OBJECTIVES

- To outline Alberta Health Services’ ("AHS") procedures for handling, transporting, and disposing of hazardous chemical waste in a safe and efficient manner.

- To prevent environmental contamination, disease transmission, and/or injury to patients, residents, clients, the public, and AHS staff and representatives (including physicians, volunteers, and other contracted service providers).

APPLICABILITY

Compliance with this procedure is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary). This procedure does not limit any legal rights to which you may otherwise be entitled.

PROCEDURE ELEMENTS

1. Hazardous Chemical Waste

   1.1 Hazardous chemical waste consists of unwanted substances that have the potential to harm life, property or the environment, and that meet the requirements set out in the Waste Control Regulation (Alberta).

   1.2 Hazardous chemical waste that has the potential to harm life, property or the environment, includes substances, or mixtures of substances (whether solid,
liquid, or gaseous), that exhibit characteristics of flammability, corrosiveness, reactivity or toxicity.

1.3 All hazardous chemical wastes shall be handled, transported and disposed of in accordance with all applicable legislation.

2. **Hazardous Chemical Waste Exclusions**

The following waste types are generally not considered hazardous chemical waste. For confirmation, review the requirements in the *Waste Control Regulation* and the Alberta User Guide for Waste Managers, 1996:

   a) general waste;
   b) agricultural waste;
   c) domestic sewage;
   d) radioactive waste; and
   e) biomedical waste.

3. **Health & Safety**

   3.1 Hazardous chemical waste must always be handled in a safe and efficient manner that minimizes the likelihood of spills, leaks, or exposure and which complies with the AHS Waste Management System ("WMS"), the *Waste Management* policy (#ESM-01) and associated procedures, and any local site protocols.

   3.2 Education and training for all AHS staff and representatives required to handle, store, or dispose of hazardous chemical waste materials must be completed in accordance with AHS *Waste Management* policy (#ESM-01).

   3.3 Appropriate personal protective equipment ("PPE") must be worn when handling or transporting hazardous chemical waste. The need for PPE will be identified as part of completing the Hazard Identification, Assessment and Control ("HIAC") Process. AHS staff and representatives must speak to their manager if appropriate PPE cannot be located or is not readily available. PPE includes, but is not limited to:

   a) gloves (puncture resistant, chemical resistant, disposable, waterproof);
   b) apron or gown;
   c) safety glasses, safety goggles or face shield;
   d) mask or respirator; and/or
   e) protective footwear (i.e. shoe covers).
3.4 AHS *Hand Hygiene* policy (#PS-02) must be followed at all times. Information on Infection Prevention & Control ("IPC") Hand Hygiene and PPE resources are available through the AHS external website and Insite. Additional information on Respiratory Protective Equipment ("RPE") is available on Insite.

3.5 AHS staff and representatives shall immediately report any hazardous chemical waste related hazards or incidents, such as improper packaging, leaks, spills, and/or accidental exposure (including any symptoms or infections that may be related to exposure to hazardous chemical waste) through the AHS Workplace Health & Safety ("WHS") designated reporting system and shall follow all applicable AHS policies and procedures, including the *Workplace Health & Safety* policy (#1121), *Emergency Response Codes* policy (#1132), and the *Occupational Exposure to Blood and Body Fluids* policy (#1111).

4. **Hazardous Chemical Waste Segregation**

4.1 Hazardous chemical waste must be **segregated** from other waste streams at the point-of-origin. If hazardous chemical waste materials are inadvertently mixed with other waste streams (including biomedical waste), the entire waste stream shall be treated and disposed of as hazardous chemical waste.

4.2 Appropriate segregation of hazardous chemical waste materials is important to maintain safety, efficiency, and cost controls.

5. **Packaging**

5.1 Hazardous chemical waste shall be packaged in accordance with the *Transportation of Dangerous Goods Regulations* (Canada).

5.2 Improper packaging poses a significant risk to patients, clients, visitors, and AHS staff and representatives as it increases the risk of exposure and or injury. It is the responsibility of the waste generator (or area) to ensure that hazardous chemical waste is properly packaged and labelled per sections 5.3 and 6 of this procedure.

5.3 Packaging Procedures

a) **All containers** shall be closed except when adding material.

b) Containers shall not be more than three-quarters (¾) full.

c) Incompatible materials shall not be mixed together in a single container (e.g. organic acids with inorganic acids, oxidizers with organic materials, etc.).

d) Wastes shall be stored in containers compatible with the chemicals stored.
e) Halogenated and non-halogenated solvents shall be packaged separately.

f) Biomedical waste bags shall not be used to package solid hazardous chemical waste.

