



HUMAN RESOURCES
ENVIRONMENTAL HEALTH AND SAFETY

HAZARDOUS WASTE MANAGEMENT PROGRAM

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1.0 RELATED LEGISLATION AND GUIDELINES:

[R.R.O. 1990, Reg. 347: General - Waste Management](#)

[MOECP - Registration guidance manual for generators of liquid industrial and hazardous waste](#)

2.0 RELATED UNIVERSITY GUIDELINES AND PROCEDURES

[University of Guelph - Hazardous Waste Management Procedures](#)

[University of Guelph – Hazardous Waste Management Guideline for the Regional Campus and Research Stations](#)

3.0 INTENT

To outline the scope and components of the Hazardous Waste Management program and prescribe the associated responsibilities to relevant members of the University of Guelph community.

Guidance regarding [management of non-hazardous wastes](#) at the University can be found through the Sustainability Office.

4.0 RESPONSIBILITIES:

4.1 Managers and supervisors

- a. Provide adequate resources for responsible hazardous waste management within their workspaces.
- b. Include provision for handling of hazardous waste when planning projects ensuring that waste minimization strategies are incorporated as feasible.
- c. Require that all hazardous wastes generated in their workplaces are safely contained, appropriately identified and disposed of according to the University's hazardous waste disposal procedures.
- d. Responsibly manage hazardous materials inventories for each laboratory.

4.2 Waste generators (not construction related)

- a. Follow appropriate hazardous waste disposal procedures ensuring that hazardous waste is identified accurately, packaged appropriately and stored safely.
- b. Dispose hazardous waste regularly and as identified. Update chemical inventories at least annually and purge chemicals as required.

4.3 Design Engineering and Construction, Physical Resources

- a. Incorporate provision for utilizing hazardous waste disposal contractors meeting the defined minimum standards into the scope of construction projects.
- b. Incorporate responsible hazardous waste management into construction projects as applicable.
- c. Require approval of associated waste manifests through Environmental Health and Safety (EHS) department.

4.4 Regional Campus and Research Stations

- a. Develop and manage location-specific hazardous waste disposal procedures. Follow the University of Guelph Hazardous (Subject) Waste Management Guideline for Regional Campus and Research Stations.
- b. Only use University of Guelph waste generator number(s) under the guidance and with the approval of EHS.
- c. Apply defined minimum standards for hazardous waste disposal contractors for all hazardous waste removal.
- d. Require that waste manifests are approved by a University employee with current Transportation of Dangerous Goods (TDG) certification.
- e. Maintain waste manifests (TDG documentation) for a minimum of two years.

4.5 Environmental Health and Safety (EHS)

- a. Coordinate and provide support related to hazardous waste disposal services for Guelph Campus, the regional campus and research stations
- b. Communicate and make readily available hazardous waste procedures to University waste generators.
- c. Maintain generator registrations and good standing with the Ministry of the Environment Conservation and Parks Hazardous Waste Information Network (HWIN) and add, modify or remove waste classes for all University of Guelph sites (including the regional campus and research stations) as required.

- d. Maintain current TDG certification for the department and approve waste manifests for Guelph Campus.
- e. Permit and approve use of University of Guelph waste generator numbers
- f. Maintain waste manifests (TDG documentation) from Guelph Campus for a minimum of two years.
- g. Maintain waste characterization information for a minimum of three years (e.g. waste profiles, laboratory analyses, etc.)
- h. Provide regular Hazardous Waste Management training opportunities

5.0 MINIMUM STANDARDS FOR HAZARDOUS WASTE DISPOSAL CONTRACTORS

Hazardous waste disposal is highly regulated and as such has significant associated liability. To ensure the protection of the environment, the safety of our people and the University as well as ensure that our regulatory obligations are met, the following criteria for hazardous waste disposal contractors hired by the University of Guelph have been defined:

- No regulatory infractions in the past 5 years or submission of regulatory infractions within the past 5 years along with corrective actions for review
- No company name changes in past 5 years or submission of company regulatory history under previous name(s) for review
- Environmentally responsible final waste disposal, ensuring compliance with relevant acts and regulations
- Adequate insurance as determined by current recommendations of the University's Insurance office, including transport and commercial general liability, errors and omissions and environmental impairment insurance
- Certificate of insurance must name U of G as additionally insured party
- Proof of Worker's Safety and Insurance Board (WSIB) coverage and letter of standing from WSIB
- Submission of Health and Safety program if required
- Solid understanding of the Provincial hazardous waste legislation, waste manifesting system, Transportation of Dangerous Goods requirements, WHMIS and all additional relevant statutes and regulations

