

## MATERIAL SAFETY DATA SHEET

Date Printed: 05/24/2004

Date Updated: 04/04/2004

Version 1.5

## Section 1 - Product and Company Information

Product Name ETHYL ACRYLATE, 99%  
Product Number E9706  
Brand ALDRICH

Company Sigma-Aldrich  
Street Address 3050 Spruce Street  
City, State, Zip, Country SAINT LOUIS MO 63103 US  
Technical Phone: 314 771 5765  
Emergency Phone: 414 273 3850 Ext. 5996  
Fax: 800 325 5052

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ETHYL ACRYLATE	140-88-5	Yes

Formula C5H8O2  
Synonyms Acrylate d'ethyle (French) \*  
Acrylsaeureaethylester (German) \* Aethylacrylat  
(German) \* Akrylanem etylu (Polish) \* Carboset  
511 \* Ethoxycarbonylethylene \* Ethylacrylaat  
(Dutch) \* Ethyl acrylate (ACGIH:OSHA) \*  
Ethylakrylat (Czech) \* Ethylester kyseliny  
akrylove (Czech) \* Ethyl propenoate \* Ethyl  
2-propenoate \* Etil acrilato (Italian) \*  
Etilacrilatului (Romanian) \* NCI-C50384 \*  
2-Propenoic acid, ethyl ester \* RCRA waste number  
U113  
RTECS Number: AT0700000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU).  
Harmful by inhalation, in contact with skin and if swallowed.  
Irritating to eyes, respiratory system and skin. May cause  
sensitization by skin contact.  
Possible Carcinogen (US). Lachrymator. Unpleasant odor. Target  
organ(s): Liver. Kidneys. Calif. Prop. 65 carcinogen.

## HMIS RATING

HEALTH: 3\*  
FLAMMABILITY: 3  
REACTIVITY: 0

## NFPA RATING

HEALTH: 3  
FLAMMABILITY: 3  
REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

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## Section 4 - First Aid Measures

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### ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

### INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

### DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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## Section 5 - Fire Fighting Measures

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### FLAMMABLE HAZARDS

Flammable Hazards: Yes

### EXPLOSION HAZARDS

Container explosion may occur under fire conditions. Forms explosive mixtures in air.

### FLASH POINT

46.4 °F 8 °C Method: closed cup

### EXPLOSION LIMITS

Lower: 1.8 % Upper: 12.1 %

### AUTOIGNITION TEMP

383 °C

### FLAMMABILITY

N/A

### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

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## Section 6 - Accidental Release Measures

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### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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Section 7 - Handling and Storage

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HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame.  
Store at 2-8°C

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Section 8 - Exposure Controls / PPE

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ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.  
Hand: Compatible chemical-resistant gloves.  
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	STEL	15 PPM
USA	ACGIH	TWA	5 PPM
USA	MSHA Standard-air	TWA	25 PPM (100 MG/M3) (SKIN)
USA	OSHA.	PEL	8H TWA 25 PPM (100 MG/M3) (SKI
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH		(4.0 PPM LOQ)

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	20 MG/M3
Poland		NDSch	80 MG/M3
Poland		NDSP	-

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Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Liquid	
	Color: Colorless	
Property	Value	At Temperature or Pressure
Molecular Weight	100.12 AMU	
pH	N/A	
BP/BP Range	98 - 100 °C	
MP/MP Range	-71 °C	
Freezing Point	N/A	
Vapor Pressure	31 mmHg	20 °C

Vapor Density	3.5 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.921 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	46.4 °F 8 °C	Method: closed cup
Explosion Limits	Lower: 1.8 % Upper: 12.1 %	
Flammability	N/A	
Autoignition Temp	383 °C	
Refractive Index	1.406	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions to Avoid: Heat. May polymerize on exposure to light.

Materials to Avoid: Oxidizing agents, Peroxides.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes eye irritation. Lachrymator.

Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

### SENSITIZATION

Skin: May cause allergic skin reaction.

### TARGET ORGAN(S) OR SYSTEM(S)

Liver. Kidneys.

### SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Nausea. Headache. Drowsiness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### TOXICITY DATA

Oral  
Rat  
800 mg/kg  
LD50

Inhalation  
Rat  
1,414 ppm  
LC50

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Lungs, Thorax, or Respiration:Dyspnea. Gastrointestinal:Changes in structure or function of salivary glands.