6. Labelling

Hazardous chemical waste shall be labelled in accordance with the *Transportation of Dangerous Goods Regulations* (Canada). Information on the label shall include:

a) generator of the hazardous chemical waste (person or department);

b) origin of waste;

c) full chemical name(s) (no abbreviations or brand names); and

d) a complete list of all chemicals in the container, unless properly classified as identified by the *Transportation of Dangerous Goods Regulations* (Canada).

7. Collection and Transportation

7.1 Handling of hazardous chemical waste containers should be minimized and done with caution in accordance with local site protocols in order to prevent spills, damage to the containers, and exposure.

7.2 Hazardous chemical waste will be moved within a facility along a designated transfer route to mitigate exposure to patients, clients, visitors, and AHS staff and representatives. Detailed information on designated transfer routes is dictated by local site protocols and must comply with section 7.3 of this procedure.

7.3 Healthcare facilities must document designated corridors and elevator routes for transporting hazardous chemical waste within the facility.

a) The department responsible for hazardous chemical waste pick up within the facility will be responsible for documenting these routes.

b) Planned routes will minimize the passage through patient care, public, and other clean areas.

c) AHS staff and representatives collecting and transporting hazardous chemical waste within the facility must be trained on appropriate routes prior to collecting waste containers.

d) Documented routes must be available to AHS staff and representatives required to collect and move hazardous chemical waste.

7.4 Full hazardous chemical waste containers shall be collected by properly trained AHS staff and representatives and moved to final storage areas.
7.5 Other waste streams being collected and transported within AHS facilities must not be collected and transported with hazardous chemical waste.

7.6 Hazardous chemical waste containers that are being transported within an AHS facility, or which have been moved to final storage, must not be re-opened.

8. Storage

8.1 Hazardous chemical waste is to be properly labelled, documented, and stored.

8.2 Some hazardous chemical waste materials can be neutralized and disposed of through the sanitary sewer system. Refer to the Materials Safety Data Sheet (“MSDS”) for more information on how to properly dispose of the hazardous chemical waste material. Only dispose of hazardous chemical waste through the sanitary sewer if it safe to do so.

8.3 Ensure that, while in storage, hazardous chemical waste is properly segregated according to chemical compatibility according to the appropriate MSDS. Incompatible chemicals must be stored in such manner that they do not come into contact with one another (e.g. stored on different shelves).

8.4 The following types of hazardous chemical waste must be segregated from one another:

a) flammable liquids;

b) flammable solids;

c) mineral solids;

d) organic acids;

e) caustics;

f) oxidizers;

g) perchloric acid;

h) water-reactive substances;

i) air-reactive substances;

j) heat-reactive substances requiring refrigeration; and

k) unstable substances (shock-sensitive substances or explosives).

8.5 Hazardous chemical waste must be stored in a designated space which does not present a hazard to patients, clients, visitors, or AHS staff and representatives.
8.6 When hazardous chemical waste can not be immediately removed from an AHS site, a designated Hazardous Waste Storage Room (“HWSR”) must be utilized. The HWSR must be:

a) well-ventilated;
b) cool;
c) dry;
d) be equipped with explosion/corrosion-proof devices and accessories; and
e) have a proper fire-suppression system.

8.7 The HWSR must be equipped with grounded cabinets and/or shelving units that have a minimum 1/2 inch retaining lip for containerized wastes as per the Alberta Fire Code, 2006 (Section 40.1.8.2, Division B). Such cabinets or shelves must be securely fastened to the wall(s) and floor.

8.8 Ensure that the HWSR is properly marked or identified as “Hazardous Waste Storage” and is kept locked except when occupied.

8.9 HWSR must be equipped with suitable equipment to handle an emergency situation involving a chemical leak or spill as per the local site protocols, the MSDS, and the local Code Brown procedure.

8.10 Liquid hazardous chemical waste must be stored in a secondary containment system so that leakage or spillage can be prevented from entering the sewer system or from spreading into adjacent areas of the storage room.

8.11 Corrosive waste materials must be stored in corrosion-resistant cabinets.

8.12 Flammable and/or combustible liquid waste must be stored in a special flame-resistant cabinet located in the HWSR.

8.13 All containers must be thoroughly checked/inspected to ensure that no leaks are present before placing chemical waste materials in the HWSR.

8.14 Mixing and/or transferring hazardous chemical waste (e.g. chemicals or solvents) within the HWSR is strictly prohibited.

8.15 Access to the HWSR will be permitted only to authorized staff who have been identified by the waste generating department.

