

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE	H0152
PRODUCT NAME	3-METHYLTHIO PROPIONALDEHYDE (METHIONAL)
SUPPLIER	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:

OSHA Hazards

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids	(Category 4)
Acute toxicity, Oral	(Category 4)
Acute toxicity, Inhalation	(Category 3)
Acute toxicity, Dermal	(Category 3)
Skin irritation	(Category 2)
Skin corrosion	(Category 1B)
Serious eye damage	(Category 1)
Skin sensitisation	(Category 1)
Chronic aquatic toxicity	(Category 3)

GHS Label elements, including precautionary statements

Pictogram:



Signal word

Danger

Hazard statement(s)

H227	Combustible liquid.
H302 H332	Harmful if swallowed or if inhaled
H311	Toxic in contact with skin.

H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.
P301 P312 P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 P352 P312	IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell.
P304 P340 P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 P351 P338 P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P333 P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard 1
 Flammability 2
 Physical hazards 1

NFPA Rating

Health hazard 1
 Fire 2
 Reactivity Hazard 0

Potential Health Effects

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin

Harmful if absorbed through skin. Causes skin burns.

Eyes

Causes eye irritation.

Ingestion

Harmful if swallowed.

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM:	3-(Methylmercapto)propionaldehyde
Formula:	C4 H8 OS
Molecular Weight:	104.17 g/mol
CAS-No.:	3268-49-3
EC-No.:	221-882-5
Index-No.:	N/A
Concentration:	N/A

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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

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 firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

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

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:**Personal precautions**

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours 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 (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE:**Precautions for safe handling**

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

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 multi-purpose 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

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	
Form	liquid
Colour	colorless to pale yellow
Safety data	
pH	no data available
Melting point (°C)	no data available
Boiling point (°C)	165
Flash point (°F) Closed cup	154
Ignition temperature	no data available
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure (mm Hg@20 °C)	760
Density @25 °C	1.045
Water solubility	insoluble
Partition coefficient (n-octanol/water)	no data available
Relative vapour density	no data available

Odor	meat-like
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY:

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Avoid moisture.

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Strong bases

Hazardous decomposition products

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

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION:

Acute toxicity

Oral LD50 -rat - 700 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity). Behavioral: Muscle weakness. Gastrointestinal disturbance

Inhalation LC50 - rat - 4 h - 5,820 mg/m³

Dermal LD50 - no data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - rabbit -

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

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.

Reproductive toxicity

No data available

Teratogenicity

No data available

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

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects**Inhalation**

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed.

Skin

Harmful if absorbed through skin Causes skin irritation.

Eyes

Causes eye irritation.

Signs and Symptoms of Exposure

Nausea, Dizziness, Headache, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

Additional Information

RTECS: UE2285000

12. ECOLOGICAL INFORMATION:**Toxicity**

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL RECOMMENDATIONS:**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORTATION INFORMATION:

DOT (US) UN number: Class: Packing group: Proper shipping name:	2785 6.1 III 4-Thiapentanal
IMDG UN number: Class: Packing group: Proper shipping name:	2785 6.1 III 4-Thiapentanal
IATA UN number: Class: Packing group: Proper shipping name:	2785 6.1 III 4-Thiapentanal

15. REGULATORY INFORMATION:

OSHA Hazards

Combustible Liquid, Harmful by ingestion. Corrosive

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

3-(Methylmercapto)propionaldehyde

CAS-No.: 3268-49-3

Revision Date: 2007-03-01

New Jersey Right to Know Components

3-(Methylmercapto)propionaldehyde

CAS-No.: 3268-49-3

Revision Date: 2007-03-01

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.

16. OTHER INFORMATION:

The information in this SDS 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 SDS. 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 SDS. The user should review these regulations to ensure full compliance.

Prepared By: M&U International LLC

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