Intraperitoneal  
Rat  
450 MG/KG  
LD50

Oral  
Mouse  
1799 mg/kg  
LD50

Inhalation  
Mouse  
16,200 mg/m<sup>3</sup>  
LC50

Skin  
Mouse  
2997 mg/kg  
LD50

Intraperitoneal  
Mouse  
599 MG/KG  
LD50

Oral  
Rabbit  
370 mg/kg  
LD50  
Remarks: Gastrointestinal:Alteration in gastric secretion.

Skin  
Rabbit  
500 UL/KG  
LD50  
Remarks: Lungs, Thorax, or Respiration:Acute pulmonary edema. Liver:Other changes. Skin and Appendages:Skin: After systemic exposure: Dermatitis, other

#### IRRITATION DATA

Eyes  
Rat  
1,204 ppm  
14H  
I

Eyes

Monkey  
1,204 ppm  
15H  
I

Skin  
Rabbit  
500 mg  
Remarks: Open irritation test

Skin  
Rabbit  
10 mg  
24H  
Remarks: Mild irritation effect

Eyes  
Rabbit  
45 mg  
Remarks: Mild irritation effect

Eyes  
Rabbit  
1,204 ppm  
7H

Eyes  
Guinea pig  
1,204 ppm  
7H

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Rat  
Route of Application: Oral  
Dose: 51500 MG/KG  
Exposure Time: 2Y  
Frequency: I  
Result: Tumorigenic: Carcinogenic by RTECS criteria.  
Gastrointestinal: Tumors.

Species: Mouse  
Route of Application: Oral  
Dose: 103 GM/KG  
Exposure Time: 2Y  
Frequency: I  
Result: Tumorigenic: Carcinogenic by RTECS criteria.  
Gastrointestinal: Tumors.

#### IARC CARCINOGEN LIST

Rating: Group 2B

#### NTP CARCINOGEN LIST

Rating: Clear evidence.  
Species: Mouse/rat  
Route: Gavage

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Species: Mouse  
Route: Intraperitoneal  
Dose: 225 MG/KG  
Mutation test: Micronucleus test

Species: Mouse  
Dose: 20 MG/L (+S9)  
Cell Type: lymphocyte  
Mutation test: Mutation in microorganisms

Species: Mouse  
Dose: 20 MG/L  
Cell Type: lymphocyte  
Mutation test: Cytogenetic analysis

Species: Mouse  
Dose: 20 MG/L  
Cell Type: lymphocyte  
Mutation test: Mutation in mammalian somatic cells.

Species: Hamster  
Dose: 299 MG/L  
Cell Type: ovary  
Mutation test: Cytogenetic analysis

Species: Hamster  
Dose: 9800 UG/L  
Cell Type: lung  
Mutation test: Cytogenetic analysis

Species: Hamster  
Dose: 150 MG/L  
Cell Type: ovary  
Mutation test: Sister chromatid exchange

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 8 GM/KG  
Route of Application: Oral  
Exposure Time: (0-19D PREG)  
Result: Maternal Effects: Other effects.

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Section 12 - Ecological Information

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Section 13 - Disposal Considerations

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APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Ethyl acrylate, inhibited  
UN#: 1917  
Class: 3  
Packing Group: Packing Group II  
Hazard Label: Flammable liquid  
PIH: Not PIH

### IATA

Proper Shipping Name: Ethyl acrylate, stabilized  
IATA UN Number: 1917  
Hazard Class: 3  
Packing Group: II

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## Section 15 - Regulatory Information

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### EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F Xn  
Indication of Danger: Highly Flammable. Harmful.  
R: 11 20/21/22 36/37/38 43  
Risk Statements: Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.  
S: 9 16 33 36/37  
Safety Statements: Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU).  
Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact.  
Safety Statements: Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Take precautionary measures against static discharges. Wear suitable protective clothing and gloves.  
US Statements: Possible Carcinogen (US). Lachrymator. Unpleasant odor. Target organ(s): Liver. Kidneys. Calif. Prop. 65 carcinogen.

### UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes  
DEMINIMIS: 0.1 %  
NOTES: This product is subject to SARA section 313 reporting requirements.  
TSCA INVENTORY ITEM: Yes

### UNITED STATES - STATE REGULATORY INFORMATION

#### CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.



DSL: Yes  
NDSL: No

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## Section 16 - Other Information

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### DISCLAIMER

For R&D use only. Not for drug, household or other uses.

### WARRANTY

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 Inc., 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. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.