

# Material Safety Data Sheet

## Ethyl acetate

### Section 1. Chemical product and company identification

<b>Common name</b>	: <b>Ethyl acetate</b>
<b>Synonym</b>	: Acetic Acid, Ethyl Ester, Acetic Ether, Acetidin, Acetoxyethane, Ethyl Acetic Ester, Ethyl Ethanoate.
<b>Material uses</b>	: Not available.
<b>Supplier/Manufacturer</b>	: GreenChem Industries, LLC 8983 Okechobee Blvd Suite #202 West Palm Beach, FL 33441 Phone: 561-659-2236 Fax: 561-659-2237
<b>In case of emergency</b>	: CHEMTRAC : (800) 262-8200

### Section 2. Hazards identification

<b>Physical state</b>	: Liquid.
<b>Emergency overview</b>	: DANGER EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE IRRITATION. CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LIVER, RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA. MAY CAUSE SKIN IRRITATION. Avoid contact with skin and clothing. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
<b>Routes of entry</b>	: Dermal contact. Eye contact. Inhalation. Ingestion.
<b>Potential acute health effects</b>	
<b>Eyes</b>	: Irritating to eyes.
<b>Skin</b>	: Practically non-toxic in contact with skin. May cause skin irritation upon contact.
<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Ingestion</b>	: Practically non-toxic if swallowed.
<b>Potential chronic health effects</b>	: Carcinogenic effects: A4 (Not classifiable for humans or animals.) by ACGIH. Mutagenic effects: Not available. Teratogenic effects: Not available.
<b>Medical conditions aggravated by over-exposure</b>	: Repeated skin exposure can produce local skin destruction or dermatitis. Repeated or prolonged contact with spray or mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to the substance can produce target organs damage.
<b>See toxicological information (section 11)</b>	

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## Section 3. Composition, Information on Ingredients

	CAS number	% by weight
<b>United States</b> Ethyl acetate	141-78-6	70 - 100

This material is classified as hazardous under OSHA regulations.

See Chapters 8, 11 and 14 for details.

## Section 4. First aid measures

<b>Eye contact</b>	: Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.
<b>Skin contact</b>	: Wash with soap and water. Get medical attention if symptoms occur.
<b>Inhalation</b>	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms appear.
<b>Ingestion</b>	: Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
<b>Notes to physician</b>	: No specific antidote. Medical staff must contact Poison Control Center.

## Section 5. Fire fighting measures

<b>Flammability of the product</b>	: Flammable.
<b>Auto-ignition temperature</b>	: 425.85°C (798.5°F)
<b>Flash point</b>	: Closed cup: -5.15°C (22.7°F). (Tagliabue.) Open cup: -7.2°C (19°F) (Cleveland.).
<b>Flammable limits</b>	: Lower: 2% Upper: 11.5%
<b>Products of combustion</b>	: These products are carbon oxides.
<b>Fire hazards in the presence of various substances</b>	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
<b>Fire-fighting media and instructions</b>	: Use dry chemical, carbon dioxide, water spray (fog) or foam.  Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

<b>Personal precautions</b>	: Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
<b>Environmental precautions</b>	: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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**Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

## Section 7. Handling and storage

**Handling** : Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

**Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8. Exposure controls, personal protection

**Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.  
Recommended: Splash goggles.



**Respiratory** : Not required if handle in a ventilated enclosure.  
**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
>8 hour/hours (breakthrough time): Nitrile gloves.



**Skin/Body** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Body: Recommended: Lab coat.



**Personal protection in case of a large spill** : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Boots. Wear MSHA/NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

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**Product name****United States**

Ethyl acetate

**Exposure limits****ACGIH TLV (United States, 5/2004).**TWA: 1440 mg/m<sup>3</sup> 8 hour/hours. Form: All forms.

TWA: 400 ppm 8 hour/hours. Form: All forms.

**NIOSH REL (United States, 12/2001).**TWA: 1400 mg/m<sup>3</sup> 10 hour/hours. Form: All forms.

TWA: 400 ppm 10 hour/hours. Form: All forms.

**OSHA PEL (United States, 8/1997).**TWA: 1400 mg/m<sup>3</sup> 8 hour/hours. Form: All forms.

TWA: 400 ppm 8 hour/hours. Form: All forms.

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and chemical properties

<b>Physical state</b>	: Liquid.
<b>Color</b>	: Colorless.
<b>Odor</b>	: Pleasant. Fruity.
<b>Molecular weight</b>	: 88.12 g/mole
<b>Molecular formula</b>	: C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>
<b>Boiling/condensation point</b>	: 77.23°C (171°F)
<b>Melting/freezing point</b>	: -84°C (-119.2°F)
<b>Critical temperature</b>	: 249.9°C (481.8°F)
<b>Specific gravity</b>	: 0.902 (Water = 1)
<b>Vapor pressure</b>	: 9.7 kPa (73 mm Hg) (at 20°C)
<b>Vapor density</b>	: 3 (Air = 1)
<b>Odor threshold</b>	: 6.4 ppm
<b>Evaporation rate</b>	: 4.94 compared with Butyl acetate.
<b>LogK<sub>ow</sub></b>	: The product is more soluble in water; log(octanol/water) <1
<b>Dispersibility properties</b>	: See solubility in water.
<b>Solubility</b>	: Partially soluble in cold water, hot water.

