



Management of clinical and related wastes



AS 3816:2018

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- Australasian College for Infection Prevention and Control
- Australian Dental Association
- Australian Nursing and Midwifery Federation
- Australian Private Hospitals Association
- Australian Society for Microbiology
- Consumers Federation of Australia
- New Zealand Nurses Organisation
- Royal College of Pathologists of Australasia
- Waste Management Association of Australia
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Preface

This Standard was prepared by the Standards Australia Committee HE-011, Safe Disposal of Sharps and Clinical Wastes, to supersede AS/NZS 3816—1998, *Management of clinical and related wastes*.

The objective of this Standard is to establish principles for clinical and related wastes to be safely managed and disposed of in an environmentally responsible manner. It seeks to provide personnel responsible for the proper handling, storage and disposal of healthcare and biomedical wastes such as hospital environmental services management, nursing unit managers, laboratory managers, practice proprietors and others with practical information about how to manage these wastes from point of generation to final disposal.

The determination of appropriate treatment and disposal practices for waste is dependent on an accurate categorization and segregation of the waste. The requirements concerning categorization of wastes has been expanded in this revision of the Standard. This revision includes Category A infectious wastes and waste containing Genetically Modified Organisms, neither of which were covered in the 1998 edition of this Standard.

The release of NZS 4304:2002 Management of Healthcare Waste by Standards New Zealand has obviated the need for the New Zealand references that were contained in the 1998 joint Australian/New Zealand version of this Standard.

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Management of clinical and related wastes

Section 1 Scope

This Standard sets out requirements for the safe identification, segregation, handling, storage, transport, treatment and disposal of clinical and related wastes which may be hazardous to the environment or human health and safety. Examples are wastes arising from activities such as medical, dental, podiatry and veterinary practice, pathology and pharmaceutical laboratories, health care and supported care services, medical emergency services, blood banks, mortuaries, brothels, tattooing and body piercing establishments.

Section 2 Referenced documents

The following documents are referred to in this Standard:

AS 1940, *The storage and handling of flammable and combustible liquids*

AS 2243.10, *Safety in laboratories, Part 10: Storage of chemicals*

AS 2714, *The storage and handling of organic peroxides*

AS 3780, *The storage and handling of corrosive substances*

AS 4031, *Non-reusable containers for the collection of sharp medical items used in health care areas*

AS 4326, *The storage and handling of oxidizing agents*

AS/NZS 2161.10, *Occupational protective gloves, Part 10: Protective gloves against chemicals and micro-organisms*

AS/NZS 2243.3, *Safety in laboratories, Part 3: Microbiological safety and containment*

AS/NZS 3833, *The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers*

AS/NZS 4123, *Mobile waste containers (all parts)*

AS/NZS 4261, *Reusable containers for the collection of sharp items used in human and animal medical applications*

AS/NZS 4452, *The storage and handling of toxic substances*

BS EN 135921, *Specification for disposable plastics refuse sacks made from polyethylene*

NZS 7603, *Specification for refuse bags for local authority collection (low density polyethylene)*

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADGC)

Code of practice for the storage and handling of dangerous goods 2013

Cytotoxic Drugs and Related Waste—A Risk Management Guide for South Australian Health Services, 2015, Government of South Australia, SA Health

Cytotoxic Drugs and Related Waste—Risk Management, July 2017, Safework NSW

Department of Agriculture Forestry and Fishing Quarantine Waste Management Policy

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Guide for handling cytotoxic drugs and related waste, Office of Industrial Relations, Workplace Health and Safety Queensland, Queensland Government

Guidelines for the Transport, Storage and Disposal of GMOs

Handling Cytotoxic Drugs in the Workplace, WorkSafe Victoria

Labelling of Workplace Hazardous Chemicals—Code of Practice, September 2015, SafeWork Australia

Managing Risks of Hazardous Chemicals in the Workplace—Code of Practice, July 2012, SafeWork Australia

Dangerous Goods (Road and Rail Transport) Regulation 2014, Exemption Order No. 007/17NSW
Contingency Plan for Cases of Possible Viral Haemorrhagic Fevers 1995

Safety Guide Predisposal Management of Radioactive Waste, Radiation Protection Series No. 16, Australian Government, Australian Radiation Protection and Nuclear Safety Agency

Safe Handling of Cytotoxic Drugs, Operational Circular, OP 1961/05, Western Australia
Department of Health

Section 3 Definitions

For the purposes of this Standard, the following terms and definitions apply.

3.1

ADGC

Australian Dangerous Goods Code

Note 1 to entry: This is the common name for the “Australian Code for the Transport of Dangerous Goods by Road & Rail”.

3.2

anatomical waste

clinical waste that contains any of the following:

- (a) Human limbs, organs, placenta, pathological specimens, biopsy specimens and body tissue taken during laboratory testing, surgery or autopsy and/or resulting from investigation or treatment of a patient and other recognizable body parts other than teeth, gums, hair and nails.
- (b) Animals used in biomedical research and their body parts.

3.3

bund

a secure wall, ridge or depression of sufficient integrity to completely contain liquid within, or run-off from, waste stored within its confines

3.4

Category A infectious waste

infectious substances which can cause permanent disability or life-threatening or fatal disease to humans or animals and are classified under the ADGC

3.5

classify waste

identification of the waste code, if any, that applies to waste material and any associated dangerous goods classification code, if any

3.6

cleaning

the action of removing soil, organic matter or debris

3.7

clinical and related waste

clinical, cytotoxic and pharmaceutical wastes

3.8**clinical waste**

any waste that has the potential to cause injury, infection or offence, arising from but not limited to, medical, dental, podiatry and veterinary practice, pathology and pharmaceutical laboratories, health care and supported care services, medical emergency services, blood banks, mortuaries, brothels, tattooing and body piercing establishments.

