

# Material Safety Data Sheet

## Ethyl acetate

ACC# 08750

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Ethyl acetate

**Catalog Numbers:** AC149470010, AC149470025, AC149470250, AC167810010, AC167810025, AC167815000, AC232110010, AC232110025, AC268350010, AC268350025, AC268350040, AC326610010, AC326610025, AC326901000, AC326902500, AC327880010, AC364350010, AC364350025, AC364351000, AC423175000, AC423680010, AC423680040, AC423685000, AC610060040, AC610170040, AC610341000, S75118, S80003, S80004, BP1125-1, BP1125-4, E124-20, E124-4, E124POP200, E124RS200, E124SS200, E145-1, E145-20, E145-200, E145-4, E145-500, E14520LC, E1454LC, E145FB115, E145FB19, E145FB200, E145FB50, E145POP19, E145POP200, E145POP50, E145POPB19, E145POPB200, E145POPB50, E145RB115, E145RB19, E145RB200, E145RB50, E145RS115, E145RS200, E145RS28, E145RS50, E145S-4, E145SK-4, E145SS115, E145SS19, E145SS200, E145SS28, E145SS50, E189-4, E191-4, E195-1, E195-4, E195N119, E195N219, E195NB219, E195POP19, E195POP200, E195POP50, E195POP19, E195RS115, E195RS200, E195RS50, E195SK-1, E195SK-4, E195SK4001, E195SK4002, E195SK4003, E195SK4004, E195SK4005, E195SK4006, E195SK4007, E195SK4008, E195SK4009, E195SK4010, E195SS115, E195SS19, E195SS200, E195SS50, E196-4, E1964LC, E1964LOT012, E196POP19, E196POP200, E196POP50, E196RS115, E196RS19, E196RS200, E196RS28, E196RS50, E196SS115, E196SS19, E196SS200, E196SS28, E196SS50, E1984LC, E95NB219, E95SS19, NC9728400, NC9761812, 23-005-51, 23-005-68

**Synonyms:** Acetic acid, ethyl ester; Acetic ether; Acetidin; Acetoxyethane; Ethyl acetic ester; Ethyl ethanoate; Vinegar naphtha.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
141-78-6	Ethyl acetate	>99	205-500-4

**Hazard Symbols:** XI F

**Risk Phrases:** 11 36 66 67

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -4 deg C. May cause respiratory tract irritation.

**Warning! Flammable liquid and vapor.** Causes eye irritation. Prolonged or repeated contact causes defatting of the skin with irritation, dryness, and cracking. Breathing vapors may cause drowsiness and dizziness.

**Target Organs:** Central nervous system, respiratory system, eyes, skin.

### Potential Health Effects

**Eye:** Causes eye irritation. Vapors may cause eye irritation.

**Skin:** May cause skin irritation. Repeated or prolonged exposure may cause drying and cracking of the skin. The majority of human studies have demonstrated that ethyl acetate does not cause an allergic response on human skin. However, there is one case report of a woman developing a skin allergy to ethyl acetate.

**Ingestion:** May cause irritation of the digestive tract. Ingestion of large amounts may cause central nervous depression. May cause headache, nausea, fatigue, and dizziness. These effects may be caused in part by ethanol which is released when ethyl acetate is broken down in the body.

**Inhalation:** May cause respiratory tract irritation. May be harmful if inhaled. Inhalation of high concentrations may cause narcotic effects.

**Chronic:** Chronic inhalation may cause effects similar to those of acute inhalation. Animals exposed to 4300 ppm (mice) and 2000 ppm (guinea pig), 6 hours/ day for 7 days developed minor blood changes & loss of appetite. There was no indication of liver or kidney injury. Rabbits exposed to 16000 mg/m<sup>3</sup> (4440 ppm), 1 hour/day for 40 days developed secondary anemia ( decreased number of red blood cells), decreased hemoglobin levels, increased numbers of macrophages, congestion and fatty degeneration of various organs, and enlargement of the spleen. A reviewer suggested that the organ damage may have been due to impurities present in the ethyl acetate.

## Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

**Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

**Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** 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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

**Extinguishing Media:** Water may be ineffective. Use water spray, alcohol foam, CO<sub>2</sub>, dry chemical.

**Flash Point:** -4 deg C ( 24.80 deg F)

**Autoignition Temperature:** 426 deg C ( 798.80 deg F)

**Explosion Limits, Lower:** 2.0

**Upper:** 11.5

**NFPA Rating:** (estimated) Health: 1; Flammability: 3; Instability: 0

## Section 6 - Accidental Release Measures

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

**Spills/Leaks:** 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. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation. Use only non-sparking tools and equipment.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame. Avoid breathing vapor or mist.

