Material Safety Data Sheet
City University of Hong Kong

MSDS                      1-BROMOBUTANE                         0112

PRODUCT INFORMATION

Product Name: 1-Bromobutane
Chinese Name: 1-溴丁烷
Common Synonyms: N-Butyl Bromide
Chemical Family: Brominated Hydrocarbons
Formula: CH₃CH₂CH₂CH₂Br
Formula Wt.: 137.02
CAS No.: 109-65-9
Product Use: Laboratory Reagent

RISK SYMBOL

PHYSICAL DATA
Physical State: Liquid
Boiling Point: 102 deg. C (215 deg. F) (760 mmHg)
Melting Point: -112 deg. C (-169 deg. F) (760 mmHg)
Specific Gravity: 1.27 (H$_2$O=1)
Solubility(H$_2$O): Negligible (<0.1%) % Volatiles By Volume: 100 (21 deg. C)
Vapor Pressure (mmHg): N/A
Vapor Density (Air=1): 4.7
Evaporation Rate: N/A
pH: N/A
Odor Threshold (ppm): N/A
Coefficient Water/Oil Distribution: N/A
Appearance & Odor: Colorless liquid.

FIRE AND EXPLOSION DATA

Flash Point (Closed Cup): 18 deg. C (65 deg. F)
Autoignition Temperature: 264 deg. C (509 deg. F)
Flammable Limits:     Upper -  6.6  %    Lower -  2.6  %
Fire Extinguishing Media: Use alcohol foam, dry chemical or carbon dioxide. (water may be ineffective.)
Special Fire-Fighting Procedures:
- Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool.

Unusual Fire & Explosion Hazards:
- Vapors may flow along surfaces to distant ignition sources and flash back. Closed containers exposed to heat may explode. Contact with strong oxidizers may cause fire.

Toxic Gases Produced: Hydrogen bromide, carbon monoxide, carbon dioxide

REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur
Conditions To Avoid:    Heat, flame, sources of ignition
Incompatibles:          Strong oxidizing agents, strong bases
Decomposition Products: Hydrogen bromide, carbon monoxide, carbon dioxide

The above information is believed to be accurate to the best of our knowledge. No responsibilities or liabilities are assumed or implied by CITY U for their inaccuracies.
HEALTH HAZARD DATA

Inhalation: Coughing, chest pains, difficult breathing, unconsciousness
Skin Contact: Burns
Eye Contact: Burns
Skin Absorption: None identified
Ingestion: None identified
Chronic Effects: None identified
Threshold Limit Value (TLV/TWA): Not established
Short-Term Exposure Limit (STEL): Not established
Permissible Exposure Limit (PEL): Not established

Toxicity Of Components:
- Intraperitoneal Rat LD$_{50}$ For 1-Bromobutane: 4450 mg/kg
- Intraperitoneal Mouse LD$_{50}$ For 1-Bromobutane: 6680 mg/kg
- Inhalation-30min Rat LC$_{50}$ For 1-Bromobutane: 237 g/m$^3$

Carcinogenicity: NTP: No  IARC: No  Z LIST: No  OSHA REG: No

Reproductive Effects: None identified.
Target Organs: Skin, eyes
Medical Conditions Generally Aggravated By Exposure: None identified
Primary Routes Of Entry: Ingestion, eye contact, skin contact

FIRST AID MEASURES

Ingestion: Call a physician. If swallowed, if conscious, immediately induce vomiting.
Inhalation:
  If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Skin Contact: In case of contact, flush skin with water.
Eye Contact: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.
PREVENTATIVE MEASURES

Ventilation:
Use adequate general or local exhaust ventilation to keep vapor and mist levels as low as possible.

Respiratory Protection:
None required where adequate ventilation conditions exist. If airborne concentration is high, a chemical cartridge respirator with organic vapor cartridge is recommended. If concentration exceeds capacity of cartridge respirator, a self-contained breathing apparatus is advised.

Eye/Skin Protection: Safety goggles, uniform, apron, rubber gloves are recommended.

Storage Requirements:
Keep container tightly closed. Store in a cool, dry, well-ventilated, flammable liquid storage area.

Special Precautions: Bond and ground containers when transferring liquid.

ENVIRONMENTAL PROTECTION DATA

Steps To Be Taken In The Event Of A Spill Or Discharge:
Wear self-contained breathing apparatus and full protective clothing. Shut off ignition sources; no flares, smoking or flames in area. Stop leak if you can do so without risk. Use water spray to reduce vapors. Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush area with water.