Hazardous and Difficult Waste Disposal Procedure – Cranfield Campus

CU-SHE-PROC-3.06a

Contents

1. Purpose

To describe the procedure for the removal of hazardous and difficult waste from campus buildings. It is essential that Schools/PSUs comply with this procedure to ensure that the University meets its legislative responsibilities with regards to protecting the health and safety of University staff, students and waste contractor operatives, along with meeting legal requirements for waste disposal.

2. Scope

This procedure applies to all hazardous and difficult waste arising from all buildings operated by Cranfield University on the Cranfield Campus.

3. Definitions

3.1. **Hazardous Waste:** Waste is considered 'hazardous' when it contains substances or has properties that might make it harmful to human health or the environment. More information on the interpretation of the definition and classification of hazardous waste can be found in the Environment Agency's Technical Guidance WM3: www.gov.uk/government/publications/waste-classification-technical-guidance which includes the European Waste Catalogue – a comprehensive list of all wastes including hazardous wastes.

3.2. **Difficult Waste:** Waste produced by a university service or department that is not classified as legally hazardous, but could be difficult to dispose of, causing mess, nuisance or injury if they are disposed of incorrectly, cannot be put into the non-hazardous waste streams currently catered for in the University's central waste and recycling facility.

Examples include

- Uncontaminated soil (dependent on quantity and/or origin)
- Large pieces of machinery that could be too bulky or heavy to put into skips or contain oil or other hazardous parts
- Uncontaminated sharps
- Non-hazardous liquids that cannot be disposed of down the drain
- Non-hazardous solids in powder form(quantity-dependent)
- Animal by-products

4. Responsibilities

4.1. PVCs or equivalent are responsible for:

- ensuring all staff and students designated to carry out packaging, movement and storage of hazardous and difficult waste pending collection do so in accordance with this procedure and are suitably trained and competent
- monitoring staff and students to ensure that any wastes deemed hazardous are appropriately contained and stored pending disposal.

4.2. The University's Facilities host with responsibility for the appointed Hazardous Waste contractor is responsible for:

- ensuring the contractor is appropriately trained in handling and transporting hazardous wastes from point of production to the Central Recycling Facility and offsite in accordance with ADR regulations,
- making the contractor aware of contacts and procedures in case of spillage or emergency and for providing outer containers (hazardous waste crates) that are fit-for-purpose and in good condition.

5. Training and competence

5.1. All persons packaging hazardous waste for disposal must have read, understood and be compliant with this procedure, related Safe Systems of Work, COSHH assessments and MSDSs of the materials being disposed of. They should also know what to do in case of spillage (ref CU-SHE-PROC 3.13 Spillage Prevention and Response).

6. Procedure

A summary of the procedure can be found in Appendix 1

6.1. Classifying Waste as Hazardous

6.1.1. If in doubt, the producer of the waste should consult Technical Guidance WM3: Waste Classification – Guidance on the classification and assessment of waste

(https://www.gov.uk/government/publications/waste-classification-technical-guidance), in order to classify the waste as hazardous.

6.1.2. The method of disposal should be determined as part of the COSHH assessment.

6.1.3. Examples of hazardous wastes that are produced by the university include:

- laboratory chemicals (including chlorinated solvents & non-chlorinated solvents)
- waste oil and fuel
- absorbents contaminated with substances with hazardous properties eg used spill kits, oily rags
- infectious clinical/biohazard waste
- asbestos
- nanoparticle waste
- chemicals used for photographic processing and printing
- items suspected of containing Polychlorinated Biphenyls (PCBs) e.g. insulating or heat transmission oils, capacitors from old fluorescent fittings
- batteries including lead acid, Ni/Cd, Li and mercury dry cell batteries
- pressured gases including aerosols.

6.1.4. Where there is any doubt about classifying waste as hazardous, the University Environment Advisor should be consulted.

6.2. Hazardous Waste Packing Requirements

6.2.1. In order for hazardous waste to be transported safely it must be correctly listed and packaged in UN-approved containers according to their hazardous properties. All containers must be in good condition, leak-proof and with the lids securely fitted. For examples of appropriate containers see Appendix 4.

6.2.2. **For the removal of small items up to 2 litres/2 kg**

- Place in designated UN approved and numbered orange box available from the Estates Helpdesk: estates-helpdesk@cranfield.ac.uk.

- Label each item using waterproof adhesive label and/or paper tag if items contain solvents. **Each item** must be labelled clearly with:
    - Unique hazardous waste serial number– this is generated by the collection request form (CU-SHE-FORM-3.06) and is made up of:
        - box number
        - date of packing/preparation
        - building number where waste needs collecting from
        - initials of producer/packer
        - for example 105.28/08/18.52a.JH
    - brief description of the contents
    - hazard code (s)

- The description must match the details given on the Hazardous and Difficult Waste Disposal Form CU-SHE-FORM-3.06 (see Appendix 5)

- All other markings must be removed or deleted.

