



LABORATORY SAFETY GUIDELINE

Diethyl Ether (1,1'-oxybis-ethane; ethyl ether; ether) [CAS No. 60-29-7]

HAZARDS

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|  | Ether is an extremely flammable liquid and vapor. The boiling point for ether is 34 °C (93.2 °F) and it readily volatilizes. Uninhibited ether can also form peroxides over time. |
|  | Ether is harmful if swallowed, may cause drowsiness and/or dizziness, and may cause eye irritation. It is critical that users limit their exposure to ether fumes. |

PRECAUTIONS

Storage

- Ether needs to be stored in a flammable storage cabinet when not in use.
- Ether can form peroxides over time when exposed to oxygen and sunlight. Labs should follow the Peroxidizable Materials guideline found [here](#). Please contact EH&S if you need labels.
- Ether should be stored in a cool place, preferably in an explosion-proof refrigerator. Under no circumstances can ether be stored in a refrigerator that is not explosion-proof.
- Ether cannot be stored in a cold room.

Before starting work:

- Review manufacturer's Safety Data Sheet and additional chemical information at <http://www.ehs.harvard.edu/safety-data-sheets-sds>.
- Make sure you are familiar with general University emergency procedures in the [Lab Emergency Response Guide](#).
- Identify the location of the nearest eyewash and shower and verify that they are accessible.

During work:

- AVOID INHALATION! Perform all operations in a certified chemical fume hood, wet bench or other approved ventilated area.
- AVOID CONTACT! Wear appropriate PPE including:
 - Lab coat and closed toed shoes.
 - Safety glasses or goggles.
 - Wear appropriate chemically protective gloves. Nitrile is fine for splash protection. If you anticipate immersion in ether use either Teflon or PVA gloves.
- Wash hands thoroughly each time gloves are removed.
- Keep all containers tightly closed when not in use.

After completing the work:

- Dispose of ether waste following Harvard University Hazardous Waste Procedures
 - Hazardous Waste Classification: Ignitable.
 - Ether can be collected with other ignitable solvents. Please consult with your LSA to review possible comingling of waste streams.
- Return container to storage area following Harvard University [Laboratory Chemical Storage Guide](#)
 - Storage Group FL [Flammable Liquids]
 - Store in original containers.
- Wash hands before leaving lab.

EMERGENCY PROCEDURES

First Aid

SKIN CONTACT

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

EYE CONTACT

- Using eyewash, flush eyes while hold eyelid open and away from exposed eye.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

INHALATION

- If you begin to feel drowsy or dizzy immediately move to fresh air.

INGESTION

- **Do not induce vomiting.**
- Call 911 on land line phone for medical assistance.
- Give water to rinse out mouth, then provide liquid slowly and as much as one can comfortably drink.
- Avoid giving milk or oils.

Spill Response

It is critical that you are familiar with Harvard's Emergency Response Guide for Laboratories. You can review the guide by clicking on this [link](#).

OUTSIDE FUME HOOD OR VENTILATED ENCLOSURE

- Alert people in the immediate area to evacuate to a safe distance.
- Call 911 if there is a medical emergency and/or fire.
- Attend to injured or contaminated person and remove from exposure, if it is safe to do so.
- Turn off ignition sources near spill, if this can be done safely.
- Increase exhaust to outside, if possible, by contacting building operations. If the spill is in a laboratory, fully open the sash of a fume hood.
- If the lab feels comfortable cleaning up the spill proceed per the guide, otherwise call operations for assistance (617) 495-5560 [HMS/HSDM (617) 432-1901].

INSIDE FUME HOOD OR VENTILATED ENCLOSURE (< 500 ml)

- Get a chemical spill kit and put on appropriate personal protective equipment including splash goggles, chemical resistant gloves, and a long-sleeved lab coat.
- If possible put the fume hood into emergency purge.
- If there is broken glass with spilled liquid, use tweezers to collect the glass.
- Collect debris in an appropriate container, tightly seal or close container, attach a Hazardous Waste Tag, and move the waste to your Satellite Accumulation Area.
- Fill out an online [waste pickup request](#) at the EHS website.