

# METHYL ISOTHIOCYANATE

MIT

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Isothiocyanatomethane Isothiocyanic acid, methyl ester Methyl mustard oil		Solid	Colorless	Odorless
		Sinks and mixes with water.		
<p>Keep people away. Avoid contact with solid and dust. Wear self-contained breathing apparatus and full protective clothing. Shut off all sources of ignition. Call fire department. Notify local health and pollution control agencies.</p>				
<b>Fire</b>	<b>COMBUSTIBLE.</b> Toxic fumes produced in fire. Flashback along vapor trail may occur. Wear self-contained breathing apparatus and full protective clothing. Extinguish with dry chemical or CO <sub>2</sub> .			
<b>Exposure</b>	<b>CALL FOR MEDICAL AID.</b> DUST POISONOUS IF INHALED OR ABSORBED THROUGH THE SKIN. Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. If in eyes, hold eyelids open and flush with water for at least 15 minutes.  <b>SOLID</b> POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Remove contaminated clothing and shoes. Flush affected areas with water. IF IN EYES: hold eyelids open, flush with water for at least 15 minutes. IF SWALLOWED: do nothing except keep victim warm. DO NOT INDUCE VOMITING.			
<b>Water Pollution</b>	Harmful to aquatic life. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.			

<b>1. CORRECTIVE RESPONSE ACTIONS</b> Stop discharge	<b>2. CHEMICAL DESIGNATIONS</b> 2.1 CG Compatibility Group: Not listed. 2.2 Formula: CH <sub>3</sub> NCS 2.3 IMO/UN Designation: 3.2/2477 2.4 DOT ID No.: 2477 2.5 CAS Registry No.: 556-61-6 2.6 NAERG Guide No.: 131 2.7 Standard Industrial Trade Classification: 51489
<b>3. HEALTH HAZARDS</b> 3.1 <b>Personal Protective Equipment:</b> Self-contained breathing apparatus, chemical resistant gloves, safety goggles or safety faceshield (8 inch minimum), other protective clothing. 3.2 <b>Symptoms Following Exposure:</b> Extremely destructive to the skin, eyes, nose, throat, and upper respiratory tract. Inhalation may be fatal due to spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. 3.3 <b>Treatment of Exposure:</b> Call a physician. EYES: Hold eyelids open, flush with water for at least 15 minutes. INGESTION: Do nothing except keep victim warm. DO NOT INDUCE VOMITING. SKIN: Remove contaminated clothing, flush affected areas with running water for at least 15 minutes. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. 3.4 TLV-TWA: Not listed. 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 <b>Toxicity by Ingestion:</b> Grade 3; LD <sub>50</sub> = 97 mg/kg (rat) 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Prolonged contact may cause lung inflammation, chest pain, and edema, which may be fatal. 3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations. 3.11 <b>Liquid or Solid Characteristics:</b> Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes. 3.12 <b>Odor Threshold:</b> Currently not available 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:** 90°F C.C.
- 4.2 **Flammable Limits in Air:** Currently not available
- 4.3 **Fire Extinguishing Agents:** CO<sub>2</sub>, dry chemical powder
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Currently not available
- 4.5 **Special Hazards of Combustion Products:** Emits toxic fumes of NO<sub>x</sub> and SO<sub>x</sub>.
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Currently not available
- 4.8 **Electrical Hazards:** Currently not available
- 4.9 **Burning Rate:** Currently not available
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** 22.6 (calc.)
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** 5.5 (calc.)
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

## 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction.
- 5.2 **Reactivity with Common Materials:** No reaction.
- 5.3 **Stability During Transport:** Stable.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent.
- 5.5 **Polymerization:** Not pertinent.
- 5.6 **Inhibitor of Polymerization:** Not pertinent.

## 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** Currently not available
- 6.2 **Waterfowl Toxicity:** LD<sub>50</sub> = 136 mg/kg (duck, oral)
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** Currently not available
- 6.5 **GESAMP Hazard Profile:**  
 Bioaccumulation: 0  
 Damage to living resources: 4  
 Human Oral hazard: 2  
 Human Contact hazard: II  
 Reduction of amenities: XXX

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Currently not available
- 7.2 **Storage Temperature:** Currently not available
- 7.3 **Inert Atmosphere:** None
- 7.4 **Venting:** None
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

## 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Flammable liquid
- 8.2 **49 CFR Class:** 3
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**

Category	Classification
Health Hazard (Blue).....	4
Flammability (Red).....	2
Instability (Yellow).....	0
- 8.6 **EPA Reportable Quantity:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
- 9.2 **Molecular Weight:** 73.11
- 9.3 **Boiling Point at 1 atm:** 246°F = 119°C = 392°K
- 9.4 **Freezing Point:** 97°F = 36°C = 309°K
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.069 at 20°C
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 9.10 **Vapor (Gas) Specific Gravity:** 2.5
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
- 9.12 **Latent Heat of Vaporization:** Currently not available
- 9.13 **Heat of Combustion:** Currently not available
- 9.14 **Heat of Decomposition:** Currently not available
- 9.15 **Heat of Solution:** Currently not available
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** 0.76 psia

## NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
98	66.740		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	C U R R E N T L Y	-20 0 20 40 60 80 100 120 140 160 180 200 220	0.036 0.058 0.093 0.149 0.239 0.383 0.614 0.985 1.580 2.533 4.061 6.511 10.440		C U R R E N T L Y	0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600	0.219 0.224 0.228 0.233 0.237 0.242 0.246 0.250 0.255 0.259 0.263 0.267 0.272 0.276 0.280 0.284 0.288 0.292 0.296 0.300 0.303 0.307 0.311 0.314 0.318
	N O T  A V A I L A B L E				N O T  A V A I L A B L E		