

Transportation of Lab Alcohol

UNIVERSITY OF PENNSYLVANIA

What you need to know

How people order ethyl alcohol (ethanol) at Penn

Hazards of ethyl alcohol

How ethyl alcohol is transported between buildings

How ethyl alcohol must be transported in a motor vehicle

Ordering Ethanol

Alcohol Service Center

The Alcohol Service Center supplies 190-200 proof ethyl alcohol (ethanol) in single containers and cases.

- Alcohol for research is ordered online [HERE](#)
- Distribution hours and locations are on the webpage
- Bring a copy of your pickup approval slip for pick up
- Check in at the mailroom window
- ✓ Plan on how to transport alcohol to a laboratory
- ✓ Do not order quantities greater than the available storage
- ✓ Ethanol must be stored in a flammable liquid storage cabinet (see [EHRS](#) for storage specifications)



Hazardous Material (Hazmat)

Ethyl alcohol (Ethanol) is a Class 3 flammable liquid hazmat under Department of Transportation regulations

Ethanol has a flash point of 13 °C (55 °F). Vapors will ignite at this temperature.

Review the [Safety Data Sheet](#) for Ethanol to understand the hazards, toxicology, physical and chemical properties, first aid, correct handling and storage, exposure guidelines and personal protective equipment needed for use

Ethanol inhalation, skin and eye exposure can cause irritation.

More information on ethanol can be found on [PubChem](#)

Moving Chemicals

Please follow these guidelines when transporting chemicals in and between buildings :

Understand the chemical hazard by reviewing the SDS	Make sure the primary container is sealed and has the chemical name and any hazards on the label (e.g. Ethanol-Flammable)	Use secondary containment capable of containing any spills or releases, such as <ul style="list-style-type: none">• Bottle carriers• Leak-proof carts with lips on four sides	Do not transport incompatible chemicals in the same secondary containment	Plan your route
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Material of Trade Limits for Ethanol vehicle transport

There are exceptions to the Department of Transportation (DOT) regulations for transporting hazmat for non-commercial purposes in a private motor vehicle.

To transport in a motor vehicle there are:

- Limits on quantity
- Required marking
- Proper storage in vehicle

- Must be a Penn vehicle (Fundamentals of Driver Safety training required)



Quantity limit

The maximum amount of ethyl alcohol allowed to be transported in a motor vehicle is:

- 30 L (8 gallons) per package
- Total weight of hazardous material in a single vehicle may not exceed 200 kg (440 lbs)
 - 12 x 5 gal carboys, or
 - 62 x 1 gal bottles, or
 - 440 x 1 pt bottles

Packaging



- Must be in original packaging, securely closed or in package of equal strength and integrity
- Secure against movement and protect from damage
 - Boxes or carboys- Secure with straps, netting or blocking to prevent shifting or damage
 - Bottles- Secure in a bin, box, cage or netting to keep bottles upright

Marking

- Packaging must be marked with
 - Common name (flammable liquid) or
 - Proper shipping name (Ethyl alcohol or Ethanol)

Stowage

- Only transport material in a Penn vehicle
- Material must be stowed away from all persons in a separate enclosed trunk or cargo area.
- Store away from sources of ignition
 - Electric scooters, batteries, hot items
 - Lighters, vaping, open flames
- Transport directly to destination- do not leave items unattended or in hot vehicle indefinitely

Spills

- Ethanol is flammable liquid. Vapors from open containers can build up to flammable concentrations.
- Make sure there are no ignition sources near a spill. Turn off vehicle. Control the area.
- Large spill (> 1L): call EHRS 215-898-4453. **Add this number to your phone.** Do not inhale vapors in non-ventilated space (trunk).
- Small spill (< 1L): absorb small spill with appropriate media (paper towels, spill pad or inert dry material). Place towels or absorbent pads in waste for disposal. Spill vapors will dissipate quickly in well ventilated space
- Splash
 - Wash off any ethanol on skin with soap and water
 - Rinse eyes with water for 15 minutes if splashed in eyes

Questions or Concerns



215-898-4453



215-573-8100