

MATERIAL SAFETY DATA SHEET



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ETHYL ACETATE

MSDS No. M0092

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ethyl Acetate

Product Catalog Number(s): EA1511, EB1514, EG2815, EH3857, EP1513, ER0510, ER0511, ER0512, ER0513, ER1032, ER1044, ER2540, ES1033, ES1045, ES1512, ES3335

Synonyms: Acetic Acid Ethyl Ester; Acetic Ether; Acetidin; Acetoxyethane; Ethyl Acetic Ester; Ethyl Ethanoate, Venegar naphtha

Chemical Formula: $CH_3CO_2C_2H_5$

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Ethyl Acetate	141-78-6	100%	Yes

3. HAZARDS IDENTIFICATION

DANGER! HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF THE EYES OR RESPIRATORY TRACT. PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DRYING, CRACKING, OR IRRITATION. HIGHLY FLAMMABLE LIQUID AND VAPOR. TARGET ORGANS: CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, EYES, SKIN.



Acute Exposure Hazards:

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

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

Skin Contact Hazard: May cause skin irritation. Prolonged or repeated exposure may cause dryness and cracking of skin. The majority of human studies indicate that ethyl acetate does not cause allergic skin reactions, but an allergy was reported in one case.

Eye Contact Hazard: Causes eye irritation. Vapors may cause eye irritation.

Chronic Exposure Hazards: Chronic inhalation may cause effects similar to those of acute inhalation. Mice exposed to

4300 ppm and guinea pigs exposed to 2000 ppm 6 hours/day for 7 days developed minor blood changes and displayed loss of appetite. There as no indication of liver or kidney damage. Rabbits exposed to 4440 ppm 1 hour/day for 40 days developed secondary anemia, decreased hemoglobin levels, increased number 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.

4. FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. Get medical aid.

Ingestion: Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Highly flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 426° C (790.8° F)

Flash Point: -4° C (24.8° F)

Flammable Limits: Lower Limit – 2.0 vol %, Upper Limit – 11.5 vol %

Products of Combustion: Will decompose into highly toxic and irritating gases (carbon monoxide, carbon dioxide, ethanol, and acetic acid) under fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. 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.

Specific Explosion Hazards: Vapors may form an explosive mixture with air.

Fire Fighting Media: Water may be ineffective. Use water spray, alcohol foam, carbon dioxide, or dry chemical.

National Fire Protective Association: Health - 1, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area and remove all ignition sources. Avoid run-off into storm sewers and ditches that lead to waterways. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Use only non-sparking tools and equipment. A vapor suppressing foam may be used. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear chemical splash goggles. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

ACGIH – 400 ppm TWA;

NIOSH – 400 ppm TWA; 1400 mg/m³ TWA; 2000 ppm IDLH

OSHA Final PELs – 400 ppm TWA; 1400 mg/m³ TWA

Eye Protection: Wear protective chemical goggles or appropriate eye protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: sweet fruity odor

Odor Threshold: 4 ppm

Taste: Not available

Molecular Formula: CH₃CO₂C₂H₅

Molecular Weight: 88.11

pH: Not available.

Boiling Point: 77° C @ 760 mm Hg

Freezing/Melting Point: -83° C

Decomposition Temperature: Not available

Specific Gravity: 0.9 g/cm³ @ 20° C

Vapor Density (Air=1): 3.04

Vapor Pressure: 73 mm Hg @ 20° C.

Evaporation Rate (Butyl acetate = 1): 6.2

Viscosity: 0.44 cP 25° C

Solubility: Slightly soluble

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, moisture, excess heat, some plastics, some rubber, some coatings, and confined spaces.

Incompatibility With Various Substances: Strong oxidizing agents, strong acids, strong bases.

Hazardous Decomposition Products: Carbon monoxide, carbon, dioxide, ethanol, acetic acid.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Animal Toxicity:

Inhalation, mouse: LC50 = 45 mg/m³/2H;

Inhalation, rat: LC50 = 200 g/m³;

Oral, mouse: LC50 = 4100 mg/kg;

Oral, rabbit: LD50 = 4935 mg/kg;

Oral, rat: LC50 = 5620 mg/kg;

Skin, rabbit: LC50 = >20 mL/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: Cytogenetic analysis: hamster fibroblast 9g/L Sex chromosome Loss/Non-disjunction: S. cerevisiae 24,400 ppm.

Neurotoxicity: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Fathead minnow; 230 mg/L: 96H; Daphnid LC50=2500 mg/L/96H

Fish: Golden orfe LC50 = 270 mg/L/48H

Environmental Fate: Terrestrial: Expected to have high mobility in soil. Volatization of ethyl acetate from moist soils 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 expected to be 10 days.

Physical: Material biodegrades at a high rate with little bioconcentration.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements. This material is not a "P" listed waste under 40 CFR 261.33. It is listed at U112 (ignitable waste).

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Ethyl Acetate

Hazard Class: 3

UN Number: UN1173

Packing Group: II

Canada TDG

Proper Shipping Name: Ethyl Acetate

Hazard Class: 3

UN Number: UN1173

Packing Group: II

Additional Information: -4 C

International (Water, I.M.O.)

Proper Shipping Name: Ethyl Acetate

Hazard Class: 3

UN Number: UN1173

Packing Group: II

International (Air, I.C.A.O.)

Proper Shipping Name: Ethyl Acetate

Hazard Class: 3

UN Number: UN1173

Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 141-78-6 is listed on the TSCA Inventory.

Health and Safety Reporting List: CAS# 141-78-6 is not listed.

Chemical Test Rules: CAS# 141-78-6: 40 CFR 799.5000.

Section 12b: CAS# 141-78-6 is not listed.

TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

CERCLA Hazardous Substances: CAS# 141-78-6 – 5000 lb final RQ; 2270 kg final RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 141-78-6 –fire

Section 313: Ethyl Acetate (CAS# 141-78-6) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Clean Air Act: CAS# 141-78-6 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 141-78-6 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 141-78-6 is on the following state right-to-know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts

California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDL: CAS# 141-78-6 is listed on Canada's DSL list.

WHMIS: This product has a WHMIS classification of B2. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: CAS# 141-78-6 is listed on Canada's Ingredient Disclosure List.

DSCL (EEC):

Hazard Symbols: Xi; F

Risk Phrases: R11 – Highly Flammable; R36 – Irritating to eyes; R66 – Repeated exposure may cause skin dryness and cracking; R67 – Vapors may cause drowsiness and dizziness.

Safety Phrases: S16 – Keep away from sources of ignition-no smoking; S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice; S33 – Take precautionary measures against static discharge.

WGK (Water Danger/protection): CAS# 141-78-6: 1

16. OTHER INFORMATION

Originally Prepared: 10/24/2006

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The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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