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megaloid.ca



## 1. PRODUCT IDENTIFICATION

**Name:** *Ethyl Acetate*

**Synonyms:** *acetic acid, ethyl ester; ethyl acetic ester; ethyl ethanoate*


**CAS#** 141-78-6

**Product Uses:** *solvent in coatings, inks; extraction of fatty materials in food processing, etc*

**Supplier Identifier:** *Megaloid Laboratories Limited  
5515 North Service Road, Ste 306  
Burlington, Ontario, Canada  
L7L 6G4  
Phone: 905-337-7411 / Fax: 905-337-1686*

**EMERGENCY INFORMATION** Call CHEMTREC - (800) 424-9300 (CCN # 693764)

## 2. HAZARDS

<b>GHS Class</b> <i>(category)</i>	<b>Flammable</b> <i>(2)</i>	<b>Eye irritant</b> <i>(2B)</i>	<b>STOT</b> <i>(3)</i>	 <b>Label Pictograms</b>
<b>Signal Word</b>	<b>DANGER</b>			
<b>Hazard Statements</b>	<i>highly flammable liquid &amp; vapour (H225)</i>	<i>Causes eye irritation (H320)</i>	<i>May cause dizziness or drowsiness (H336)</i>	

### GHS Precautionary Statements for Labelling

#### Prevention

- P210** Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- P240** Ground or bond container and receiving equipment.
- P241** Use explosion-proof electrical, ventilating and lighting equipment.
- P242** Use only non-sparking tools.
- P243** Take precautionary measures against static discharge.
- P261** Avoid breathing vapours.
- P264** Wash hands thoroughly after handling.
- P270** Do not eat, drink or smoke when using this product.

<b>P280</b>	Wear eye protection, protective gloves and clothing of butyl rubber
<b>Response</b>	
<b>P303, P361, P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
<b>P304, P340</b>	IF INHALED: remove person to fresh air and keep comfortable for breathing.
<b>P305, P351, P338</b>	IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
<b>P337 + P313</b>	If eye irritation persists: Get medical advice or attention.
<b>P370 + P378</b>	In case of fire: Use appropriate foam to extinguish.
<b>Storage</b>	
<b>P403 + P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P405</b>	Store locked up.
<b>Disposal</b>	
<b>P501</b>	Dispose of contents and container in accordance with local, regional, national and international regulations.

### 3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
<i>Ethyl acetate</i>	141-78-6	100	EC # 205-500-4

### 4. FIRST AID

#### Inhalation

*Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.*

#### Skin Contact

*Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.*

#### Eye Contact

*Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.*

#### Ingestion

*Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.*

#### Most Important Symptoms and Effects, Acute and Delayed

*May irritate and cause redness and pain.*

#### **First-aid Comments**

*Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.*

### 5. FIRE FIGHTING & FLAMMABILITY

#### Extinguishing Media

***Suitable Extinguishing Media***

*Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet spreads flames*

### **Combustion Products**

*Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments*

### **Static Charge Accumulation**

*although Ethyl Acetate has a relatively high electrical conductivity, there are case reports suggesting that it can generate & accumulate a static charge during pumping operations.*

### **Special Protective Equipment and Precautions for Fire-fighters**

*Firefighters must wear SCBA. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.*

## **6. ACCIDENTAL RELEASE MEASURES**

### **Serious Fire Potential:**

*blanket spill with foam as a precaution against accidental ignition. Take extreme care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.*

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

*Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Wear adequate personal protective equipment. Ventilate area. Extinguish or remove all ignition sources. Notify government occupational health and safety and environmental authorities. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources if safe to do so.*

### **Environmental Precautions**

*It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.*

### **Methods and Materials for Containment and Cleaning Up**

*Leak Precaution: dyke to control spillage and prevent environmental contamination*

*Handling Spill: Ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.*

### **Other Information**

*Report spills to local health, safety and environmental authorities, as required.*

## **7. HANDLING & STORAGE**

### **Precautions for Safe Handling**

*Avoid creating or breathing product vapour. If vapour is created in use, install adequate exhaust ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator with organic vapour cartridge. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, are tightly sealed unless in use. Always use non-sparking bronze or aluminum hand tools. All electrical and mechanical equipment (including lighting, switchgear and forklift trucks) used with or around this product must be explosion-proof. Although this product cannot retain a static charge on agitation or transfer from one container to another, its flash point is low and it is prudent to ground or electrically bond the source container, the receiving container, & transfer pump before transferring contents. Avoid splashing by ensuring that the product nozzle is below the surface in the receiving container. Avoid generating vapour or mist. Empty containers may contain a flammable or explosive vapour. Always ensure that containers, empty or full, are tightly sealed unless in use.*

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

### Conditions for Safe Storage

Store as small a quantity as possible in a cool, dry environment, well ventilated and away from sources of ignition and oxidising agents.