Regulatory history is a significant factor in choosing a responsible waste disposal contractor and this factor is to be included during assessment of disposal companies. The University must be confident and assured its regulatory obligations can be met. Infractions involving illegal or irresponsible waste disposal practices will not be tolerated

6.0 FUNDING FOR HAZARDOUS WASTE DISPOSAL

Hazardous waste disposal is centrally funded by the University with the following exceptions:

- Gas cylinders
- Potentially explosive materials
- Materials of unknown identity
- Waste generated from the following locations or activities:
 - Regional campus and research stations
 - Cost recovery units e.g. Lab Services Division, Hospitality, Athletics, Student Health Services, etc.
 - Wide-spread lab clean-outs
 - Construction projects e.g. Polychlorinated Biphenol (PCB) waste, fluorescent bulbs, etc.

7.0 HAZARDOUS WASTE STREAMS

Hazardous waste can be divided into chemical, biohazardous and radioactive waste streams. Unless combined through the inherent design of the research, waste streams are to be kept separate.

Types of waste within streams are to be kept separate if possible (e.g. halogenated, non-halogenated solvents, aqueous, organic and inorganic wastes). Incompatible wastes must be segregated to ensure the safety of all University and contractor personnel.

Waste manifests must be signed by University of Guelph employees with current TDG certification. For the Guelph campus this is done through EHS.

7.1 Chemical

Chemical waste management involves removal to off-site treatment/final disposal sites.

Waste included in the chemical waste stream includes but is not limited to the following:

- Surplus, expired or spent laboratory chemicals
- Batteries, including alkaline, Ni-cad, lead acid, nickel metal hydride, etc.
- Fluorescent light bulbs, including fluorescent tubes and compact fluorescent bulbs
- Paints
- Oils and lubricants
- Pesticides (including insecticides, herbicides and fungicides)
- Aqueous wastes unsuitable for sewage disposal

Chemical waste disposal for the Guelph campus involves regularly scheduled pick-ups by an authorized chemical waste disposal contractor. Chemical waste is then transferred to the Chemical Management Centre for lab packing or bulking and transport as appropriate.

Specially scheduled removals are arranged for extraordinary quantities of chemical waste such as waste generated from construction projects.

Chemical waste disposal for the regional campuses and research stations is scheduled as required by site representatives.

7.2 Compressed gases

Gas cylinders are to be leased from the supplier such that the empty cylinders, surplus or expired gases can be returned to the applicable supplier.

Compressed gases that require waste disposal are included in regular chemical waste disposal programs.

7.3 Potentially Explosive Materials

Disposal of potentially explosive materials is scheduled as required and is completed by an authorized explosives disposal contractor.

7.4 PCBs

Waste considered to be PCB waste includes:

- PCB oils
- PCB containing or contaminated equipment where PCB concentrations are greater than 50 ppm including electrical ballasts

PCB waste disposal involves specially scheduled pick-ups by authorized PCB disposal contractors.

7.5 Biohazardous

Waste included in the biohazardous waste stream along with treatment methods includes but is not limited to the following:

7.5.1 *Steam sterilization (autoclaving):*

- Potentially pathogenic or pathogenic material
 - lab trash, contaminated glassware, disposables, agar plates, slants
 - vaccines, toxins
 - microbiological cultures, blood products, bodily fluid

Autoclaving of biohazardous waste must be done at conditions to ensure the sufficient destruction of hazardous agents (e.g. 120°C at 105 kPa for more than 60 minutes).

7.5.2 *Incineration or caustic digestion:*

- Transgenic animals
- Waste generated from transgenic animals – (bedding, feces, etc.)¹
- Surgical waste including drapes and blood stained material¹
- Biohazardous waste generated from areas without access to an autoclave¹
- Potentially pathogenic or pathogenic
 - Animal carcasses and body parts
 - Bedding
 - Feces, etc.

Waste for incineration must be sent off-site. Non-incineration techniques may be used on-site.

7.6 Radioactive

Details of the radioactive waste management program can be found in the [Radiation Safety Manual](#).

8.0 HAZARDOUS WASTE DISPOSAL PROCEDURES

Current [hazardous waste disposal procedures](#) for chemical, biohazardous and radioactive wastes on the Guelph campus are included on the EHS website.

[Hazardous waste management guidelines for the regional campus and research stations](#) are also available on the EHS website.

Hazardous waste management is discussed in Lab Safety, Biosafety and Radiation safety training courses which are offered regularly. Additional training opportunities are to be made available as required.

9.0 GLOSSARY OF TERMS

Waste manifest – a six-part form required through legislation for all removal of hazardous waste. This constitutes the TDG shipping document for hazardous waste.

¹ May not be suitable for caustic digestion