Standard Operational Procedure
EHS-SOP-014

Acquisition, Use and Storage of Restricted Components

1. Purpose

This Standard Operating Procedure describes the requirements for acquiring, using and storing any restricted components to prevent their use for illegitimate purposes.

2. Scope

The procedure applies to all Members of the University Community undertaking Sanctioned Activities involving Restricted Components, on or off University Property.

3. Definition

Certain chemicals that may be used to produce homemade explosives are subject to the Canadian Explosives Regulations. As per section 456 (1) of the Explosives Act, the following components are prescribed for the purpose of the definition of Restricted Component in section 2 of the Explosives Act:

a) Ammonium nitrate in solid form at a concentration of at least 28% nitrogen - CAS 6484-52-2
b) Calcium ammonium nitrate - CAS 15245-12-2
c) Hydrogen peroxide at a concentration of at least 30% (>30%) - CAS 7722-84-1
d) Nitromethane- CAS 75-52-5
e) Potassium chlorate - CAS 3811-04-9
f) Potassium perchlorate - CAS 7778-74-7
g) Sodium chlorate - CAS 7775-09-9
h) Nitric acid at a concentration of at least 75% - CAS 7697-37-2
i) Potassium nitrate - CAS 7757-79-1
j) Sodium nitrate in solid form - CAS 7631-99-4
k) Sodium nitrate and Potassium nitrate mixture - CAS 7631-99-4 and CAS 7757-79-1
l) Hexamethylenetetramine (hexamine) - CAS 100-97-0
m) Aluminum powder (CAS 7429-90-5) in dry form with a particle size of less than 200µm

The purpose of Part 20 of the Explosives Regulations, 2013 is to control the storage, sale, access and inventory of restricted components.

4. Role & Responsibilities

4.1. Loyola Campus

4.1.1. Environmental Health and Safety

The Environmental Health and Safety office:

- Establishes and updates internal procedure to ensure compliance with federal regulations;
- Sends, review and maintain a repository of the End User Declaration forms from Principal Investigators (PI);
- Liaises with FAS Central Stores to ensure PI are compliant with requirements;
- Inspects laboratory spaces to verify proper storage of Restricted Components.

4.1.2. Faculty of Arts and Science Central Stores

The Faculty of Arts and Science (FAS) Central Stores:

- Acts as sole supplier of Restricted Components for research purposes for the Loyola campus.
- Oversees the ordering and distribution of Restricted Components for the Loyola campus.
- Ensures that PI have signed an End Use Declaration for the Restricted Components to be acquired.
- Reports to EHS any Principal Investigator who wants to acquire Restricted Components without a proper End User Declaration

4.1.3. Principal Investigators

Principal investigators:

- Are responsible of the Restricted Components in spaces under their responsibility.
- Must ensure laboratory space can store Restricted Components with appropriate security level.
- Ensure users have read and understood the present SOP, and are appropriately trained on handling hazardous materials, including applicable requirements and security measures to observe when working with Restricted Components.
- Must report to EHS any theft, misuse of, or missing Restricted Components from their inventory.
- Ensure Restricted Components are never left unattended outside of a locked cabinet.

4.2. Sir George Williams Campus

4.2.1. Environmental Health and Safety

- In addition to the above-mentioned responsibilities, the Environmental Health and Safety office:
- Establishes internal procedure to ensure compliance with requirements for procurement and use for other University Laboratory users not acquiring Restricted Components for research purposes through the FAS Central Stores.

4.3. Chemical Safety Officer

- Acts as the Restricted Components compliance lead.
- Provides oversight and guidance for research groups or departments using Restricted Components for research purposes.
- Trains or informs the Departmental/Laboratory Designate, PIs, and users regarding the rules and regulations governing the purchase, usage, and disposal of Restricted Components.
- Investigates incidents involving non-compliance with regulations and/or missing inventory.

4.4. Department / Laboratory Designate

- Ensures that labs are operating within the bounds of the Explosives Act.
- Ensures that Restricted Components are stored according to Part 20 of the Explosives Regulations.
- Coordinates inspections of storage and handling locations with EHS as well as External Inspectors.
- Trains or informs the Departmental/Laboratory Designate, PIs, and users regarding the rules and regulations governing the purchase, usage, and disposal of Restricted Components.
- Investigates incidents involving non-compliance with regulations and/or missing inventory.

5. Acquisition of Restricted Components

At the university, Restricted Components must be procured through the FAS Central Stores.

A Principal Investigator who needs to acquire Restricted Components must complete a CERTIFICATION OF IDENTIFICATION/END USE DECLARATION. A person who does not possess a Concordia ID cannot receive Restricted Components.

In addition, EHS must be notified if a researcher wants to acquire:

a) Ammonium nitrate (no excepted quantity)
b) Calcium ammonium nitrate (no excepted quantity)
c) Hydrogen peroxide at a concentration of at least 30% (>30%) – 1L or more
d) Nitromethane – 1L or more
e) Potassium chlorate – 1kg or more
f) Potassium perchlorate – 10kg or more
g) Sodium chlorate –1kg or more
h) Nitric acid at a concentration of at least 75% – 2L or more
i) Potassium nitrate –5kg or more
j) Sodium nitrate in solid form – 5kg or more
k) Sodium nitrate and Potassium nitrate mixture – 2kg or more
l) Hexamethylenetetramine (hexamine) (no excepted quantity)
m) Aluminum powder in dry form with a particle size of less than 200µm (no excepted quantity)

6. Storage of Restricted Components

As per section 468 (1) of explosives act, a Restricted Component must be locked up when it is not attended.

7. Use of Restricted Components

Access to the Restricted Component is under the responsibility of the Principal Investigator. Any person who wants to access Restricted Components must have read and understood the Standard Operating Procedure related to Restricted Components.

Any unreasonable or amount not justified by the SOP amount used must be flagged and reported to PI and EHS for investigation.

PI are required to keep an updated inventory of the Restricted Components under their responsibility.

8. Transfer of Restricted Components

EHS must be notified of the transfer of Restricted Components prior to the transfer. EHS will verify that the receiving PI has filled the proper CERTIFICATION OF IDENTIFICATION/END USE DECLARATION. This verification will ensure that both supplier and receiver are compliant with all above-mentioned requirements.

Under no circumstances may a Restricted Component be transferred to another university without advising EHS prior to the transfer.

9. Disposal of Storage of Restricted Components

If a PI wants to dispose of a Restricted Component, the Hazardous Waste Disposal guidelines should be followed. A Hazardous Waste Pick-up Request Form must be filed. EHS will collect the Restricted Component and will store the container in a secure location prior to disposal.

CERTIFICATION OF IDENTIFICATION/END USE DECLARATION IN REGARD TO A RESTRICTED COMPONENT

Name of the Principal Investigator: _____

Name of the restricted product(s): _____

_____

_____

☐ We will use the restricted component as or in an explosive(s) and we attach a copy of license, permit or certificate issued under the Explosives Act

☐ We will use the restricted component as part of our research that won't involve production of an explosive or explosive precursor, and we attach a copy of one of the following documents:

- Identification issued by the federal, provincial, territorial or state government authority and must be valid, that is, not expired. To be considered acceptable, the valid identification must include your:
  - name
  - date of birth
  - photo
  - signature
- Proof that you are registered under the Controlled Goods Regulations.

Name **Signature** **Date YYYY/MM/DD**