



Health
Fire
Reactivity
Personal Protection

Material Safety Data Sheet

Methyl Isothiocyanate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Methyl Isothiocyanate

Catalog Codes: SLM1708

Synonyms: Isothiocyanatomethane; Isothiocyanic Acid, Methyl Ester; Methyl Mustard Oil.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
556-61-6	Methyl Isothiocyanate	ca 100	209-132-5

Hazard Symbols: T

Risk Phrases: 23/25 34 43

Section 3: Hazards Identification

EMERGENCY OVERVIEW: Appearance: colorless crystals.

Danger!: Corrosive. Causes eye and skin burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Harmful if inhaled or swallowed. May be fatal if absorbed through the skin. May cause skin sensitization by skin contact. Vesicant (agent that induces blistering).

Target Organs: None known.

Potential Health Effects:

Eye: Causes eye burns. May cause chemical conjunctivitis and corneal damage.

Skin: May be fatal if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. This material is a vesicant, that is, it will induce blistering. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Human fatalities have been reported from acute poisoning. May cause systemic effects.

Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.

Chronic: Repeated exposure may cause sensitization dermatitis. Effects may be delayed.

Section 4: First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician: Treat symptomatically and supportively.

Section 5: Fire and Explosion Data

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Will react with water to form toxic and corrosive fumes. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff to sewer may create fire or explosion hazard.

Extinguishing Media: For large fires, use water spray, fog, or alcohol-resistant foam. Do NOT get water inside containers. Do NOT use straight streams of water. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Most foams will react with the material and release corrosive/toxic gases. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 1

Section 6: Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Discard contaminated shoes.

Storage: Store in a cool, dry place. Keep container closed when not in use. Keep away from water. Corrosives area. Do not store in metal containers.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyl Isothiocyanate	none listed	none listed	none listed

OSHA Vacated PELs: Methyl Isothiocyanate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment:

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear polyethylene gloves, apron, and/or clothing. Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear polyethylene gloves, apron, and/or clothing. Wear appropriate protective clothing to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9: Physical and Chemical Properties

Physical State: Crystals

Appearance: colorless

Odor: pungent odor

pH: Not available.

Vapor Pressure: 19 mm Hg @ 25C

Vapor Density: 2.53

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 119 deg C @ 758mmHg

Freezing/Melting Point: 35.00 - 37.00 deg C

Decomposition Temperature: Not available.

Solubility: Slightly soluble.

Specific Gravity/Density: 1.0690g/cm³

Molecular Formula: C₂H₃NS

Molecular Weight: 73.12

Section 10: Stability and Reactivity Data

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, dust generation, excess heat, strong oxidants.

Incompatibilities with Other Materials: Water, strong oxidizing agents, acids, strong bases, alcohols, amines.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, oxides of sulfur, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported

Section 11: Toxicological Information

RTECS#:

CAS#: 556-61-6: PA9625000

LD50/LC50: CAS# 556-61-6: Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, skin: 500 mg/24H Moderate; Inhalation, rat: LC50 = 1900 mg/m³/1H; Oral, mouse: LD50 = 90 mg/kg; Oral, rat: LD50 = 72 mg/kg; Skin, rabbit: LD50 = 33 mg/kg; Skin, rat: LD50 = 2780 mg/kg;

Carcinogenicity: CAS# 556-61-6: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: Experimental reproductive effects have been reported.

Teratogenicity: No information available.

Reproductive Effects: Reproductive effects have occurred in experimental animals.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: See actual entry in RTECS for complete information.

Section 12: Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: 0.13mg/L; 96H; Fish: Carp: 37mg/L; 96H; No data available.

Environmental: Terrestrial: The two processes that may be important are volatilization and biodegradation. Aquatic: Both biodegradation and evaporation are likely to be important loss processes. Atmospheric: Because of its relatively high water solubility, wet deposition may partly remove the compound from the atmosphere, half-life 11.1 days. Expected to biodegrade but not bioconcentrate.

Physical: Phytotoxic to all green plants.

Other: For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

Section 13: Disposal Considerations

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14: Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	METHYL ISOTHIOCYANATE				No information available.
Hazard Class:	6.1				
UN Number:	UN2477				
Packing Group:	I				

Section 15: Other Regulatory Information

US FEDERAL:

TSCA: CAS# 556-61-6 is listed on the TSCA inventory.

Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.

Section 12b: None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA:

CERCLA Hazardous Substances and corresponding RQs: None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances: CAS# 556-61-6: 500 lb TPQ (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solv ent form)

Section 313: This material contains Methyl Isothiocyanate (CAS# 556-61-6, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act: This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act: None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

STATE: CAS# 556-61-6 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations:

European Labeling in Accordance with EC Directives:

Hazard Symbols: T

Risk Phrases: R 23/25 Toxic by inhalation and if swallowed. R 34 Causes burns. R 43 May cause sensitization by skin contact.

Safety Phrases: S 36/37 Wear suitable protective clothing and gloves. S 38 In case of insufficient ventilation, wear suitable respiratory equipment. S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection): CAS# 556-61-6: 3

Canada - DSL/NDSL: CAS# 556-61-6 is listed on Canada's DSL List.

Canada - WHMIS: This product has a WHMIS classification of B3, D1A, D2B.

Canadian Ingredient Disclosure List:

Exposure Limits: CAS# 556-61-6: OEL-RUSSIA:STEL 0.1 mg/m³;Skin

Section 16: Other Information

Created: 02/14/2005 10:16 PM

Last Updated: 06/09/2012 12:00 PM

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