



Owner C.H.O	DOC. NO. SOP	REV. 2	DATE 12/9/2019
DOC. TITLE SOP FOR BETA MERCAPTOETHANOL			

Environmental Health & Safety

STANDARD OPERATING PROCEDURES (SOP) FOR WORKING WITH BETA MERCAPTOETHANOL AT AMHERST COLLEGE

General Information

Beta Mercaptoethanol, also known as Thioglycol, or simply just BME, is a highly toxic, lightly colored (though sometimes colorless) liquid, that has a very strong, unpleasant odor. It is commonly used as a reducing agent in protein related experiments.

Beta Mercaptoethanol poses considerable risks to humans and the environment and hence, special precautions must be taken in both its use and disposal

Personal Protective Equipment

When working with Beta Mercaptoethanol, the following personal protective equipment (PPE) **must** be worn:

Splash goggles

Lab coat

Long pants

Close toed shoes

Nitrile Gloves (change gloves immediately after glove contact)

Safety Devices

Fume hood – always work with Beta Mercaptoethanol in a fume hood to prevent exposure by inhalation

Identify the location of all the safety devices in the room before starting your procedure. Also, familiarize yourself with all the possible means of egress

Specific Health Hazards

Note that the exposure limit for this compound is very low. **Throughout an eight-hour workday, personnel shall not be exposed to more than 0.2ppm (0.2mg/L) on average.**



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Beta Mercaptoethanol may be fatal if absorbed through the skin. It is extremely destructive to tissues in the respiratory tract and the mucous membrane. Repeated exposure may lead to long term damage to organs such as the heart and liver.



Pictogram:

Hazards: Corrosive, Irritant, Liver and Heart damage, Toxic, Environmental

Routes of Entry

Inhalation, skin absorption, ingestion, skin contact/eye contact

If any part of your body comes in contact with Beta Mercaptoethanol, call the Amherst College Emergency phone number 413-542-2111. Also call this number if you begin to feel ill after working with (or in the vicinity of) Beta Mercaptoethanol

Inhalation

If inhaled, move to fresh air, and get help. Call x2111 to report if you begin to feel ill

Eye contact

Use eyewash to flush eyes with water for at least 15 minutes

Skin Contact/absorption

Wash skin with plenty of water. Use safety shower, if needed

Ingestion

Do not induce vomiting

Storage

Store in a tightly closed container in a cool, dry area that is well ventilated, such as a vented cabinet. Do not store on shelf. Store in a secondary container by itself

Store away from oxidizers, acids, metals

Store away from ignition sources

If you have Beta Mercaptoethanol that you no longer need, please contact Jason Williams, x2736, for disposal



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Spill clean up

If a spill of any volume occurs:

Alert everyone in the area

Leave the room

Close the door behind you

Call Jason Williams (Chemical Hygiene Officer) or The Amherst College emergency number (x2111) to report it.

Due to the high toxicity of this compound, clean up shall only be done by trained individuals.

Disposal

Disposable pipets, pipet tips, and any other disposable devices that come in contact with Beta Mercaptoethanol shall be disposed of as hazardous waste. All contaminated PPE shall be disposed of as hazardous waste.

Beta mercaptoethanol may be disposed of into your "aqueous: non halogenated" waste container" (but only if compatible with existing waste) or by itself.

If you have Beta Mercaptoethanol that you no longer need, contact the Chemical Hygiene officer

Questions

Contact Jason Williams or Environmental Health and Safety if you have any questions about this SOP or this compound.