



FLAMMABLE LIQUIDS

STANDARD OPERATING PROCEDURES



GENERAL SUMMARY

A flammable liquid is any **liquid that has a flashpoint below 100°F (37.8°C)**. Due to the possibility of ignition of liquids and vapors, the handling of these materials is considered a fire hazard. Flammable chemicals may have other hazards as well as flammability, so always **consult the Safety Data Sheet** of the specific chemical you plan to work with.

PLANNING CONSIDERATIONS

- Use a **less hazardous chemical**, if possible.
- Purchase the **minimum quantity** of flammables needed.
- **Do not work alone** unless approved in the Lab Safety Plan or by the PI.
- Plan your schedule so that **experiments are not left unattended**.

ENGINEERING CONTROLS

Chemical Fume hoods are required when:

- Working with volatile, reactive, or health hazard substances.
- Working with large quantities
- Reactions may yield unstable products.

Check that your fume hood is in working order by:

- Verifying the date on the certification sticker is in the past year
- Check the flow monitor is between **80 and 120 FPM**
- Test the hood alarm to ensure correct function
- Contact EHS&EM if hood is not functioning properly.

Work safely in a fume hood by:

- Working with the **sash as low as practicable** and not above 16"
- Work 6 inches into the depth of the cabinet, not right on the edge
- Keep **bulky equipment outside the hood** if possible.






ADMINISTRATIVE CONTROLS



- Know the lab's **evacuation route & meeting area**, and location of the **pull station** and compatible fire extinguisher.
- Work with proper grounding away from sources of ignition, heat, & static electricity.
- Practice proper glove removal technique. ([Click here for a video](#)).
- **Never reuse disposable gloves**. Wash hands before breaks and after concluding work.

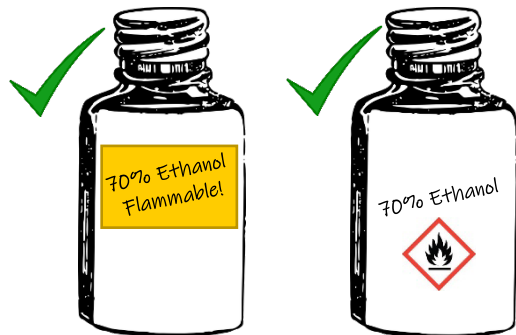


REQUIRED PPE

HANDS	EYES & FACE	SKIN
<ul style="list-style-type: none"> ➤ Gloves required. ➤ Nitrile is generally acceptable, but check glove compatibility with the chemical(s) in question. ➤ Glove Compatibility Guide ➤ Change gloves immediately if contaminated. ➤ Wash hands at the time of glove changes. 	<ul style="list-style-type: none"> ➤ ANSI-approved safety glasses required. ➤ Chemical splash goggles required when there is a risk of a splash. ➤ Ensure a snug fit. ➤ Face shields may also be appropriate in place of a physical barrier like a fume hood sash. 	<ul style="list-style-type: none"> ➤ A lab coat with sleeves extending to the wrists is required. ➤ Flame-resistant lab coats are recommended. ➤ Do not wear synthetic materials when working with a pyrophoric chemical. ➤ Long pants and close-toed shoes are required.
		

LABELING REQUIREMENTS

- Chemical containers **must be labeled** with:
 - The **full chemical name**
 - **Hazards** associated with the chemical
- Hazards can be either in words or in pictograms
- All hazards should be included in the label.
- Labels should be **legible** and in **good condition**.
- Regularly check chemical stock to verify chemicals are labeled properly.



STORAGE REQUIREMENTS



Store flammable chemicals:

- In a **shatter-resistant** container with a **tightly closed lid**.
- In a **flammables cabinet**, if more than 10 gallons are present.
- **Away from incompatibles** like oxidizers.
- In a cool, well-ventilated area away from direct sunlight.
- Below eye-level and not under a sink or on the floor.
- In a **flammables-safe refrigerator** if storage must be cold.
 - If chemical can be stored at room temperature but must be used cold, consider achieving the use temperature by using an ice bath.

WASTE DISPOSAL

- Do **not** pour flammables **down a sink drain**.
- Keep containers **capped tightly** and use **secondary containment**.
- Separate waste by hazard class and compatibility. Do not store with oxidizers.
- Label with an [Appalachian State hazardous waste label](#) prior to pick up.
- Waste should be neutralized before pickup, if possible.



CONTACT **EHS & EM AT (828) 262-4008** FOR CHEMICAL WASTE COLLECTION OR REGULATORY GUIDANCE.

EMERGENCY INFORMATION

FIRE:

Evacuate the building immediately, pulling the fire alarm on the way out. Meet at your building's assembly point and contact emergency personnel (University Police- 828-262-8000 or 911). Follow instructions and advise emergency personnel of the situation. When able, contact the primary and secondary emergency contacts listed in the Lab Safety Plan.

SPILLS:

Do not clean the spill unless trained. Evacuate the area if the spill is fuming or irritating to the respiratory tract or eyes/skin. Contact emergency personnel (University Police- 828-262-8000 or 911). Follow instructions and provide information such as location, chemical name & hazards, amount released, etc. When able, contact the primary and secondary emergency contacts listed in the Lab Safety Plan.

EXPOSURE:

For spills on the body, in the eye, or in an open wound, find and activate the nearest emergency shower or eyewash station. Immediately discard any contaminated clothing. Stand in the emergency shower stream or use the eyewash/drench hose to stream water over the affected areas for at least 15 full minutes. Contact emergency personnel (University Police- 828-262-8000 or 911) using the Safety Data Sheet of the chemical to communicate the hazards with medical professionals. When able, contact the primary and secondary emergency contacts listed in the Lab Safety Plan.

EMERGENCY CONTACT INFO

Appalachian Police Department..... (828) 262-8000
Environmental Health, Safety, and Emergency Management (828) 262-4008
Watauga Medical Center (828) 262-4100
Poison Control Center (800) 222-1222