**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.

## 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 acetate	400 ppm TWA	400 ppm TWA; 1400 mg/m <sup>3</sup> TWA 2000 ppm IDLH	400 ppm TWA; 1400 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Ethyl acetate: 400 ppm TWA; 1400 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** sweet, fruity odor

**pH:** Not available.

**Vapor Pressure:** 73 mm Hg @ 20 deg C

**Vapor Density:** 3.04 (Air=1)

**Evaporation Rate:** 6.2 (Butyl acetate=1)

**Viscosity:** 0.44 cps @ 25 deg C

**Boiling Point:** 77 deg C

**Freezing/Melting Point:** -83 deg C

**Decomposition Temperature:** Not available.

**Solubility:** Slightly soluble.  
**Specific Gravity/Density:**0.9 (Water=1)  
**Molecular Formula:**C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>  
**Molecular Weight:**88.11

## 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, attacks some plastics, rubber, and coatings, confined spaces.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, strong bases.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, ethyl alcohol, acetic acid.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 141-78-6: AH5425000

**LD50/LC50:**

CAS# 141-78-6:

Inhalation, mouse: LC50 = 45 gm/m<sup>3</sup>/2H;

Inhalation, rat: LC50 = 200 gm/m<sup>3</sup>;

Oral, mouse: LD50 = 4100 mg/kg;

Oral, rabbit: LD50 = 4935 mg/kg;

Oral, rat: LD50 = 5620 mg/kg;

Skin, rabbit: LD50 = >20 mL/kg;

**Carcinogenicity:**

CAS# 141-78-6: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Neurotoxicity:** No information available.

**Mutagenicity:** Cytogenetic Analysis: hamster fibroblast 9g/L Sex Chromosome Loss/Non-disjunction: *S. cerevisiae* 24400 ppm.

**Other Studies:** See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

**Ecotoxicity:** Fish: Fathead Minnow: 230mg/L; 96H; Daphnid LC50=2500 mg/L/96H Golden orfe LC50=270 mg/L/48H

**Environmental:** Terrestrial: Expected to have high mobility in soil. Volatilization of ethyl acetate from moist soil surfaces is expected to be important. Aquatic: Not expected to adsorb to suspended solids and sediment in water. Atmospheric: Expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase ethyl acetate is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 10 days.

**Physical:** Substance biodegrades at a high rate with little bioconcentration.

**Other:** 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:** CAS# 141-78-6: waste number U112 (Ignitable waste).

## Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	ETHYL ACETATE				ETHYL ACETATE
<b>Hazard Class:</b>	3				3
<b>UN Number:</b>	UN1173				UN1173
<b>Packing Group:</b>	II				II
<b>Additional Info:</b>					FLASHPOINT -4C

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 141-78-6 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

CAS# 141-78-6: 4/12b

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### SARA

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 141-78-6: 5000 lb final RQ; 2270 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 141-78-6: flammable.

#### 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# 141-78-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

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:**

XI F

##### **Risk Phrases:**

R 11 Highly flammable.

R 36 Irritating to eyes.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapors may cause drowsiness and dizziness.

##### **Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 33 Take precautionary measures against static discharges.

#### **WGK (Water Danger/Protection)**

CAS# 141-78-6: 1

##### **Canada - DSL/NDSL**

CAS# 141-78-6 is listed on Canada's DSL List.

##### **Canada - WHMIS**

This product has a WHMIS classification of B2.

##### **Canadian Ingredient Disclosure List**

CAS# 141-78-6 is listed on the Canadian Ingredient Disclosure List.

##### **Exposure Limits**

CAS# 141-78-6: OEL-AUSTRALIA:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL-BELGIUM:TWA 400 ppm (1440 mg/m<sup>3</sup>) OEL-CZECHOSLOVAKIA:TWA 400 mg/m<sup>3</sup>;STEL 2000 mg/m<sup>3</sup> OEL-DENMARK:TWA 300 ppm (1100 mg/m<sup>3</sup>) OEL-FINLAND:TWA 300 ppm (1100 mg/m<sup>3</sup>);STEL 500 ppm (1800 mg/m<sup>3</sup>) OEL-FRANCE:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL-GERMANY:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL-HUNGARY:TWA 400 mg/m<sup>3</sup>;STEL 1200 mg/m<sup>3</sup> OEL-JAPAN:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL-THE NETHERLANDS :TWA 400 ppm (1400 mg/m<sup>3</sup>) JAN9 OEL-THE PHILIPPINES:TWA 400 ppm (1400 mg/m<sup>3</sup>) JAN9 OEL-POLAND:TWA 200 ppm OEL-RUSSIA:TWA 400 ppm;STEL 200 mg/m<sup>3</sup> OEL-SWEDEN:TWA 150 ppm (500 mg/m<sup>3</sup>);STEL 300 ppm (1100 mg/m<sup>3</sup>) OEL-SWITZERLAND:TWA 400 ppm (1400 mg/m<sup>3</sup>);STEL 800 ppm OEL-TURKEY:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL-UNITED KINGDOM:TWA 400 ppm (1400 mg/m<sup>3</sup>) OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## Section 16 - Additional Information

**MSDS Creation Date:** 12/12/1997

**Revision #7 Date:** 7/11/2003

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