This includes, but is not limited to, any of the following:

- (a) Anatomical waste.
- (b) Bulk body fluids or blood.
- (c) Visibly blood-stained body fluids, materials or equipment.
- (d) Laboratory specimens or cultures.
- (e) Animal tissue or other waste from animals used for medical research.
- (f) Sharps (other than sharps contaminated with cytotoxic waste).

3.9**collection**

the act of removing accumulated waste from the generating source

3.10**container**

any rigid-walled receptacle designed to have waste deposited into it

3.11**cytotoxic waste**

any substance comprised of, or item (including sharps) contaminated with, any residues or preparations that contain materials that are toxic to cells, including any drug known to have cytotoxic, carcinogenic, mutagenic or teratogenic potential

3.12**dangerous goods**

substances, materials or goods that satisfy the criteria set out, or referred to, in Part 2 of the most recent edition of the ADGC for determining whether goods are dangerous goods; with the exception of those goods described as “not subject to this code” in a special provision in Chapter 3.3 of the ADGC which is applied to the goods by Column (6) of the Dangerous Goods List

3.13**DAWR**

the Australian Government’s Department of Agriculture and Water Resources

3.14**decontaminate**

the removal or destruction of organisms to a level that renders an item microbiologically safe for handling and use

3.15**depositor**

a person who discards waste and places it in a waste receptacle

3.16**disinfect**

the removal or destruction of vegetative pathogens, but not all spores

3.17**disposal**

the final lawful stage in the management of the waste stream, for example, the application of material to the land, incineration or the recovery of a resource as a fuel or a raw material

3.18**general waste**

waste which is not recycled or reused and does not pose a threat or risk to public health or safety and meets landfill acceptance criteria

3.19**genetically modified organism**

a microorganism, plant or animal that has been changed by using genetic engineering techniques at the molecular level, and that falls within the purview of the Commonwealth Gene Technology Act and has not been declared as an exempt dealing under that Act

3.20**hazardous substance**

a substance which by its characteristics poses a threat to human or animal health or the environment

Note 1 to entry: This includes substances which are infectious, toxic, mutagenic, carcinogenic, teratogenic, explosive, flammable, corrosive, oxidizing or radioactive.

3.21**hazardous waste**

material that has properties that make it potentially dangerous or harmful to human health or the environment or has been classified as a hazardous waste by any legislation

3.22**heavy metals**

metals of high density, which pose a threat to human or animal health or the environment, e.g., mercury, cadmium, chromium, arsenic and lead

3.23**infectious substance**

materials or substances known to, or reasonably expected to, contain pathogens

Note 1 to entry: Under the ADGC, infectious waste is Class 6.2, Infectious substance. The applicable UN number is determined by the degree of infection risk.

3.24**landfill**

a waste facility used for the purpose of disposing of waste to land

3.25**may**

indicates the existence of an option

3.26**MGB**

a mobile garbage bin, also known as a wheelie bin, manufactured in accordance with AS/NZS 4123

3.27**NEPM**

National Environment Protection (Movement of Controlled Waste between States and Territories) Measure

3.28**pharmaceutical waste**

waste excluding cytotoxics, which may arise from expired or discarded pharmaceuticals, those no longer require by patients or department and waste materials/substances generated during the manufacture and administration of pharmaceuticals, but excluding:

- (a) Cytotoxic or potentially carcinogenic, mutagenic or teratogenic drugs.
- (b) Nutrients, for example, intravenous solutions containing glucose, saline solutions, liquid food preparations and electrolytes.
- (c) Metabolic by-products excreted by patients.

Note 1 to entry: State and Territory regulations may also further exclude certain pharmaceutical waste that is not listed in this [clause \(3.28\)](#). Please refer to State agencies for guidance on management of pharmaceutical waste.

3.29**products of conception**

placentae, foetuses of less than 20 weeks gestation or of a mass less than 0.4 kg and other tissue derived from the union of an egg and a sperm

3.30**biosecurity waste**

waste from material that is subject to certain biosecurity import conditions set by the DAWR emanating from an approved arrangement site or operating under compliance agreements issued by DAWR

3.31**radioactive waste**

waste material, including sharps, contaminated with a radioactive substance as defined by the Australian Radiation Protection and Nuclear Safety Agency, which arises from the medical or research use of radionuclides, e.g. during nuclear medicine, radioimmunoassay and bacteriological procedures. This material may be in solid, liquid or gaseous form and emit a level of radiation above the limits set by legislation

3.32**receptacle**

a bag, container, box, carton, bin, drum, bottle or other vessel used for the containment of waste

3.33**recyclable waste**

Product, package or element thereof that can be diverted from the waste stream and, through existing processes, be collected, processed and returned to use in the form of raw materials or products

3.34**reusable**

a product that can be used again for the same or a different purpose without further manufacture, e.g. use of second-hand boxes for repacking goods or for storage of household goods

3.35**shall**

indicates that a statement is mandatory

3.36**sharp**

objects or devices having sharp points or protuberances or cutting edges, capable of penetrating human skin or the package into which the object or device is disposed

Note 1 to entry: This includes fragile items with the potential to break and form sharps during handling or transport.