste from isolation wards

- Hazardous waste (waste capable of causing harm to human health and the environment), includes-

Electronic and electrical waste

e.g. Desktop computers, refrigerators, laptops, etc.

Pesticides



What is health care waste (HCW)?

Health care risk waste -

Classified into

- Anatomical/ pathological waste (e.g. human tissues, bodily fluids, blood, etc.)
- Infectious non-anatomical waste- waste contaminated with blood and other bodily fluids (e.g. swabs, bandages, gloves, etc.)
- Chemical waste (e.g. solvents, reagents, etc.)
- Sharps waste (e.g. needles, scalpels, blades, etc.)
- Laboratory waste (e.g. cultures, blood tubes, etc.)
- Pharmaceutical waste (e.g. expired, unused and contaminated drugs and vaccines, etc.)
- Radioactive waste- products contaminated by radionuclides
- Cytotoxic waste- waste containing substances with genotoxic properties



Why must we manage HCW?

- To avoid and/or reduce the impact of HCW on the environment and human health
- To reduce costs of managing HCW
- Ensure compliance with legislation



Health risks

Health care waste has the potential to harm health workers, patients, visitors, employees of waste management contractors and the general public, through –

- Sharps-inflicted injuries
- Toxic exposure to pharmaceutical products
- Exposure to infectious diseases
- Chemical burns arising in the context of disinfection, sterilization or waste treatment activities
- Thermal injuries occurring during the operation of waste treatment technologies



Environmental impact

It may also have a negative impact on the environment

- The release of chemical substances into the environment if those substances are not handled, stored and disposed in an environmentally sound manner.
- The releases of heavy metals or materials with high metal content during incineration of waste.
- Contamination of drinking, surface, and ground .
- Air pollution arising as a result of the release of particulate matter during medical waste incineration.



Legislative framework

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

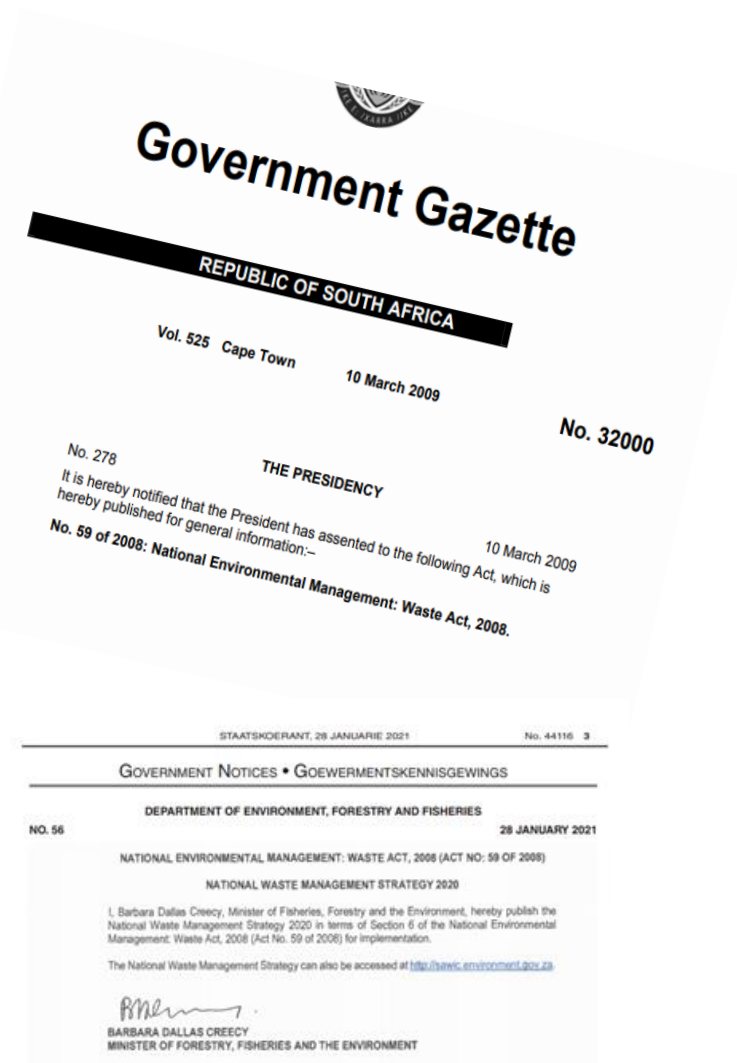
Waste Information Regulations, 2012

- ✓ National waste information system
- ✓ Registration of waste generators and reporting

Waste Classification and Management Regulations, 2013

- ✓ Record keeping and waste manifest system

The National Waste Management Strategy, 2020





Legislative framework

- National Environmental Management: Air Quality Act, 2004

Standards for air emissions

- National Water Act, 1998
- ✓ Disposal of effluent into municipal sewers

- National Health Act, 2003 (Act 61 of 2003)

National norms and standards or environmental health

- Occupational Health and Safety Act, 1993
- ✓ Health and Safety in the workplace



