

Material Safety Data Sheet

Ethyl isothiocyanate, 99+% (GC)

ACC# 37878

Section 1 - Chemical Product and Company Identification

MSDS Name: Ethyl isothiocyanate, 99+% (GC)

Catalog Numbers: AC118651000, AC376860000, AC376860050, AC376860250

Synonyms: Ethyl Mustard Oil; Isothiocyanatoethane.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
542-85-8	Ethyl isothiocyanate	99+	208-831-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 32 deg C.

Warning! Flammable liquid and vapor. Causes eye, skin, and respiratory tract irritation. May cause central nervous system depression. May cause lung damage. May cause liver and kidney damage. Moisture sensitive. Possible sensitizer.

Target Organs: Kidneys, central nervous system, liver, lungs, cardiovascular system.

Potential Health Effects

Eye: Causes eye irritation. May cause conjunctivitis, ulceration and turbidity of the cornea. May cause chemical conjunctivitis and corneal damage.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause irritation and dermatitis. May cause cyanosis of the extremities.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. The toxicological properties of this substance have not been fully investigated. Ingestion of large amounts may cause CNS depression.

Inhalation: Causes respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Exposure produces central nervous system depression. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. At high concentrations, isocyanates affect mucous membranes of the respiratory tract and may lead to fatal pulmonary edema. Exposure to low and often even unmeasurable isocyanate concentration results in sensitization. In rare instances, exposure may cause sensitization, resulting in inflammation of the mucous membranes and in eczematous eruptions. May cause burning sensation in the chest.

Chronic: May cause liver and kidney damage. Effects may be delayed. May cause lung damage. Repeated or prolonged exposure may cause allergic reactions in sensitive individuals. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. Do NOT allow victim to rub eyes or keep eyes closed.

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

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: For ingestion, the stomach could be intubated, aspirated, and lavaged with a slurry of activated charcoal--protect the airway from aspiration of gastric contents. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Use agent most appropriate to extinguish fire. Do NOT get water inside containers. Do NOT use straight streams of water.

Flash Point: 32 deg C (89.60 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

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

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not get water inside containers. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not allow contact with water. Wash clothing before reuse. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from moisture.

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 general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl isothiocyanate	none listed	none listed	none listed

OSHA Vacated PELs: Ethyl 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 appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

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 respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: sulfide odor

pH: Not available.

Vapor Pressure: 13 hPa @ 23 C

Vapor Density: 3.00

Evaporation Rate:Not available.

Viscosity: Not available.

Boiling Point: 130 - 132 deg C @ 760 mm Hg

Freezing/Melting Point:-6 deg C

Decomposition Temperature:Not available.

Solubility: Hydrolysis.

Specific Gravity/Density:.9950g/cm3

Molecular Formula:C3H5NS

Molecular Weight:87.14

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Ignition sources, moisture, excess heat.

Incompatibilities with Other Materials: Moisture.

Hazardous Decomposition Products: Hydrogen cyanide, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, hydrocarbons.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 542-85-8: NX8590000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 542-85-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found

Reproductive Effects: No information found

Mutagenicity: Mutagenic effects have occurred in experimental animals.

Neurotoxicity: No information found

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	No information available.
Hazard Class:	3	
UN Number:	UN3286	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 542-85-8 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.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

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# 542-85-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

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 10 Flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

- S 16 Keep away from sources of ignition - No smoking.
- S 33 Take precautionary measures against static discharges.
- S 37 Wear suitable gloves.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 9 Keep container in a well-ventilated place.
- S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 542-85-8: No information available.

Canada - DSL/NDSL

CAS# 542-85-8 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #11 Date: 4/26/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.