## 8. EXPOSURE CONTROL & PERSONAL PROTECTION

<b>Ontario TWAEV</b>	400ppm / 1440mg/m <sup>3</sup>	<b>Ontario STEV</b>	not listed
<b>AGGIH TLV</b>	400ppm / 1440mg/m <sup>3</sup>	<b>ACGIH STEL</b>	not listed
<b>OSHA PEL</b>	400ppm / 1440mg/m <sup>3</sup>	<b>OSHA STEL</b>	not listed

<b>Ventilation</b>	mechanical ventilation may be required to control airborne titre to regulated limits; if product is handled in sealed apparatus at elevated temperature, make available respirators with organic vapour cartridge for all personnel for emergency use; store respirators should in an airtight Tupperware or similar container to preserve cartridge "freshness"
<b>Hands</b>	"Barrier", "Silver Shield", "Tychem" gloves – other types protect; confirm suitability with supplier
<b>Eyes</b>	Safety glasses with side shields – always protect the eyes
<b>Clothing</b>	no special protective clothing required, but impermeable (above) apron, boots, & long sleeves recommended if splashing is likely

### Appropriate Engineering Controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

## 9. PHYSICAL PROPERTIES

<b>Appearance</b>	Clear colourless liquid.
<b>Odour</b>	sharp, fruity odour
<b>Odour threshold</b>	18-32 ppm
<b>pH</b>	none – (does not liberate hydrogen ions when dissolved)
<b>Melting Point/Freezing Point</b>	-83.6°C /-118.5 °F
<b>Initial Boiling Point/Range</b>	77°C /171°F
<b>Flash Point</b>	-4°C / 24.8°F (closed cup)
<b>Evaporation Rate</b>	6.2 (Butyl Acetate =1)
<b>Flammability ( Solid, Gas)</b>	Not Available
<b>Upper/Lower Flammability or Explosive Limit</b>	2% – 11.5%
<b>Vapour Pressure</b>	73mm Hg (9.73kPa) at 20°C/68°F; 93.2mm Hg (12.43 kPa) at 25°C/77°F

<b>Vapour Density (air = 1)</b>	3.04
<b>Specific Gravity</b>	0.902 (20°C / 68°F)
<b>Water Solubility</b>	77 grams per litre (20°C / 68°F); 80 grams per litre (25°C / 77°F). Also soluble in highly soluble in most organic solvents
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	0.73 (experimental)
<b>Auto-ignition Temperature</b>	426°C / 800°F
<b>Conversion Factor</b>	1ppm = 3.6mg/m <sup>3</sup>
<b>Viscosity</b>	0.425 centipoise (25°C / 77°F); very mobile liquid
<b>Physical State</b>	Liquid
<b>Molecular Weight</b>	88 grams per mole
<b>Molecular Formula</b>	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>

## 10. REACTIVITY

**Dangerously Reactive** with strong oxidising agents; strong alkalis can provoke sudden hydrolysis & heat release; may explode if exposed to lithium aluminium hydride.

**Also Reactive** with strong mineral acids; attacks some plastics.

### Chemical Stability

stable; will not polymerize

### Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

### Conditions to Avoid

Avoid heat, sparks, open flames and other ignition sources.

### Mechanical Impact

not sensitive

## 11. TOXICITY

Acute Toxicity	
<b>LD<sub>50</sub> (oral)</b>	5600 & 10200mg/kg (rat), 4100mg/kg (mouse), 4935mg/kg (rabbit), 5500mg/kg (guinea pig)
<b>LD<sub>50</sub> (skin)</b>	12,900mg/kg (rabbit), 16,400mg/kg (rabbit)
<b>LC<sub>50</sub> (inhalation)</b>	10,800ppm (mouse), 5920, 10,420, 14,800, 16,000 & 17,000ppm (rat), >10,000ppm (rat)

### Skin Corrosion/Irritation

Slightly irritating or not irritating.

### Serious Eye Damage/Irritation

may irritate (2 of 4 reports give it as "irritating"); vapour irritating at 400ppm.