- Items must be packed in the boxes according to their compatibility. Waste with incompatible properties must not be packed in the same box. This includes:
    - Chlorinated with non-chlorinated solvents
    - Materials with oxidising and flammable hazard codes
    - Acids and alkalis

- As a general rule, materials that are stored separately in a lab or workshop environment must not be placed together inside a hazardous waste box.

- More information on storage, segregation and incompatibility can be found in CU-HAS BPG 5.11 Management of Laboratory Reagents, Chemicals and Solvents.

- More information on packing classes and hazard codes can be found in Appendices 2 and 3.

- Individual boxes must not hold more than 20kg of waste in total.

6.2.3. **For the removal of bagged items**

Waste being stored in a bag/sack e.g. items such as contaminated gloves and wipes must be at least double bagged, preferably in clear bags (UN-approved for use) and labelled with contents, item number and serial number. The hazard should be identified using hazard tape and if practical, placed in a numbered hazardous waste collection box.

6.2.4. **Items in containers too big to fit in hazardous waste boxes**

- These items include
    - 25 litre containers or heavier than 25kg
    - empty pressure vessels owned not rented
    - 205 litre drums and
    - 1000 litre IBCs (Integrally Bunded Containers)
- All containers must be clearly labelled with description of contents, hazard code, item number and the serial number on the Hazardous and Difficult Waste Disposal Form (CU-SHE-FORM-3.06). These items must be listed on a separate form to ensure suitable transport is provided for its collection.
- All containers must be in good condition and fit for transportation.

6.2.5. **Biohazard waste stored in cold rooms**

- Items must be contained in accordance with COSHH storage requirements. Containers must contain compatible materials with solids separated from liquid wastes.
- Items must remain in cold rooms until the waste contractor arrives to collect.

6.2.6. **Imported plant material** must be accompanied by a Phytosanitary Material Certificate.

6.2.7. **Nano materials and materials contaminated with nano materials** including wipes, HEPA filters and PPE must be appropriately enclosed, double contained and labelled as nano material waste. More information on nano materials can be found in the Best Practice Guide CU-HAS-BPG-5.07.

6.2.8. **Highly toxic materials for example HF** require specialist handling and therefore need to be requested separately.

6.2.9. **Radioactive materials** WILL NOT be accepted. Please contact the School/Service Radiation Protection Supervisor (RPS).

6.2.10. **Explosive materials WILL NOT be accepted**. If explosive substances require disposal please contact the Environmental Advisor for advice on specialist disposal options.

6.2.11. **Unknowns**

Items listed as ‘Unknown’ (or equivalent) WILL NOT be accepted. The School/Service may engage the services of a chemist to analyse the contents themselves or approach the Environment Advisor who will provide them with details of an approved chemist.

6.3. Completing the form

6.3.1. Requests for hazardous waste collection must be accompanied by hazardous and difficult waste collection request forms CU-SHE-FORM-3.06. The form can be found on the intranet:https://intranet.cranfield.ac.uk/EnergyEnvironment/Pages/env-home.aspx

6.3.2. All fields must be completed before submitting. Items must match items packed for disposal.

6.3.3. A separate form must be completed for each box of waste.

6.3.4. Any special considerations including local emergency response arrangements should be documented on the form.

6.3.5. Forms must be emailed to hazardous@cawleys.co.uk, copying in (CC'ed) energyandenvironment@cranfield.ac.uk

6.3.6. Once submitted the form must be printed out and stored with the waste.

6.4. Collection from producing department

6.4.1. Hazardous waste collections will be scheduled **once every two weeks**. Forms submitted by midday on Monday will be scheduled for collection the following Wednesday.
6.4.2. On collection, printed forms must be signed by a representative of the producing department (this could be a Facilities Manager)
6.4.3. Instructions 'in writing' of the collection must be available in the vehicle collecting the waste.
6.4.4. The university host responsible for the appointed waste contractor will ensure that the contractor is aware of local emergency response arrangements.
6.4.5. The waste will be collected by the appointed waste contractor and taken to the Central Waste and Recycling facility hazardous waste store to prepare for removal offsite.