8.16 An inventory of all hazardous chemical wastes that are stored on-site must be completed annually.

8.17 Hazardous chemical waste must not be kept on site for a period of longer than one year.

If you have any questions or comments regarding the information in this procedure, please contact the Policy & Forms Department at policy@albertahealthservices.ca. The Policy & Forms website is the official source of current approved policies, procedures, directives, and practice support documents.
8.18 The **Hazard Waste Disposal** form must be completed for each container and provided to the licensed hazardous chemical waste carrier upon arrival at the site to pick up the waste materials.

8.19 New users must complete and submit a **Request for Hazardous Material Service Order** form prior to any hazardous chemical waste disposal.

8.20 The HWSR must be cleaned and disinfected only after it has been completely cleared of hazardous waste materials. The frequency of cleaning is dictated by the local site protocol

8.21 Inspections of the HWSR are to be completed annually, to check for electrical and/or air-handling faults. This should be conducted by the appropriate designated Facilities Maintenance & Engineering ("FM&E") staff.

9. **Records Retention**

Information and records pertaining to hazardous chemical waste shall be maintained in accordance with **regulatory requirements** and the AHS Records Management policy (#1133) and Records Retention Schedule (#1133-01).

**DEFINITIONS**

**AHS staff and representatives** means everyone who provides care or services or who acts on behalf of AHS. This includes:

- all levels of AHS administration and management including the President and Chief Executive Officer and other members of Senior Executive;
- employees of AHS and its subsidiaries including permanent and probationary full time and part time employees, term employees, casual employees, and individuals employed under an individual consulting or service contract;
- physicians, dentists, podiatrists, midwives and other allied health professionals with an AHS appointment and privileges, who provide care or services on behalf of AHS;
- subsidiaries;
- researchers working with AHS or studying AHS staff or patients;
- students, trainees and educators;
- volunteers; and
- consultants, contractors, agents or other representatives of AHS.

**Container(s)** means any receptacle for the storage of waste.

**Contracted service providers** mean any non-AHS or wholly owned subsidiary that are contracted to provide direct patient care services.

**Disposal** means the removal of waste, treated waste, or residue from a facility, off-site waste treatment facility, or transfer station to a final location. Disposal includes placement in a landfill or discharge to a sanitary sewer.
Final storage area means an area where the hazardous chemical waste is transported to and stored just prior to disposal.

Hazardous chemical waste consists of unwanted substances that have the potential to harm life, property or the environment; and/or contains one or a mixture of chemical compounds (e.g. solvents, reagents, paints, fuels) and is classified as hazardous. Examples of hazardous waste include, but are not limited to:

- Toxic;
- Corrosive (acids of pH 12 pH);
- Flammable;
- Reactive (explosive, water reactive, shock sensitive);
- Genotoxic (carcinogenic, mutagenic, teratogenic, or otherwise capable of altering genetic material)

Regulatory requirements mean all applicable acts, legislation, regulations and bylaws.

Secondary Containment System means a method or system used to prevent unplanned releases of liquid hazardous chemical waste in order to prevent pollution. It is a level of containment that is external (in addition) to the primary mode of containment for liquid hazardous chemical waste.

Segregated (segregation) means the separation of wastes, according to classification, at the point of generation and prior to storage.

Storage means the accumulation of wastes after segregation into a specified container(s).

Substance means any matter that is capable of becoming dispersed in the environment, or is capable of becoming transformed into matter that is capable of becoming dispersed in the environment.

Waste means an unwanted substance or mixture of substances and includes refuse and garbage.

REFERENCES

- AHS Policies, Procedures, and Forms:
  - Biomedical Waste (#ESM-01-01)
  - Emergency Response Codes (#1132)
  - Enterprise Risk Management (#1125)
  - Hand Hygiene (# PS-02)
  - Hazardous Waste Disposal form (#18960)
  - Records Management (#1133)
  - Request for Hazardous Material Service Order form (#18961)
  - Waste Management (#ESM-01)
  - Workplace Health & Safety (#1121)
• **Hazard Identification, Assessment and Control ("HIAC") Process**
• **Alberta Fire Code**
• **Canadian Environmental Protection Act**
• **Canadian Standards Association (CSA)**
  • Handling of waste materials in health care facilities and veterinary health care facilities
• **Environmental Protection and Enhancement Act (Alberta)**
• **Waste Control Regulation**
• **Transportation of Dangerous Goods Act (Canada)**
• **Occupational Health and Safety Act (Alberta)**
• **Public Health Act (Alberta)**
  • **Nuisance and General Sanitation Regulation (Alberta)**

**VERSION HISTORY**

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