Smalyukh Lab (G335 & G322) Safety Guidelines

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by Taewoo Lee

1. General Laboratory Safety

1.1. Responsibilities

All the group members should understand "Smalyukh Lab Safety Guidelines".

CU – Environmental Health & Safety "Laboratory Safety Guideline" in the "Smalyukh Group Safety Guide" folder

1.2. Laboratory Chemical Safety Plan (LCSP)

1.2.1. Training

- Hazardous Waste Generation & Lab Safety
- Classroom training (http://ehs.colorado.edu/training/?w=hazardous-materials-and-waste)
- Annual refresher training (Online)

1.2.2.Chemical inventory, Storage, Labeling

- Chemical inventory is posted on the group website and in the storage cabinet.
- Flammable solvents should be kept in the storage under the fume hood.
- Labeling chemical containers is one of the critical issues for all the group members.

1.2.3. Hazardous waste

- Follow the "Hazardous Waste Generators' Guide" in the "Smalyukh Group Safety Guide" folder or http://www.colorado.edu/ehs/pdf/HWGenGuide.pdf
- See Section 2 for details.

1.2.4. Chemical hazard information

- Materials Safety Data Sheet (MSDS) should be kept in the "Smalyukh Group Safety Guide" folder
- Whenever you have a new chemical you should get MSDS and add it to the folder.
- Online resources https://ehs.colorado.edu/lab-support/chemicals-and-hazardous-materials/material-safety-data-sheets/

1.2.5. Ventilation

- Fume hood

1.2.6. Personal Protective Equipment (PPE)

- PPEs are in the wall storage shelf.

1.2.7. Emergency

- Call 911

2. Hazardous Materials Waste

- Hazardous waste generators have responsibilities as below.
- Label as "Hazardous Waste"
- Label with complete chemical contents on a "HMW tag"

2.1. Chemical Waste

All waste must be stored in a Satellite Accumulation Area (SAA) under the fume hood & near sink area

2.1.1. Flammables / Solvents

There will be two separate waste containers.

2.1.1.1. Chlorinated

ex. Chloroform, Dichloromethane (Methylene chloride), etc.

2.1.1.2. Non-chlorinated

ex. Methanol, Ethanol, Isopropanol, Acetone etc.

2.1.2. Aqueous solutions

ex. DMOAP in water etc.

2.1.3. Corrosives

- Separate acids and bases
- Record pH and concentration/volume

2.1.3.1. Acids

ex. Hydrochloric acid (HCl), Sulfuric acid (H2SO4), Chlorosulfonic acid (HClSO3)

2.1.3.2. Bases

ex. Sodium hydroxide (NaOH)

2.2. Broken glass, Plastic pipettes tips, Other possible puncture hazards

- ***Cardboard box***
- ***No trash, no sample, only empty vials, pipettes tips, slide glass, coverslip etc.***

2.3. Sharps (needles, scalpels, and blades)

- ***Plastic containers***
- ***All metal sharps whether contaminated with hazardous materials or not***

2.4. Gas cylinder

- Any gas cylinder should be securely locked with a chain or a strap on a wall or lab bench.

2.5. Battery Collection Sites on Campus

- Any/all small sealed battery types are accepted in the collection containers including: alkaline batteries, rechargeable batteries, lithium cells, nickel-cadmium, sealed lead acid, button-cell, cell-phone batteries, laptop batteries, etc. For large and/or unsealed battery types, use the HMW tag for disposal. (https://ehs.colorado.edu/resources/battery-collection-sites-on-campus/)

2.6. Empty containers

- if EPA "P-listed" (in the "Smalyukh Group Safety Guide" folder) consider as Hazardous Waste
- Otherwise it can be dumped in the main trash container outside Duane Physics building (not in a trash can in the lab)

2.7. Proctor (Taewoo Lee as of May 14, 2016)

- Inspect weekly SAA, Hazardous Materials/Waste Accumulation Log, and particularly all the chemical containers (sample vials etc.)
- Hazardous Waste generator should inspect SAA and check the log

3. Laser Safety

- **Use correct Laser safety goggles** when you are working with lasers.