# Section 1 - Product and Company Information

<table>
<thead>
<tr>
<th><strong>Product Name</strong></th>
<th>ETHYL ACETATE, 99.8%, HPLC GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Number</strong></td>
<td>270520</td>
</tr>
<tr>
<td><strong>Brand</strong></td>
<td>ALDRICH</td>
</tr>
<tr>
<td><strong>Company</strong></td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td><strong>Street Address</strong></td>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td><strong>City, State, Zip, Country</strong></td>
<td>SAINT LOUIS MO 63103 US</td>
</tr>
<tr>
<td><strong>Technical Phone</strong></td>
<td>314 771 5765</td>
</tr>
<tr>
<td><strong>Emergency Phone</strong></td>
<td>414 273 3850 Ext. 5996</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>800 325 5052</td>
</tr>
</tbody>
</table>

# Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th><strong>Substance Name</strong></th>
<th><strong>CAS #</strong></th>
<th><strong>SARA 313</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYL ACETATE</td>
<td>141-78-6</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Formula</strong></th>
<th>C4H8O2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synonyms</strong></td>
<td>Acetic ether * Acetidin * Acetoxyethane * Aethylacetat (German) * Essigester (German) * Ethylacetata (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</td>
</tr>
</tbody>
</table>

| **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
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
<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>TWA</td>
<td>400 PPM</td>
</tr>
<tr>
<td>USA</td>
<td>MSHA Standard-air</td>
<td>TWA</td>
<td>400 PPM (1400 MG/M3)</td>
</tr>
<tr>
<td>USA</td>
<td>OSHA.</td>
<td>PEL</td>
<td>8H TWA 400 PPM (1400 MG/M3)</td>
</tr>
<tr>
<td>USA</td>
<td>NIOSH</td>
<td>TWA</td>
<td>400 PPM</td>
</tr>
</tbody>
</table>

EXPOSURE LIMITS
<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>NDS</td>
<td></td>
<td>200 MG/M3</td>
</tr>
<tr>
<td>Poland</td>
<td>NDSCh</td>
<td></td>
<td>600 MG/M3</td>
</tr>
<tr>
<td>Poland</td>
<td>NDSP</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

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)

SIGNS AND SYMPTOMS OF EXPOSURE

TOXICITY DATA

Oral
Rat
5620 mg/kg
LD50

Inhalation
Rat
200,000 mg/m3
LC50

Oral
Mouse
4100 mg/kg
LD50

Inhalation
Mouse
45,000 mg/m3
LC50

Intraperitoneal
Mouse
709 MG/KG
LD50

Subcutaneous
Cat
3 GM/KG
LD50

Oral
Rabbit
4935 mg/kg
LD50

Skin
Rabbit
>20 ML/KG
LD50

Oral
Guinea pig
5500 mg/kg
LD50

Subcutaneous
Guinea pig
3 GM/KG
LD50

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
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.

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.