## STOT (Specific Target Organ Toxicity) - Single Exposure

### Inhalation

*irritating at 400ppm; may cause headache, dizziness, drowsiness, nausea*

### Skin Absorption

*slight; no toxic effects likely by this route.*

### Ingestion

*low toxicity; symptoms similar to inhalation may occur as ethyl acetate hydrolyses to ethanol; ingestion toxicity is only seen if ethyl acetate is deliberately ingested in quantity*

## STOT (Specific Target Organ Toxicity) - Repeated Exposure

*Prolonged exposure may cause dermatitis due to removal of protective oils from skin.*

### Respiratory and/or Skin Sensitization

*not a sensitiser in humans or animals.*

### Carcinogenicity

*not considered a tumorigen or a carcinogen in humans or animals. IARC: Not specifically listed. ACGIH®: Not specifically designated. NTP: Not specifically listed. OSHA: Not specifically listed.*

## Reproductive Toxicity

### Sexual Function and Fertility

*no known effect in humans or animals*

### Germ Cell Mutagenicity

*no known effect in humans or animals*

## 12. ECOLOGICAL INFORMATION

<b>Bioaccumulation Persistence and Degradability</b>	<i>metabolized &amp; excreted very quickly; cannot bio accumulate</i> <b>Biodegradation -</b> <i>biodegrades readily &amp; rapidly in the presence of oxygen; 90% degradation in 20 days</i>  <b>Abiotic Degradation -</b> <i>reacts with atmospheric hydroxyl radicals; ½-life in air 10 days; in pH=7 water, hydrolysis ½-life 2 years</i>
<b>Mobility in soil, water</b>	<i>water soluble; moves readily in soil and water</i>
<b>Aquatic Toxicity</b>	
<b>LC50 (Fish, 96hr)</b>	<i>9484mg/litre (Oncorhynchus mykiss), 220mg/litre (Pimephales promelas), 455mg/litre (Salmo gairdneri), 213mg/litre (Heteropneustes fossilis)</i>
<b>EC50 (Crustacea, 48hr)</b>	<i>164mg/litre (Daphnia cucullata), 717mg/litre (Daphnia magna), 262 &amp; 295mg/litre (Daphnia pulex), 750mg/litre (Gammarus pulex)</i>
<b>EC50 (Algae)</b>	<i>&gt;1000mg/litre (Chlorella aeruginosa &amp; Scenedesmus pannonicus), 3300 &amp; 5600mg/litre (Scenedesmus subspicatus)</i>
<b>EC50 (Bacteria)</b>	<i>1180 &amp; 5870mg/litre (Photobacterium phosphoreum), 7400mg/litre (Pseudomonas fluorescens), 202mg/litre (Entosiphon sulcatum)</i>

## 13. DISPOSAL

### Water Disposal

**Do not flush to sewer**, recycle solvent if possible, may be incinerated in approved facility

### Containers

THIS INFORMATION IS PRESENTED FOR YOUR CONSIDERATION IN THE BELIEF THAT IT IS ACCURATE AND RELIABLE: HOWEVER, NO WARRANTY EITHER EXPRESSED OR IMPLIED IS MADE AND NO FREEDOM FROM LIABILITY FROM PATENTS, TRADEMARKS, OR OTHER LIMITATIONS SHOULD BE INFERRED

**Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.


**Pails** must be vented and thoroughly dried prior to crushing and recycling.

**IBCs** (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

**Steel containers** must be inspected, pressure tested & recertified every 5 years.

***Never cut, drill, weld or grind on or near this container,  
even if empty***

## 14. TRANSPORT CLASSIFICATION

<b>Canada TDG</b>	<b>PIN</b>	UN1173	
<b>AND</b>	<b>Shipping Name</b>	Ethyl Acetate	
<b>U.S.A. 49 CFR</b>	<b>Class &amp; Packing Group</b>	3, PG II	
<b>Marine Pollutant ERAP Required Reportable Quantity E R G No.</b>	Not a Marine Pollutant NO 5,000 lbs (2,270kg) 129		

***Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.***

## 15. REGULATIONS

<b>Canada DSL</b>	On Inventory
<b>U.S.A. TSCA</b>	On Inventory
<b>Europe EINECS</b>	On Inventory

### Canadian Regulations

#### CEPA - National Pollutant Release Inventory (NPRI)

Part 5.

### U.S.A. Regulations

**Immediately Dangerous to Life or Health:** 2000 ppm (Based on 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment of escape existed only at higher concentrations.)

**Allowable Tolerances:** Residues of ethyl acetate are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Use: solvent, cosolvent.

**OSHA Standards:** Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 400 ppm (1400 mg/cu m). NIOSH Recommendations: Recommended Exposure Limit: 10 Hour Time-Weighted Average: 400 ppm (1400 mg/cu m).

**Threshold Limit Values:** 8 hr. Time Weighted Avg (TWA): 400 ppm. Excursion Limit Recommendation: Excursions in worker exposure levels may exceed 3 times the TLV-TWA for no more than a total of 30 minutes during a work day, and under no circumstances should they exceed 5 times the TLV-TWA, provided that the TLV-TWA is not exceeded.

**Atmospheric Standards:** This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Ethyl acetate is produced, as an intermediate or final product, by process units covered under this subpart.