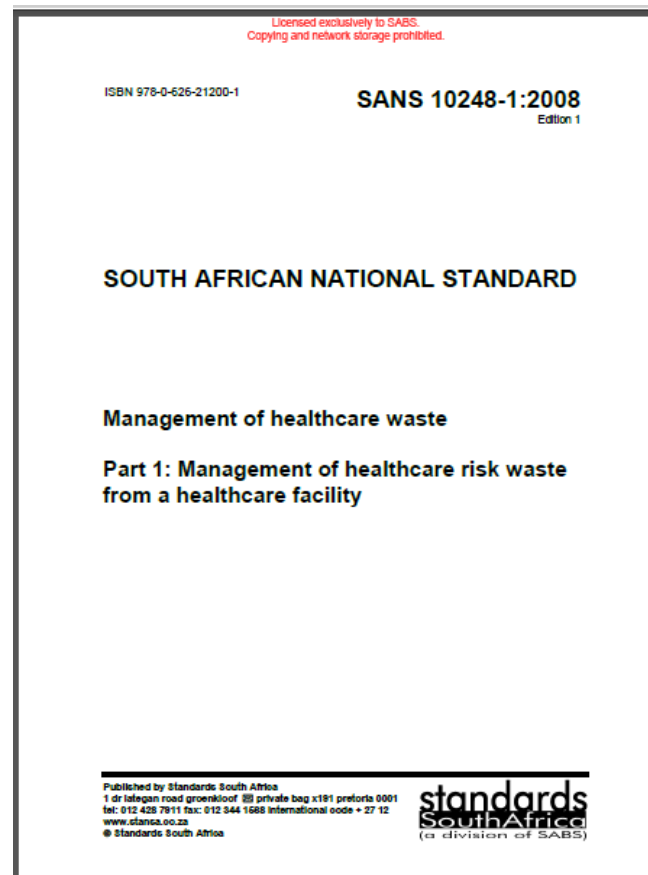


Legislative framework

SANS 10248: Management of Health Care Risk Waste in a Health Care

- Identification of healthcare waste
- Responsibilities
- Management
- Waste management team
- Waste management plan
- Training, supervision and workplace hygiene
- Waste storage
- Waste minimization, segregation and packaging
- Collection and transportation of health care waste
- Spillage
- Treatment and disposal methods

<https://www.sabs.co.za/>





Waste management principles

Duty of care principle

The generator of waste is responsible for the ultimate fate of the waste they generate

Consider what waste will be produced before you start with your activities

Hazards

Quantities

Storage

Disposal and cost



<https://www.google.com>



Waste management principles

Precautionary principle

Always assume that all waste generated is hazardous

“until it can be proven otherwise”





Waste management principles

Polluter pays principle

The generator accepts complete financial liability for safe and legal handling, storage, transportation, treatment and final disposal of waste they generate







Management of the different health care waste categories

General waste

- Avoid or reduce
- Reuse
- Recycle
- Disposal



<https://www.freepik.com>



Management of the different health care waste categories

Anatomical or pathological waste

- Segregate at point of generation
- Use clearly marked red, rigid, leak proof containers
- Fill containers to not more than the fill line/ $\frac{3}{4}$
- Seal and label
- Store in dedicated storage areas





Management of the different health care waste categories

Chemical waste-

- Includes solid, liquid and gaseous chemicals
- Mixed liquid containing part water, part blood and part chemical
- Segregate at point of generation
- Use compatible containers
- Remove original labels
- Label accordingly
- Store in dedicated storage areas





Management of the different health care waste categories

Non- anatomical infectious waste

- Segregate waste at point of generation
- Use clearly marked leak proof containers
- Fill containers to not more than the fill line/ $\frac{3}{4}$
- Seal and label
- Store in dedicated storage areas





Management of the different health care waste categories

- **Sharps waste**
- Segregate at point of generation
- Use clearly marked yellow, rigid, puncture proof, leak proof, tamper proof containers
- Fill containers to not more than the fill line/ $\frac{3}{4}$
- Seal and label
- Store in dedicated storage areas





Management of the different health care waste categories

Pharmaceutical waste

- Segregate at point of generation
- Use clearly marked green leak proof, tamper proof containers
- Fill containers to not more than the fill line/ $\frac{3}{4}$
- Seal and label
- Store in dedicated storage areas





Generator's responsibilities

- Avoid generating waste
- Minimize waste
- **Purchase necessary** materials in required quantities
- **Audit stock** frequently and use the oldest stock first
- **Share** excess materials with colleagues
- Use materials for their **intended use**
- **Use reusable** materials where possible
- **Recycle** where possible
- Proper segregation and packaging
- Proper storage of waste
- Internal safe and legal management of HCW



Generator's responsibilities

- Appoint and/ or designate HCW waste management staff
- HCW Management Policy
- Occupational Health and Safety Policy
- Risk Assessments
- Standard Operating Procedures
- Provide PPE
- Train staff
- Waste information management
- Monitor the management of HCW in the facility
- Monitor removal and disposal of waste
- Legal and safe disposal of waste by a contractor



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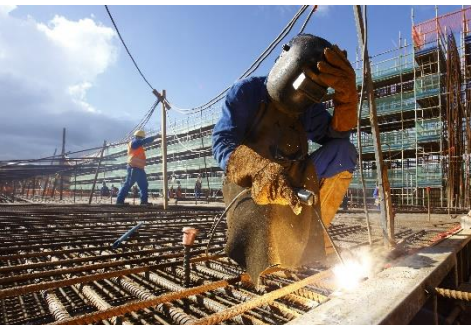
Thank you!





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