

LABORATORY SAFETY GUIDELINE

Formamide (methanamide; carbamaldehyde) [CAS No. 75-12-7]

HAZARDS



Formamide is a reproductive toxin (teratogen). Female lab workers of child-bearing age must be made aware that fetus exposure to formamide may result in developmental abnormalities. Formamide is also an irritant to skin, eye, and respiratory tract. Formamide is slightly combustible.

PRECAUTIONS

Storage

- Formamide reacts slowly with water to form hydrocyanic acid and ammonium formate - this reaction will be sped up by elevated temperatures.
- Formamide reacts violently when mixed with furfuryl alcohol, hydrogen peroxide, nitromethane, phosphorus pentoxide, and titanium nitrate. Therefore it should be stored in a manner that would prevent the possible comingling with these compounds.
- Formamide is incompatible with strong oxidizers, acids, bases, alkali metal acetates, ammonia, cellulose acetate, cresols, iodine, isocyanates, lignin, metal chlorides, nitrates, oleum, phenols, polyvinyl alcohol, pyridines, starch, inorganic sulfates, sulfur trioxide, and tannins.
- It is recommended that this chemical is stored in the flammables cabinet provided that PVA and/or Pyridine is not stored there.

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 [EHS Emergency Response Guide](#).
- Identify the location of the nearest eyewash and shower and verify that they are accessible.
- For routine use outside of a chemical fume hood an assessment must first be conducted by the EHS Department to determine the exposure level.

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 provides good protection from formamide.
- Wash hands thoroughly each time gloves are removed.
- Keep all containers tightly closed when not in use.

After completing your work:

- Dispose of formamide waste following Harvard University Hazardous Waste Procedures.
 - Hazardous Waste Classification: Toxic. Formamide cannot go down the drain so it is prudent practice to manage the waste as hazardous.
 - Due to the many incompatibilities it is best to collect formamide as a unique waste stream.
- Return stock container to storage area.
- 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) for a least 15 minutes.
- Seek medical attention in event of irritation.

EYE CONTACT

- Using eyewash, flush eyes while hold eyelid open and away from exposed eye. Flush affected area for a minimum of 15 minutes.
- 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 fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Call 911 if exposed individual is experiencing respiratory distress.

INGESTION

- **Do not induce vomiting.**
- Call 911 on land line phone for medical assistance (or provide location if calling on a mobile phone).
- Give water to rinse out mouth, then provide water slowly and as much as one can comfortably drink.

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.
- 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 or put the unit into emergency purge.
- 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 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.