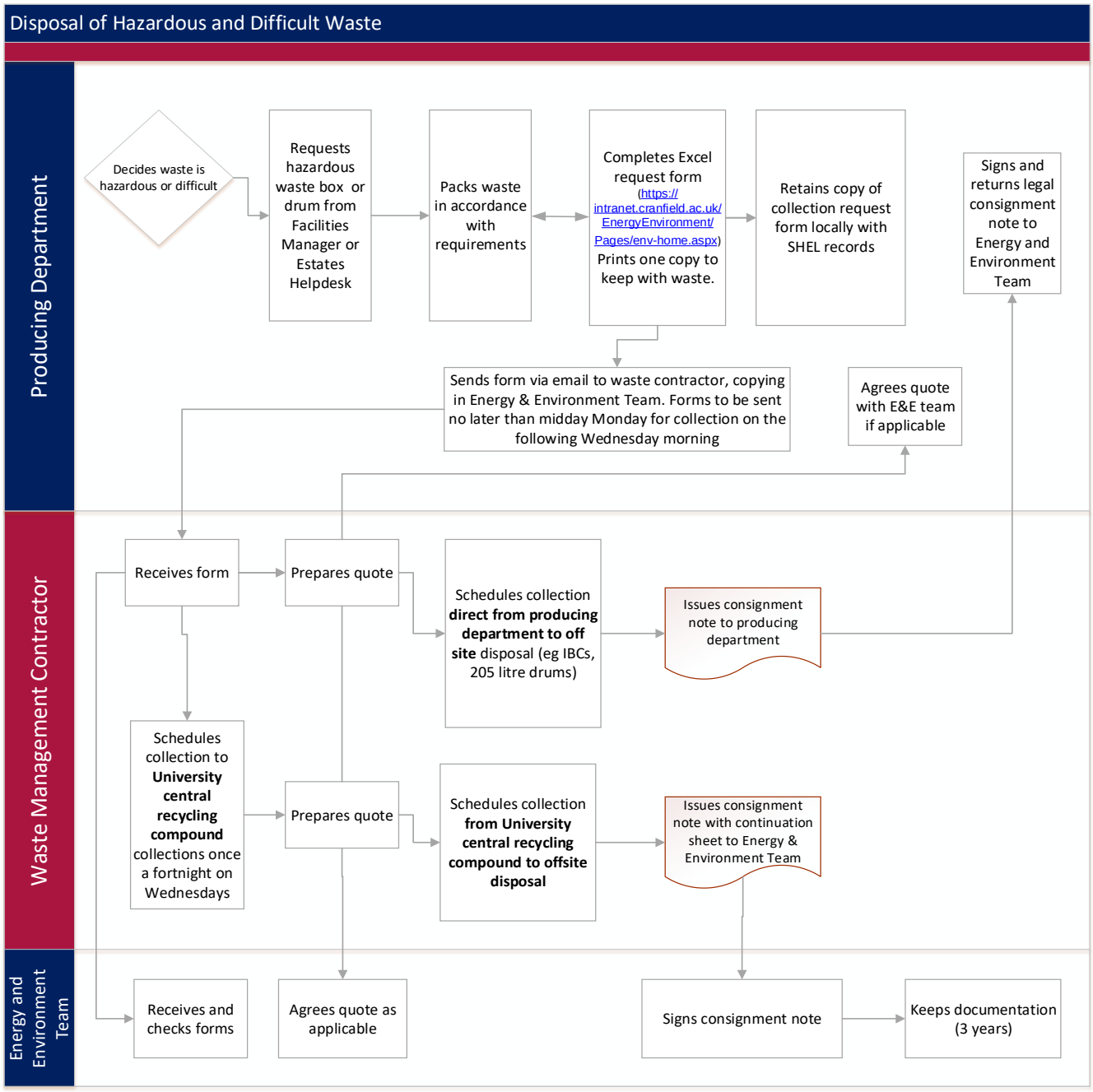
6.5. Emergency Spill Response during transit to central facility

6.5.1. The use of properly compliant UN-approved packaging and handling will limit the potential for breakages and spillages. The waste contractor will be provided with emergency contact numbers to call should an incident occur. The contractor will follow CU emergency response procedures in addition to any other local instruction given on the request form.

6.6. Collection from central facility

6.6.1. The waste contractor arranges bulk collection from central store.
6.6.2. Once collected, the contractor provides Energy and Environment Team with consignment note, continuation sheets, and the signed copies of all collected Hazardous and Difficult waste collection forms.

