

BioEscalator Laboratory Safety Policy 0009: **Hazardous Waste Chemical Disposal Policy**

Cross reference to University Policy Statement: Hazardous Waste Disposal S5/11

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1. Scope of Policy

This policy outlines the correct disposal hazardous chemical waste from the shared facilities and tenants individual laboratory. Understanding the properties of hazardous chemical waste, and how to handle and dispose of it correctly is essential. If you produce, transport, or receive hazardous waste you will have responsibilities under the Hazardous Waste Regulations 2005. It also takes account of the arrangements agreed with the contractor (Grundon) who will collect and dispose of waste from the BioEscalator.

Most of the waste from the University is controlled waste, which places a duty of care on anyone who has responsibility for waste to ensure that it is managed and disposed of safely. This duty applies to those who produce the waste and extends to the final treatment or disposal. Since most materials will eventually become waste, the disposal is best considered prior to purchase (e.g. at the start of experiments).

2. Packaging and labelling of hazardous waste chemical

In all cases the packing should be appropriate for the type of waste, with due regard given to the hazard and form of the material (i.e. leak-proof for liquids with a screw top or other secure lid). It should be robust enough to ensure containment of the contents under all handling, transport and storage conditions, and any reasonably foreseeable accidents.

All containers used for the transport of dangerous substances must conform to UN standards and contractors will only accept approved containers for transport. Approved containers will carry the following mark:



Contractors will not accept damaged containers for transport.

Note: Provide suitable packaging and ensure chemical waste is appropriately labelled for collection.

3. Storage and accumulation of hazardous waste chemical

Hazardous waste chemical must be stored safely and securely and protected from loss, including loss by theft, and the possibility of subsequent harm to persons or improper disposal. It must not be stored where waste can escape into the environment or where members of the public have access to it.

The law specifies maximum permitted storage periods for hazardous waste - 6 months for gas cylinders or 12 months for waste chemicals. Grundon (University approved waste contractor) will collect once either shelves are full or within 6 months whichever comes first.

The location of the specialist waste holding room is 696.10.02 in the car park in the innovation building. The bottom two shelves are marked for BioEscalator hazardous waste

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chemical storage. The laboratory manager will give access to the specialist waste holding room to individual tenant upon request.

4. Hazardous waste chemical identification

Only purchase the amount of a chemical or product that they expect to use within the foreseeable future so that there is a minimum of excess for subsequent disposal.

Suppliers are legally required to provide material safety data sheets (MSDS); these provide information relating to the hazards posed by a substance and outline the recommended handling, disposal and storage measures.

Complete a COSHH assessment form prior to using any hazardous substance. The assessment must record details of the disposal route and any special handling, storage and packaging requirements.

Hazard information can be obtained from the orange warning symbols or Globally Harmonized System (GHS) pictograms on the container, CHIP risk and safety phrases, GHS hazard and precautionary statements, material safety data sheets (MSDS), or from the internet (e.g. a supplier's website). Note that chemical labelling and safety data sheets for new stocks will continue to change over the next few years because of the introduction of the GHS for classifying and labelling chemicals (see Appendix 1 for further details of GHS).

5. Hazardous waste chemical disposal procedures

All hazardous chemical waste should be disposed of via the University's approved waste contractor (Grundon).

The hazardous chemical waste must be:

- a) In suitable, secure and chemically compatible containers (conform to the UN standard),
- b) *Labelled with full chemical name and description of waste including w/w percentages or g/l (i.e. general description of waste),
- c) Hazard classification (i.e. flammable, oxidising, corrosive, toxic, harmful, health hazard, and environmental hazard),
- d) Volume/amount
- e) Originator of waste (i.e. company name)
- f) Date.

* The full chemical name is required, not formulae or abbreviations. In the case of mixtures, give the two most abundant chemicals (other than water) and their approximate w/w percentages or g/L. Any significant contaminants should also be identified. In the case of solutions, identify the solvent and estimate the percentage present.

The laboratory manager will give GHS container labels (hazard labels) upon request.

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Appendix 1.

GLOBALLY HARMONIZED SYSTEM (GHS) OF CLASSIFICATION AND LABELLING OF CHEMICALS

The Globally Harmonized System (GHS) of Classification and Labelling of Chemicals is a worldwide initiative to promote standard criteria for classifying chemicals according to their health, physical and environmental hazards. The European Union (EU) has adopted GHS and will implement it in member states as an EU Regulation, the Classification, Labelling and Packaging of Substances and Mixtures (CLP) Regulations.

Over the next five years the familiar orange and black “ hazard symbol” will be replaced by a white diamond edged in red with a black symbol called a “pictogram”.

The current phrasing to describe hazards, (e.g. Highly Flammable, Harmful, Dangerous for the Environment) will change to a single word (e.g. Danger, Warning).

Risk and Safety Phrases (R and S Phrases) are being replaced by Hazard and Precautionary (H and P) Statements.

Hazard statements will be separated into

H200s Physical hazards
H300s Health hazards
H400s Environmental hazards

The introduction of GHS will result in the reclassification of some materials e.g. some materials currently classified as harmful will be reclassified as toxic. Where GHS data is available then this should be used to describe the hazardous properties of material sent for disposal.

Here are examples of the differences between the current and the GHS labels and phrases:

Current labelling for heptane

Isoheptane, EC-number: 250-610-8



Highly flammable

Harmful

Dangerous for the environment

R11: Highly flammable. R65: Harmful: may cause lung damage if swallowed.

R67: Vapours may cause drowsiness and dizziness. R38: Irritating to skin.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S9: Keep container in a well-ventilated place.

S16: Keep away from sources of ignition - no smoking.

S29: Do not empty into drains.

S33: Take precautionary measures against static discharges.

S60: This material and its container must be disposed of as hazardous waste.

S61: Refer to instructions/safety data sheets.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

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Labelling for heptane according to GHS

Isoheptane, EC-number: 250-610-8



Danger

H225: Highly flammable liquid and vapour.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H336: May cause drowsiness or dizziness.

H410: Very toxic to aquatic life with long lasting effects.

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.