



## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION:

<b>PRODUCT CODE</b>	H0171
<b>PRODUCT NAME</b>	ISOBUTYL MERCAPTAN
<b>SUPPLIER</b>	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

**FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)**

### 2. HAZARD IDENTIFICATION:

#### Emergency Overview

#### OSHA Hazards

Flammable liquid, Irritant

#### Other hazards which do not result in classification

Stench

#### GHS Label elements, including precautionary statements

Pictogram

Signal word                      Danger

#### Hazard statement(s)

H225                      Highly flammable liquid and vapour

H315                      Causes skin irritation

H319                      Causes serious eye irritation

H335                      May cause respiratory irritation

#### Precautionary statement(s)

P210                      Keep away from heat/sparks/open flames/hot surfaces-No smoking

P261                      Avoid breathing dust/fume/gas/mist/vapors/spray

P305 P351 P338                      IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

Health hazard                      2

Flammability                      3

Physical hazards                      1

#### NFPA Rating

Health hazard                      2

Fire                      3

Reactivity Hazard                      0

#### Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS:

<b>Synonyms</b>	2-Methyl-1-propanethiol
<b>Formula</b>	C4 H10 S
<b>Molecular Weight</b>	170.23 g/mol

CAS-No	EC-No	Index-No.	Concentration
513-44-0	208-162-6		

### 4. FIRST-AID GUIDE:

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIRE-FIGHTING GUIDE:

#### Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical or carbon dioxide.

For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Further information

Use water spray to cool unopened containers.

### 6. ACCIDENTAL RELEASE GUIDE:

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

**7. HANDLING AND STORAGE:**

**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

**8. EXPOSURE AND PERSONAL PROTECTION:**

Contains no substances with occupational exposure limit values.

**Personal protective equipment:**

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Impervious clothing. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

**Appearance**

Form LIQUID  
Color COLORLESS TO PALE YELLOW

**Safety data**

Melting point (°C) -15  
Boiling point (°C) 87  
Flash point (°F) Closed cup 15  
Vapor pressure (mmHg@20°C) 124  
Density @20 °C 0.835  
Water solubility INSOLUBLE  
Relative vapor density 3.11  
Odor SEVERE CHARACTERISTIC STENCH

**10. STABILITY AND REACTIVITY:****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

Vapors may form explosive mixture with air.

**Conditions to avoid**

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Materials to avoid**

Strong oxidizing agents, bases, oxidizing agents, reducing agents, Alkali metals

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

**11. TOXICOLOGICAL INFORMATION:****Acute toxicity**

**Oral LD50** - rat- 7,168 mg/kg

Remarks: Behavioral: Muscle weakness. Behavioral: ataxia. Cyanosis

**Carcinogenicity**

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable. Possible or confirmed human carcinogen by IARC.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

Inhalation-May cause respiratory irritation

**Potential health effects**

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.  
Ingestion May be harmful if swallowed.  
Skin May be harmful if absorbed through skin May cause skin irritation.  
Eyes Causes eye irritation.

**Signs and Symptoms of Exposure**

Nausea, headache, vomiting.

**Additional Information**

RTECS: TZ7630000

**12. DISPOSAL RECOMMENDATIONS:**

**Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact licensed professional waste service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**13. TRANSPORTATION INFORMATION:**

**DOT (US)**

UN-Number: 2347 Class: 3 Packing group: II  
Proper shipping name: Butyl mercaptan

**IMDG**

UN-Number: 2347 Class: 3 Packing group: II  
Proper shipping name: Butyl mercaptan

**IATA**

UN-Number: 2347 Class: 3 Packing group: II  
Proper shipping name: Butyl mercaptan

**14. REGULATORY INFORMATION:**

**OSHA Hazards**

Flammable liquid, Irritant.

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

2-Methyl-1-Propanethiol CAS-No. 513-44-0

**New Jersey Right To Know Components**

2-Methyl-1-Propanethiol CAS-No. 513-44-0

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**15. OTHER INFORMATION:**

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.

Material Safety Data Sheet prepared by: **M & U International LLC**