

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Methyl isothiocyanate  
Product Number : 112771  
Brand : Aldrich  
Company : Sigma-Aldrich Canada, Ltd  
2149 Winston Park Drive  
OAKVILLE ON L6H 6J8  
CANADA  
Telephone : +1 9058299500  
Fax : +1 9058299292  
Emergency Phone # : 800-424-9300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C<sub>2</sub>H<sub>3</sub>NS  
Molecular Weight : 73.12 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Methyl isothiocyanate</b>			
556-61-6	209-132-5	615-002-00-2	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

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

Lachrymator.

#### WHMIS Classification

D1A	Very Toxic Material Causing Immediate and	Highly toxic by skin absorption
D1B	Serious Toxic Effects	Highly toxic by inhalation
D2B		Toxic by ingestion
E		Moderate eye irritant
		Skin sensitizer
		Corrosive

#### HMIS Classification

Health Hazard: 4  
Flammability: 0  
Physical hazards: 0

#### Potential Health Effects

**Inhalation** May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** Causes skin burns. May be fatal if absorbed through skin.

**Eyes**  
**Ingestion**

Causes eye burns.  
Toxic if swallowed. Causes burns.

#### 4. FIRST AID MEASURES

**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. Consult a physician.

**In case of eye contact**

Continue rinsing eyes during transport to hospital. 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 MEASURES

**Flammable properties**

Flash point                      30 °C (86 °F) - closed cup

Ignition temperature      no data available

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

#### 7. HANDLING AND STORAGE

**Handling**

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

## 8. EXPOSURE CONTROLS/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 particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) 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.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### 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	amorphous, solid crystalline
Colour	colourless

### Safety data

pH	no data available
Melting point	30 - 34 °C (86 - 93 °F)
Boiling point	117 - 118 °C (243 - 244 °F)
Flash point	30 °C (86 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	40 hPa (30 mmHg) at 30 °C (86 °F) 28 hPa (21 mmHg) at 20 °C (68 °F)
Density	1.069 g/mL at 25 °C (77 °F)
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: 0.94

## 10. STABILITY AND REACTIVITY

**Storage stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat.

**Materials to avoid**

Alcohols, Strong bases, Amines, Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides

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

LD50 Oral - rat - 72 mg/kg

LD50 Dermal - rabbit - 33 mg/kg

**Irritation and corrosion**

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Severe eye irritation

**Sensitisation**

May cause allergic skin reaction.

**Chronic exposure**

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.

Reproductive toxicity - rat - Oral

Maternal Effects: Other effects.

**Signs and Symptoms of Exposure**

Cough, Shortness of breath, Headache, Nausea, Vomiting, Repeated exposure may cause asthma., Lung irritation

**Potential Health Effects**

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

**Skin** Causes skin burns. May be fatal if absorbed through skin.

**Eyes** Causes eye burns.

**Ingestion** Toxic if swallowed. Causes burns.

**Additional Information**

RTECS: PA9625000

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.078 mg/l - 96 h

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 0.18 - 0.56 mg/l - 48 h

and other aquatic invertebrates.

**Further information on ecology**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**13. DISPOSAL CONSIDERATIONS**

**Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION**

**DOT (US)**

UN-Number: 2477 Class: 6.1 (3) Packing group: I  
Proper shipping name: Methyl isothiocyanate  
Marine pollutant: No  
Poison Inhalation Hazard: Hazard zone B

**IMDG**

UN-Number: 2477 Class: 6.1 (3) Packing group: I EMS-No: F-E, S-D  
Proper shipping name: METHYL ISOTHIOCYANATE  
Marine pollutant: No

**IATA**

UN-Number: 2477 Class: 6.1 (3)  
Proper shipping name: Methyl isothiocyanate  
IATA Passenger: Not permitted for transport  
IATA Cargo: Not permitted for transport

**15. REGULATORY INFORMATION**

**DSL Status**

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

**WHMIS Classification**

D1A	Very Toxic Material Causing Immediate and	Highly toxic by skin absorption
D1B	Serious Toxic Effects	Highly toxic by inhalation
D2B		Toxic by ingestion
E		Moderate eye irritant
		Skin sensitizer
		Corrosive

**16. OTHER INFORMATION**

**Further information**

Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