**CERCLA Reportable Quantities:** Persons in charge of vessels or facilities are required to notify the National Response Centre (NRC) immediately, when there is a release of this designated hazardous substance, in an amount equal to or greater than its reportable quantity of 5000 lbs or 2270 kg. The toll free number of the NRC is (800) 424-8802. The rule for determining when notification is required is stated in 40 CFR 302.4 (section IV. D.3.b).

**RCRA Requirements:** As stipulated in 40 CFR 261.33, when ethyl acetate, as a commercial chemical product or manufacturing chemical intermediate or an off-specification commercial chemical product or a manufacturing chemical intermediate, becomes a waste, it must be managed according to Federal and/or State hazardous waste regulations. Also defined as a hazardous waste is any residue, contaminated soil, water, or other debris resulting from the cleanup of a spill, into water or on dry land, of this waste. Generators of small quantities of this waste may qualify for partial exclusion from hazardous waste regulations (40 CFR 261.5). When ethyl acetate is a spent non-halogenated solvent, it is classified as a hazardous waste from a nonspecific source, as stated in 40 CFR 261.31, and must be managed according to State and/or Federal hazardous waste regulations.

**FIFRA Requirements:** Residues of ethyl acetate are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Use: solvent, cosolvent. As the federal pesticide law FIFRA directs, EPA is conducting a comprehensive review of older pesticides to consider their health and environmental effects and make decisions about their continued use. Under this pesticide reregistration program, EPA examines newer health and safety data for pesticide active ingredients initially registered before November 1, 1984, and determines whether the use of the pesticide does not pose unreasonable risk in accordance to newer safety standards, such as those described in the Food Quality Protection Act of 1996. Pesticides for which EPA had not issued Registration Standards prior to the effective date of FIFRA '88 were divided into three lists based upon their potential for human exposure and other factors, with List B containing pesticides of greater concern than those on List C, and with List C containing pesticides of greater concern than those on List D. Ethyl acetate is found on List D. Case No: 4005; Pesticide type: insecticide, herbicide, antimicrobial; Case Status: OPP is reviewing data from the pesticide's producers regarding its human health and/or environmental effects, or OPP is determining the pesticide's eligibility for reregistration and developing the Reregistration Eligibility Decision (RED) document.; Active ingredient (AI): Ethyl acetate; AI Status: The active ingredient is no longer contained in any registered pesticide products ... "cancelled."

**FDA Requirements:** Certification of this colour additive when used as a diluent (in inks for marking fruit & vegetables) is not necessary for the protection of the public health and therefore batches thereof are exempt from the requirements of section 706(c) of the Federal Food, Drug, and Cosmetic Act. /Restrictions incl no residue./ Ethyl acetate ... may be safely used in food in accordance with the following conditions: (a) The additive meets the specifications of the Food Chemicals Codex ... (b) The additive is used in accordance with current good manufacturing practice as a solvent in the decaffeination of coffee and tea. Synthetic flavoring substances and adjuvants /for human consumption/ that are generally recognized as safe for their intended use, within the meaning of section 409 of the Act. Ethyl acetate is included on this list. Synthetic flavoring substances and adjuvants /for animal drugs, feeds, and related products/ that are generally recognized as safe for their intended use, within the meaning of section 409 of the Act. Ethyl acetate is included on this list. The feed additive ethyl alcohol containing ethyl acetate meets the requirement of 27 CFR 21.62, being not less than 92.5 percent ethyl alcohol, each 100 gallons having had added the equivalent of 4.25 gallons of 100 percent ethyl acetate. It is used in accordance with good feeding practices in ruminant feed supplements as a source of added energy.

**SARA 311:** Acute health: Yes  
Chronic health: No  
Fire: Yes  
Sudden release of pressure: No



Reactive: No

## US STATE REGULATIONS

Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with

The applicable state(s):

- Pennsylvania - Listed
- New York - Listed
- New Jersey - Listed
- Illinois - Listed
- Massachusetts - Listed
- Rhode Island - Listed

## INTERNATIONAL REGULATIONS

International Inventories, listed on the chemical inventories of the following countries or qualifies for an exemption:

- Australia (AICS)
- China (IECSC)
- Japan (ENCS)
- Japan (ISHL)
- Korea (KECI)
- New Zealand (NZIoC)
- Philippines (PICCS)

## 16. OTHER INFORMATION

<b>NFPA RATING</b>	<b>Health 1</b>	<b>Flammability 3</b>	<b>Instability 0</b>
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Prepared for Megaloid Laboratories Limited by Richard Koscher  
Preparation Date: December 2006  
Revision Dates: October 2006, Oct 2009, Oct 2012, June 2015, May 2018, Jan 2019

<b>Key to Abbreviations</b>	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health NIOSH = National Institute for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration RTECS® = Registry of Toxic Effects of Chemical Substances
<b>References</b>	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
<b>Disclaimer</b>	Megaloid Laboratories Limited provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in

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