ETHYL ETHER

Ethyl ether is a colorless and highly flammable liquid with a characteristic odor. This chemical is a serious fire and explosion risk. Vapor may travel considerable distances to ignition sources (which may be a hot plate, steam pipe, etc., not necessarily an open flame). Vapor may be ignited by the static electricity which can build up when ether is being poured from one vessel to another. Ether is a common laboratory solvent often used for liquid-liquid extraction. It is also important in the production of cellulose plastics and is used as a starting fluid for diesel and gasoline engines.

SAFETY PRECAUTIONS
- KEEP AWAY FROM IGNITION SOURCES.
- GROUND ALL EQUIPMENT CONTAINING SOLVENT.
- Ventilation: Work must be conducted in a fume hood. Wear an approved/certified respirator in case of insufficient ventilation.
- Eye Protection: Chemical splash goggles are required.
- Body Protection: Lab coat, chemical resistant apron, gloves.
- Eyewash/Shower Combination: Required to be nearby and accessible.
- ONLY ELECTRICAL EQUIPMENT OF EXPLOSION PROOF TYPE (GROUP C) IS PERMITTED TO BE OPERATED IN ETHER AREAS.

EYE AND SKIN EXPOSURE
- Causes skin irritation.
- Causes eye irritation. Causes redness and pain.
- Can cause slight, reversible eye injury from contact with liquid or vapor.

INGESTION
- May cause gastrointestinal tract irritation with nausea, vomiting.
- May cause central nervous system depression.
- Aspiration hazard. Aspiration into the lungs may cause chemical pneumonitis.

INHALATION OF VAPOR
- Rapidly absorbed through lungs.
- Vapor mist causes irritation of the respiratory tract and mucous membranes.
- Inhalation of vapors may cause drowsiness and dizziness.
- Exposure to high concentrations may produce nausea and loss of consciousness.
- Affects behavior, sense organs, peripheral and central nervous systems, liver, metabolism, and cardiovascular system.

CHRONIC EXPOSURE
- Repeated or prolonged exposure may cause drying and cracking of the skin.
- May affect genetic material (mutagenic), based on laboratory experiments.
- Prolonged or repeated inhalation or ingestion may result in liver and kidney changes.
- Prolonged or repeated exposure can cause anxiety, depression, and excitability.
- Advanced stages may cause collapse, unconsciousness, coma, and possible death due to respiratory failure.
- May be habit forming.

TRAINING
Employees must receive documented training on the hazards of Ethyl Ether and what to do in the event of an explosion or spill.

SPILLS
Small spill - Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large spill - Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand, or other non-combustible material. Use a spark-proof tool. Prevent entry into sewers, basements, or confined areas. Dilute if needed. Ensure that the product is not present at a concentration level above TLV (400 ppm as an 8-hour time-weighted average) and STEL (500 ppm for periods not to exceed 15 minutes).

WASTE
Place all absorbent material used to contain a spill in a sealed bag or container. Label and dispose of as “Hazardous Waste.”

HANDLING AND STORAGE

Substances to be avoided include zinc, halogens and halogen compounds, nonmetals, nonmetallic oxy-halides, strong oxidizing agents, chromyl chloride, turpentine oils, acids, nitrates, and metallic chlorides.

FIRST AID
- Skin contact - Immediately flush skin with water for at least 15 minutes. Remove contaminated clothing and shoes. In the case of serious skin contact - wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream.
- Eye contact - Check for and remove any contact lenses. Immediately flush eyes with water for at least 15 minutes.
- Ingestion - Do NOT induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, call a physician immediately. Aspiration hazard.
- Inhalation - Evacuate victim to a safe area with fresh air. Loosen tight clothing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Note: In all cases, seek medical attention immediately.

SPECIAL NOTE: Stability will degrade during storage. Avoid storage for longer than 12 months.