

Material Safety Data Sheet

Date Printed: 16/DEC/2004

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Version 1.3

According to 91/155/EEC

1 - Product and Company Information

Product Name	ETHYL ACRYLATE, 99.5+%, FCC
Product Number	W241806
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529 Singapore
Technical Phone #	65 271 1089
Fax	65 271 1571

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
ETHYL ACRYLATE	140-88-5	205-438-8	607-032-00-X

Formula	C5H8O2
Molecular Weight	100.12 AMU
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

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

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.

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

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

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

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

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions. Vapor may travel considerable distance to source of ignition and flash back.

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES 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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

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

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

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

GENERAL HYGIENE MEASURES

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

EXPOSURE LIMITS

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

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	20 mg/m3
		5 ppm

Remarks: HK

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	20 mg/m3
		5 ppm

Remarks: =1=

Remarks: H

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	20 mg/m3
		5 ppm

Remarks: HAK

EXPOSURE LIMITS - SWEDEN

Source	Type	Value
	LLV (Level	20 mg/m3
		5 ppm

Remarks: H, S

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	20 mg/m3
		5 ppm

Remarks: S D

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	OEL	21 mg/m3
		5 ppm
OEL	STEL	62 mg/m3
		15 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid
	Color: Colorless

Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	98 - 100 °C	
MP/MP Range	-71 °C	
Flash Point	8 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	383 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	

Explosion Limits	Lower: 1.8 % Upper: 12.1 %	
Vapor Pressure	31 mmHg	20 °C
SG/Density	0.921 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	3.5 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

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

11 - Toxicological Information

RTECS NUMBER: AT0700000

ACUTE TOXICITY

LD50

Oral

Rat

800 mg/kg

LC50

Inhalation

Rat

1,414 ppm

4H

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.

LD50

Intraperitoneal

Rat

450 MG/KG

LD50

Oral

Mouse

1799 mg/kg

LC50
Inhalation
Mouse
16,200 mg/m3

LD50
Skin
Mouse
2997 mg/kg

LD50
Intraperitoneal
Mouse
599 MG/KG

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

LD50
Skin
Rabbit
500 UL/KG
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

SENSITIZATION

Skin: May cause allergic skin reaction.

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.

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.

TARGET ORGAN INFORMATION

Liver. Kidneys.

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.

Rat

Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Gastrointestinal: Tumors.

Mouse

Route of Application: Oral
Exposure Time: 2Y
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Gastrointestinal: Tumors.

IARC CARCINOGEN LIST

Rating: Group 2B

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

Mouse

225 MG/KG
Intraperitoneal
Micronucleus test

Mouse

20 MG/L (+S9)
Cell Type: lymphocyte
Mutation in microorganisms

Mouse

20 MG/L

Cell Type: lymphocyte
Cytogenetic analysis

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

Hamster
299 MG/L
Cell Type: ovary
Cytogenetic analysis

Hamster
9800 UG/L
Cell Type: lung
Cytogenetic analysis

Hamster
150 MG/L
Cell Type: ovary
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.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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.

14 - Transport Information

RID/ADR

UN#: 1917
Class: 3
PG: II
Proper Shipping Name: Ethyl acrylate, inhibited

IMDG

UN#: 1917
Class: 3
PG: II
Proper Shipping Name: Ethyl acrylate, inhibited
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1917

Class: 3
PG: II
Proper Shipping Name: Ethyl acrylate, stabilized
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 607-032-00-X

NOTA: D

INDICATION OF DANGER: F Xn

Highly Flammable. Harmful.

R-PHRASES: 11 20/21/22 36/37/38 43

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-PHRASES: 9 16 33 36/37

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.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

NORWAY

Labelling for organic solvents where the package is 1liter or more.

YL-tall m3/l: 64400

YL-group: 5

Risk phrases: 20

Harmful by inhalation.

Safety phrases: 38 42 210

In case of insufficient ventilation, wear suitable respiratory equipment. During fumigation/spraying wear suitable respiratory equipment. Use compressed air- or fresh air line breathing apparatus in confined spaces.

16 - Other Information

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.