## Section 10. Stability and reactivity

<b>Stability and reactivity</b>	: The product is stable.
<b>Incompatibility with various substances</b>	: Reactive with oxidizing materials, acids, alkalis and moisture.

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## Section 11. Toxicological information

### Toxicity data

<u>Ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
Ethyl acetate	LD50	5620 mg/kg	Oral	Rat
	LD50	4935 mg/kg	Oral	Rabbit
	LD50	4100 mg/kg	Oral	Mouse
	LD50	>18000 mg/kg	Dermal	Rabbit
	LC50	19600 ppm (4 hour/hours)	Inhalation	Rat
	LC50	10600 ppm (4 hour/hours)	Inhalation	Mouse

<b>IDLH</b>	: 2000 ppm
<b>Acute Effects</b>	
<b>Eyes</b>	: Irritating to eyes.
<b>Skin</b>	: Practically non-toxic in contact with skin. May cause skin irritation upon contact.
<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Ingestion</b>	: Practically non-toxic if swallowed.
<b>Potential chronic health effects</b>	: Carcinogenic effects: A4 (Not classifiable for humans or animals.) by ACGIH. Mutagenic effects: Not available. Teratogenic effects: Not available.
<b>Target organs</b>	: Causes damage to the following organs: kidneys, liver, upper respiratory tract, skin, eye, lens or cornea.

## Section 12. Ecological information

### Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
Ethyl acetate	Pimephales promelas (EC50)	48 hour/hours	260 mg/l
	Scenedesmus subspicatus (EC50)	48 hour/hours	3300 mg/l
	Scenedesmus subspicatus (EC50)	48 hour/hours	5600 mg/l
	Pimephales promelas (LC50)	96 hour/hours	230 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	425.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	484 mg/l

**Products of degradation** : These products are carbon oxides and water.

## Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

**Consult your local or regional authorities.**

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## Section 14. Transport information

### Classification

DOT/ IMDG/ IATA:	UN number	Proper shipping name	Class	Packing group
NAERG Label : 129	UN1173	ETHYL ACETATE	3	II

### UN/Other regulations



### DOT



### Additional information

DOT	IATA
<b>Reportable quantity</b> 5000 lbs. (2268 kg)	<b>Quantity limitation - Passenger aircraft - Limited quantity</b> 1 L
<b>Limited quantity</b> Yes.	<b>Quantity limitation - Passenger aircraft</b> 5 L
<b>Packaging instruction</b> <b>Passenger aircraft</b> Quantity limitation: 5 L	<b>Quantity limitation - Cargo aircraft</b> 60 L
<b>Cargo aircraft</b> Quantity limitation: 60 L	
<b>Special provisions</b> IB2, T4, TP1	

## Section 15. Regulatory information

### United States

#### HCS Classification

: Flammable liquid  
Irritating material  
Target organ effects

#### U.S. Federal regulations

: TSCA 4(a) final test rules: Ethyl acetate  
TSCA 8(b) inventory: All components listed.  
TSCA 12(b) one-time export: Ethyl acetate  
SARA 302/304/311/312 extremely hazardous substances: No products were found.  
SARA 302/304 emergency planning and notification: No products were found.  
SARA 302/304/311/312 hazardous chemicals: Ethyl acetate  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ethyl acetate: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

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Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: No products were found.  
Clean Air Act (CAA) 112 accidental release prevention: No products were found.  
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.  
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**State regulations** : Pennsylvania RTK: Ethyl acetate: (environmental hazard, generic environmental hazard)  
Massachusetts RTK: Ethyl acetate  
New Jersey: Ethyl acetate  
California prop. 65: No products were found.

## International regulations

**International lists** : All components listed are listed on major international inventories or exempted from being listed in Australia (AICS), Europe (EINECS/ELINCS), Korea (TCCL), Japan (METI/MOL), Philippines (RA6969).

## Section 16. Other information

**Label requirements** : EXTREMELY FLAMMABLE LIQUID AND VAPOR.  
VAPOR MAY CAUSE FLASH FIRE.  
CAUSES EYE IRRITATION.  
CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LIVER,  
RESPIRATORY TRACT, SKIN, EYE, LENS OR CORNEA.  
MAY CAUSE SKIN IRRITATION.

**Hazardous Material Information System (U.S.A.)** :

Health	*	1
Fire hazard		3
		0
Personal protection		C

**National Fire Protection Association (U.S.A.)** :



**References** : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG.

**Date of issue** : 06/30/2005

**Version** : 1

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.