

MATERIAL SAFETY DATA SHEET

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Version 1.3

Section 1 - Product and Company Information

Product Name	ETHYL ACETATE, 99.8%, HPLC GRADE
Product Number	270520
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 ACETATE	141-78-6	No
Formula	C4H8O2	
Synonyms	Acetic ether * Acetidin * Acetoxyethane * Aethylacetat (German) * Essigester (German) * Ethylacetaat (Dutch) * Ethyl acetate (ACGIH:OSHA) * Ethyl acetic ester * Ethyle (acetate d') (French) * Ethylester kyseliny octove (Czech) * Ethyl ethanoate * Etile (acetato di) (Italian) * Octan etylu (Polish) * RCRA waste number U112 * Vinegar naphtha	
RTECS Number:	AH5425000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Flammable. Irritant.

Irritating to eyes, respiratory system and skin. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.

Target organ(s): Liver. Kidneys.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 3

REACTIVITY: 1

NFPA RATING

HEALTH: 2

FLAMMABILITY: 3

REACTIVITY: 1

*additional chronic hazards present.

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

Section 4 - First Aid Measures

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.

Section 5 - Fire Fighting Measures

FLAMMABLE HAZARDS

Flammable Hazards: Yes

EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

FLASH POINT

26.6 °F -3 °C Method: closed cup

EXPLOSION LIMITS

Lower: 2.2 % Upper: 11.5 %

AUTOIGNITION TEMP

427 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. 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.
Specific Method(s) of Fire Fighting: Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

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.

Section 7 - Handling and Storage

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 in a cool dry place.

Section 8 - Exposure Controls / PPE

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	TWA	400 PPM
USA	MSHA Standard-air	TWA	400 PPM (1400 MG/M3)
USA	OSHA.	PEL	8H TWA 400 PPM (1400 MG/M3)
USA	NIOSH	TWA	400 PPM

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	200 MG/M3
Poland		NDSch	600 MG/M3
Poland		NDSP	-

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Liquid		
Property	Value	At Temperature or Pressure	
Molecular Weight	88.11 AMU		
pH	N/A		
BP/BP Range	76.5 - 77.50 °C	760 mmHg	
MP/MP Range	-84 °C		
Freezing Point	N/A		
Vapor Pressure	73 mmHg	20 °C	
Vapor Density	3 g/l		
Saturated Vapor Conc.	N/A		
SG/Density	0.9 g/cm3		
Bulk Density	N/A		
Odor Threshold	0.96 - 176.9 ppm		
Volatile%	N/A		
VOC Content	N/A		

Water Content	< 0.05 %	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	0.44 Pas	25 °C
Surface Tension	24 mN/m	20 °C
Partition Coefficient	Log Kow: 0.73	
Decomposition Temp.	N/A	
Flash Point	26.6 °F -3 °C	Method: closed cup
Explosion Limits	Lower: 2.2 % Upper: 11.5 %	
Flammability	N/A	
Autoignition Temp	427 °C	
Refractive Index	1.372	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Soluble. Other Solvents: SOLUBLE IN ALCOHOL, ETHER, ACETONE, BENZENE MISCIBLE	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Sensitive to moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system. Liver. Kidneys. Blood.

SIGNS AND SYMPTOMS OF EXPOSURE

Can cause CNS depression. Exposure can cause: Drowsiness.

Narcotic effect. Anemia.

TOXICITY DATA

Oral

Rat

5620 mg/kg

LD50

Inhalation

Rat

200,000 mg/m³

LC50

Remarks: Behavioral:Somnolence (general depressed activity).
Lungs, Thorax, or Respiration:Acute pulmonary edema.
Gastrointestinal:Changes in structure or function of salivary glands.

Oral
Mouse
4100 mg/kg
LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:Change in motor activity (specific assay).
Behavioral:Coma.

Inhalation
Mouse
45,000 mg/m3
LC50

Intraperitoneal
Mouse
709 MG/KG
LD50

Subcutaneous
Cat
3 GM/KG
LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Gastrointestinal:Nausea or vomiting. Blood:Other changes.

Oral
Rabbit
4935 mg/kg
LD50

Skin
Rabbit
>20 ML/KG
LD50

Oral
Guinea pig
5500 mg/kg
LD50

Remarks: Behavioral:Somnolence (general depressed activity).
Behavioral:Change in motor activity (specific assay).
Behavioral:Coma.

Subcutaneous
Guinea pig
3 GM/KG
LD50

Remarks: Behavioral:Somnolence (general depressed activity).

IRRITATION DATA

Eyes
Human
400 ppm

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not

classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster
Dose: 9 GM/L
Cell Type: fibroblast
Mutation test: Cytogenetic analysis

Section 12 - Ecological Information

PHYSICAL PROPERTIES AFFECTING ECOTOXICITY

BOD after 5 Days: 26.6 - 57.1 %

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Algae
Time: 24 h
Value: 4,300 mg/l

Test Type: EC50 Algae
Species: SELENASTRUM
Time: 72 h
Value: 1,800 - 3,200 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 2,300 - 3,090 mg/l

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96 h
Value: 350 - 600 mg/l

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 220 - 250 mg/l

Section 13 - Disposal Considerations

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.

Section 14 - Transport Information

DOT

Proper Shipping Name: Ethyl acetate
UN#: 1173
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Ethyl acetate

IATA UN Number: 1173
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F Xi
Indication of Danger: Highly Flammable. Irritant.
R: 11 36 66 67
Risk Statements: Highly flammable. Irritating to eyes. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
S: 16 26 33
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable. Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Safety Statements: Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.
US Statements: Target organ(s): Liver. Kidneys.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No
TSCA INVENTORY ITEM: Yes

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

Section 16 - Other Information

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.