Appendix 1
Summary procedure



Appendix 2
Hazard Codes

Symbols	Hazard	Special Precautions
	Flammable – **burns readily with an ignition source + oxygen**	**Extinguish naked flames, do not breathe vapours,keep people away from large spills**
	Oxidising – **substance which can support or enhance combustion (even in absence of air)**	**Keep away from sources of ignition and combustibles, Avoid skin/eye contact**
	Explosive – **Risk of explosion by shock, friction, fire or other sources of ignition**	**Handle with extreme care – keep away from sources of ignitione.g. cigarettes**
	Toxic – **poisonous – causes severe harm if in contact with skin/swallowed/inhaled**	**Avoid skin/eye contact, do not breathe vapours, keep people away from large spills**
	Harmful – **causes harm in the body, but need higher dose than toxic to have an effect** Irritant - **causes irritation to skin, eyes or respiratory system**	**Avoid skin/eye contact, do not breathe vapours, keep people away from large spills**
	Specific Target Organ Toxicity - **causes a toxic or harmful effect in a specific part of the body** Sensitising **- causes body to become sensitive to substance, allergic-like reactions**	**Avoid skin/eye contact, do not breathe vapours, keep people away from large spills**
	Corrosive – **attacks and destroys living tissue – causes burns if contact with skin**	**Avoid skin/eye contact, keep people away from large spills, consider neutralising spill before clearing up**
	Danger to Environment – **harmful to plants and animals**	**Avoid release to drainage system or ground.**

Appendix 3
ADR packing classes

UN Class	Dangerous Goods	Division(s) if applicable	Classification
1	Explosives	1.1 - 1.6	Explosive
2	Gases	2.1	Flammable gas
		2.2	Non-flammable, non-toxic gas
		2.3	Toxic gas
3	Flammable liquid		Flammable liquid
4	Flammable solids	4.1	Flammable solid
		4.2	Spontaneously combustible substance
		4.3	Substance which emits flammable gas in contact with water
5	Oxidizers and organic peroxides	5.1	Oxidising substance
		5.2	Organic peroxide
6	Toxic and infectious substances	6.1	Toxic substance
		6.2	Infectious substance
7	Radioactive material		Radioactive material
8	Corrosive substances		Corrosive substance
9	Miscellaneous dangerous substances		Miscellaneous dangerous substances

Appendix 4
Examples of appropriate UN approved containers

Hazardous waste crate.

Request empty crate from your Facilities Manager or Estates Helpdesk.

Clip top waste drums (metal or plastic) for solid waste only.

Bung top waste drums (metal or plastic) for liquid waste

Smaller containers for liquid wastes

Glass or plastic bottles or Winchesters for lab waste liquids

Appendix 5
Hazardous waste disposal form

SHE FORM 3.06

CU-SHE-FORM 3.13 V1.1

Hazardous and Difficult Waste Collection Request Form

For assistance with completing this form please contact Ginny Ford on 07876 131331

Once completed please email your request to **hazardous@cawleys.co.uk** and copy in **g.ford@cranfield.ac.uk AND k.biggs@cranfield.ac.uk**

CONTACT NAME *(person responsible for this waste)*		INITIALS *(eg JS for John Smith)*		Further instructions re location / special considerations
CONTACT PHONE NUMBER *(mobile preferable - to arrange collection)*		SECONDARY CONTACT NAME *(if for any reason the main contact is unavailable during collection)*		
CONTACT EMAIL ADDRESS *(in case there is further info needed)*		SECONDARY CONTACT NUMBER		
DATE *format dd.mm.yy*		CONSIGNMENT NOTE NUMBER *(for Facilities use only)*		
BUILDING NUMBER		SIGNATURE OF PRODUCER ON COLLECTION		
UNIQUE SERIAL CODE FOR THIS COLLECTION. EACH ITEM MUST BE CLEARLY LABELLED WITH THE CODE	...			

All fields must have a value, if no value please enter NA. **Please complete a new sheet for each box .**

BOX NUMBER	ITEM NO.	DESCRIPTION OF WASTE	CONCENTRATION IF KNOWN	HAZARD	HAZARD	HAZARD	VOLUME OR MASS OF WASTE	UNIT OF MEASURE	SIZE OF ACTUAL CONTAINER	TYPE OF CONTAINER
101	EXAMPLE	ACETONITRILE + WATER	50%	TOXIC	NA	NA	2.5	L	2.5 L	GLASS WINCHESTER

The electronic form can be found on the intranet page, on the 'Forms' tab
https://intranet.cranfield.ac.uk/EnergyEnvironment/Pages/env-home.aspx

Document control

Document title	Hazardous and Difficult Waste Disposal Procedure – Cranfield Campus
Document number	CU-SHE-FORM 3.06a
Version number	V2
Originator name/document owner	Ginny Ford
Professional Service Unit/Department	Facilities
Implementation/effective date	July 2017
Date of this version	October 2023
Date of next review	October 2026
Standards reference	ISO 14001
Approved by	
Title	Gareth Ellis
	Energy and Environment Manager

Document Review

Version	Amendment	By	Date
V1	Complete revision from Est-COP-001Disposal of Hazardous Waste Guidelines Issue 7.1 July 2014	Ginny Ford	Aug-Dec 2018
V2	Reviewed no changes required	Ginny Ford	October 2023