



Potentially Explosive Chemicals Disposal

Purpose

This procedure specifies the requirements for the disposal of potentially explosive chemicals following all applicable legislation.

Scope

This procedure applies to the disposal of chemicals that are considered potentially explosive.

Background

Explosive chemicals are classified according to the BC Environmental Management Act, 2003 and Hazardous Waste Regulation, 2009, as well as the current Transportation of Dangerous Goods (TDG) Regulations. Disposal of explosive waste in the sewer or landfill is prohibited by the Metro Vancouver Sewer Use Bylaw 299, 2007 Consolidated.

Chemicals identified as explosive or TDG class 1 are generally not used at UBC. However, certain chemicals which are **not stored properly, not inspected regularly, and past expiration date** may become extremely reactive and/or potentially explosive - too hazardous and unsafe to handle for disposal. Such chemicals are often disposed of as oxidizers (TDG class 5.2) or dangerously reactive (TDG class 4.1 or 4.2). Examples: picric acid, perchloric acid, peroxide forming chemicals (e.g. acetaldehyde, diethyl ether, tetrahydrofuran, 2-butanol), etc.

For lab safety information, review the current SRS safe work procedures (SWP) "Working with Peroxide Forming Compounds", "Working Safely with Picric Acid", "Working with Perchloric Acid".

Procedure

The Environmental Services Facility (ESF) **DOES NOT** accept potentially explosive chemicals.

Peroxide Forming Compounds:

- Generators **MUST** test for peroxides before sending peroxide forming chemicals (e.g. ethers) for disposal as chemical waste via the Chemical Waste Inventory System (CWIS).
- Chemicals must have been tested every 3, 6 or 12 months depending on peroxide class.

Picric acid and perchloric acid:

- Picric acid properly hydrated with more than 30% water can be safely disposed via CWIS.
- Perchloric acid at less than 70% concentration can be safely disposed via CWIS.

Potentially explosive compounds:

- Review Safety Data Sheets (SDS) for old chemicals and/or if chemicals look degraded.
 - Check if hazard statements include "fire or explosion" or any possible degradation products; ascertain if physical appearance matches SDS description.
- Place chemicals in a cardboard box with caution, if safe to handle, and write clearly on the box "POTENTIALLY EXPLOSIVE – DO NOT TOUCH".
- Inform lab personnel of potential risk, store the box safely and securely.
- Contact SRS Chemical Safety (604-827-3409) for an initial risk assessment.
- SRS will inform you of the next steps - if an approved external waste contractor can or cannot pick up the chemicals and what other options exist.
- ESF can arrange for the direct pick-up of waste by the approved external contractor.
- Dispose of potentially explosive chemicals in a timely fashion - within a month of risk assessment.
- Waste generators **are responsible for the cost of disposal** via external contractor.
- Generators must sign waste manifests - current TDG certification is required.