

Standard Operating Procedure:

Laboratory Information

Department:	
Principal Investigator(s):	
Laboratory Manager/Supervisor (or designated laboratory-specific chemical hygiene officer):	
Laboratory emergency contact (name and phone):	
Laboratory phone:	
Designated area (s) of these procedures with chemicals(s): (building and room):	
Agent storage location (building and room) and specifics regarding location/container/cabinets:	

Chemical Information

Chemical Name(s), including CAS No:	β -MERCAPTOETHANOL CAS 60-24-2
GHS Classification and Hazard Statements (see SDS sheet provided by the chemical's manufacturer): Workplace Environmental Exposure Level (WEEL): 8-hr Time-weighted Average (TWA) 0.2 ppm, skin. Toxic if swallowed [Danger Acute toxicity, oral] Toxic in contact with skin [Danger Acute toxicity, dermal] Toxic if inhaled [Danger Acute toxicity, inhalation] Causes skin irritation [Warning Skin corrosion/irritation] May cause an allergic skin reaction [Warning Sensitization, Skin] Causes serious eye damage [Danger Serious eye damage/eye irritation] Suspected of damaging fertility or the unborn child May cause damage to organs through prolonged or repeated exposure Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard] Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]	

Signs and symptoms of exposure or release	The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system. Low odor threshold (0.12-0.64 ppm). Very unpleasant stench similar to odorant in natural gas. Misuse or spill may cause suspicion of natural gas leak.
Routes of exposure	The substance can be absorbed into the body by inhalation of its vapor, through the skin and by ingestion.
Required engineering controls: (i.e., chemical fume hood, biological safety cabinet, glove box, temperature control, humidity control, shielding, luer-lock syringe, in-line HEPA filter, etc.)	Eyewash is required in the immediate work area. All work with beta-mercaptoethanol shall take place within a certified chemical fume hood or fully exhausted BSC (Class II, Type B2 ONLY).
Personal Protective Equipment (PPE) required for procedures:	Fully buttoned lab coat Safety goggles Doubled nitrile gloves (change outer pair when soiled or compromised) Risk of splash/large amounts in use: ADD chemical resistant sleeves and rubber apron, face shield and laminate or butyl gloves
Known incompatibilities with chemical(s):	Metals, oxidizers
Special storage and handling considerations:	Keep containers closed as much as possible when not in use. Store upright in a sealed secondary container in a cool, dry and well-ventilated location.
Please list the approximate amount(s) of chemical(s) utilized in all procedures	

Please describe, in a stepwise fashion, the work practices and procedures involved in the handling and utilization of this agent. Please be clear and complete in the description of procedures (i.e., measuring, weighing, pouring, mixing, injection, mixing, transporting, administration to animals, heating, etc.). Be sure to include any precautionary safety steps undertaken during these procedures. Please submit additional pages, if necessary.	• <i>Work with the smallest practicable amount for the experiment being performed.</i> • <i>Designate and demarcate a specific work area in the lab for beta-mercaptoethanol (ex: within a certified chemical fume hood)</i> • <i>Keep containers closed as much as possible when not in use.</i> • <i>Plan work to avoid glove and aerosol contact.</i> • <i>Clean work area & reusable equipment with soap, water and paper towels if spills occur; dispose of paper towels as chemical waste. If stench remains, neutralize with an aqueous solution of sodium hypochlorite (bleach).</i>
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Waste collection and disposal procedures:	Waste chemicals shall be collected in a secured area. The area shall be free from evidence of spills. A Hazardous Waste label shall be affixed to the collection container and components shall be listed on the label as they are introduced into the container. Do not date containers until the day of scheduled pickup. Additionally, the container shall be marked with the hazard class of the chemical waste (i.e., Ignitable, Toxic, Reactive, Corrosive). When the container is no more than 2/3 full, date the container and submit a pick-up request in the UK E-trax system: https://etrax.chematix.com/Chematix/
Spill procedure: Lab Specific Notes on Spill Response: Stock butyl or laminate gloves for clean-up of small spills. Clean work area & reusable equipment with soap, water and paper towels if spills occur; dispose of paper towels as chemical waste. If stench remains, neutralize with an aqueous solution of sodium hypochlorite (bleach).	Major spills of stock solution: Leave the area and notify others not to enter. Report the spill to the UK Environmental Quality Management Department (EQMD) at (859) 323-6280 (M-F 8am-5pm) or after hours by dialing 911 from any on-campus phone or by contacting the UK Police at (859) 257-UKPD (8573). Minor spills of manageable amount: If necessary, contact EQMD for guidance. Consult manufacturer's SDS for instructions and compatibilities for your chemical (Be aware of any materials such as paper towels or water that could be incompatible with your spilled chemical!
Response procedures in the case of an incident or injury:	UK Employees: - After receiving first aid (refer to the chemical's SDS), report the occupational exposure to a hazardous chemical to UK Worker's Care at 1-800-440-6285. - If needed, an appointment will be made for the employee at UK UHS. - For severe emergency or injury, call 911 or proceed to the UK Chandler Hospital Emergency Department UK Students: - Call UHS at (859) 323-APPT to report an occupational exposure to a chemical hazard. - If needed, an appointment will be made for the employee at UK UHS. For severe emergency or injury, call 911 or proceed to the UK Chandler Hospital Emergency Department Additional Lab-Specific Emergency Procedures:

A copy of the manufacturer's SDS for this agent and the PI approved SOP shall be kept in the lab's Chemical Hygiene Plan (CHP). The CHP shall be stored in a location known to all laboratory personnel and is accessible during work hours.

Personnel Training

- Prior to conducting any work with (name of the chemical), designated personnel must be provided training specific to the hazard involved in working with the substance.
- The PI must provide his/her lab personnel with a copy of the SOP and a copy of the SDS provided by the manufacturer. Any further training materials must be documented and stored in the lab's Laboratory Safety Manual and available to internal UK or external oversight agency inspectors.
- The PI must ensure that his/her lab personnel have completed the initial and the consecutive annually required Chemical Hygiene trainings and Hazardous Waste training.

The undersigned have read and understood the content of this SOP and the SDS for: **Beta-mercaptoethanol**

[illegible]

SOP Reviewed and Approved by:

PI: (typed name)	
PI: (signature and date)	
Lab Manager/Supervisor (typed name)	
Lab Manager/Supervisor (signature and date)	