Chemical Waste Disposal

1 Introduction

1.1 Purpose

To describe the current procedure governing storage and disposal of chemical waste by the Australian Synchrotron.

1.2 Background

The Australian Synchrotron generates chemical and biohazardous waste primarily via the chemistry and biochemistry laboratories. Most waste is generated by user groups carrying out sample preparation within these laboratories. Whilst it is synchrotron policy that users remove waste material that they have generated and dispose of it at their home institute, in some cases this is not practical and the waste is left at the facility for disposal.

This waste consists largely of:

- lightly contaminated material such as weighing boats/foil used to weigh reagents in the labs, gloves and paper towels used in wiping down work areas etc. This is collected in 'contaminated waste' bags.
- liquid solvent waste including chlorinated waste; water insoluble non-chlorinated waste; and water soluble waste. This is collected in appropriately labelled 20 litre carboys.
- contaminated sharps. These are collected in appropriate sharps containers.
- biohazardous material. Collected in yellow 'biohazard' bags.
- some solid chemical waste such as silica gel. Collected in appropriate, compatible, labelled containers.

A standard operating procedure (AS-SOP-0033 Rev0) describing waste material that may be disposed of via the laboratory sink is posted in both laboratories.

The facility also generates limited amounts of waste material including waste oil, solvent, water containing ethylene glycol from chillers, sulfur hexafluoride gas (SF6) etc.

In order to fulfill its obligations under the Environment Protect Act 1970; Dangerous Goods Act (1985); Dangerous Goods (Storage and Handling) Regulations (2000); Occupational Health and Safety Regulations (Hazardous substances and Materials; 2007) and associated Codes of Practice and Australian Standards, the facility has in place a chemical disposal procedure.

2 Disposal Procedure

Attached in the appendix are documents OHSE-01-018-'Chemical Waste Disposal Procedure'; OHSE-01-019-'Guidance for filling out chemical waste disposal form' and OHSE-01-020-'Chemical waste disposal form'. These documents outline requirements for:

- Documentation;
- Handling;
- Segregation from other classes;
- Packaging;
- Labelling;
- Storage;
- Collection; and
- Transportation.

An EPA-certified waste disposal company is contracted to remove such waste. The waste will be variously incinerated, stored at an appropriate chemical waste facility or taken to designated landfill sites. The contractor is provided with a completed 'Chemical waste disposal form' listing the type of waste, amount, physical state as well as appropriate MSDSs.

The contractor provides the facility with an EPA waste transport certificate, one copy of which is sent to the EPA and one copy retained for the facility's records.

3 Audits

An audit is carried out by the Safety Officer twice yearly to determine if the procedures as outlined in documents OHSE-01-018, OHSE-01-019 and OHSE-01-020 are being adhered to. This audit also allows the Safety Officer to determine if there is sufficient waste on site to contact the waste contractor for pick-up.

4 Appendices

Appendix 1. OHSE-01-018 Procedure- Chemical Waste Disposal Procedure
Appendix 1. OHSE-01-019 Guide- Guidance for filling out chemical waste disposal form
Appendix 1. OHSE-01-020 Form- Chemical waste disposal form

Appendix 1. Chemical Waste Disposal Procedure

A. Documentation
All staff/contractors/Users producing chemical waste for disposal must fill out a chemical waste disposal form and forward this to OHSE.

B. Handling
Must be handled by staff with knowledge of the hazards (i.e. have done a risk assessment for this chemical) of the chemical and with appropriate access to PPE and MSDS.

C. Segregation from other classes
Must be stored segregated from other classes according to Dangerous Goods Act (1985); Dangerous Goods (Storage and Handling) Regulations (2000); Occupational Health and Safety Regulations (Hazardous substances and Materials; 2007) and associated Codes of Practice and Australian Standards.

D. Packaging
Must be packaged in an appropriate compatible container
to ensure-

- Waste materials cannot escape
- Material is fit for transport
- Will not pose risks to people handling the waste downstream eg. Cleaners, Waste Disposal Contractors

E. Labelling
Must be clearly labelled identifying-

- Type of waste i.e. solid, liquid, gas
- Any contaminant e.g. infectious waste, radioactive, heavy metals
- The amount by weight or volume
- The person responsible for generating the waste and their phone number
- The date of the waste generation

F. Storage
Must be stored in a secure area in DG stores or appropriate cabinet designed for that type of material.

G. Collection
Must be collected by a licensed EPA prescribed waste contractor.

H. Transportation
Must be transported in a manner consistent with EPA requirements and the Australian Code for Transport of Dangerous Goods by Road and Rail.

Appendix 2. Guidance for filling out Chemical Waste Disposal Form

1. Purpose

The purpose of this document is to give guidance to staff in completing an Australian Synchrotron 'Chemical Waste Disposal' form – OHSE-01-020.

2. Scope

This guide should be used by all staff requiring the disposal of any chemical waste from the Australian Synchrotron.

3. Chemical Information

- Chemical name - give the full chemical name in preference to a trade name if possible.
- % content - if disposing of a mixture or cocktail of chemicals, identify each chemical in the solution and their approximate proportions as a percentage. If disposing of a single chemical write '100%'
- Total amount - state the total amount of waste in litres or Kg.
- Physical state - state whether the waste is solid, liquid or gas.
- Location - state the location in which the waste is currently being stored.

Appendix 3. Chemical Waste disposal Form

Name _____ Phone No. _____

Signature _____ Date _____

Chemical Name	% content	Total amount	Physical state (S, L, G)	Location	OHS use only

Date form received by OHSE:	Date waste picked up: