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## Material Safety Data Sheet

### **Ethyl acetoacetate**

#### **Section 1: Chemical Product and Company Identification**

Molecular formula: C<sub>6</sub>H<sub>10</sub>O<sub>3</sub>

CAS Nr: 141-97-9

EINECS: 205-516-1

Molecular weight: 130.14

Synonyms: EAA; Ethyl 3-oxobutanoate; Ethyl acetylacetate

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#### **Section 2: Composition and Information on Ingredients**

##### **Composition:**

Name	CAS #	% By Weight
Ethyl acetoacetate	141-97-9	100

Toxicological Data on Ingredients: Not applicable.

#### **Section 3: Hazards Identification**

##### **Potential Acute Health Effects:**

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

##### **Potential Chronic Health Effects:**

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, of inhalation.

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

#### Section 4: First Aid Measures

##### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

##### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

##### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

##### Inhalation:

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

##### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

##### Ingestion:

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:** Not available.

#### Section 5: Fire and Explosion Data

**Flammability of the Product:** Combustible.

**Auto-Ignition Temperature:** 295°C (563°F)

**Flash Points:** CLOSED CUP: 57°C (134.6°F). OPEN CUP: 84.4°C (183.9°F).

**Flammable Limits:** LOWER: 1.4% UPPER: 9.5%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Not available.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

### Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

### Large Spill:

Combustible material. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk.

## Section 7: Handling and Storage

### Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material.

Do not ingest. Do not breathe gas/fumes/ vapour/spray. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes

### Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat.

Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place.

Ground all equipment containing material. Keep container dry. Keep in a cool place.

## 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 threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Fruity.

**Taste:** Not available.

**Molecular Weight:** 130.16 g/mole

**Color:** Colorless.

**pH (1% soln/water):** Not available.

**Boiling Point:** 180.8°C (357.4°F)

**Melting Point:** 4.27°C (39.7°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 1.03 (Water = 1)  
**Vapor Pressure:** 0.8 mm of Hg (@ 20°C)  
**Vapor Density:** 4.48 (Air = 1)  
**Volatility:** Not available.  
**Odor Threshold:** Not available.  
**Water/Oil Dist. Coeff.:** The product is more soluble in oil; log(oil/water) = 1.2  
**Ionicity (in Water):** Not available.  
**Dispersion Properties:** See solubility in water.  
**Solubility:** Partially soluble in cold water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.  
**Instability Temperature:** Not available.  
**Conditions of Instability:** Not available.  
**Incompatibility with various substances:** Not available.  
**Corrosivity:** Non-corrosive in presence of glass.  
**Special Remarks on Reactivity:** Not available.  
**Special Remarks on Corrosivity:** Not available.  
**Polymerization:** No.

## Section 11: Toxicological Information

**Routes of Entry:** Dermal contact. Eye contact. Inhalation. Ingestion.  
**Toxicity to Animals:** Acute oral toxicity (LD50): 3980 mg/kg [Rat].  
**Chronic Effects on Humans:** Not available.  
**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.  
**Special Remarks on Toxicity to Animals:** Not available.  
**Special Remarks on Chronic Effects on Humans:** Not available.  
**Special Remarks on other Toxic Effects on Humans:** Not available.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.  
**BOD5 and COD:** Not available.  
**Products of Biodegradation:**  
Possibly hazardous short term degradation products are not likely.  
However, long term degradation products may arise.  
**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.  
**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

## Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

## Section 15: Other Regulatory Information

### Federal and State Regulations:

Pennsylvania RTK: Ethyl acetoacetate Massachusetts RTK: Ethyl acetoacetate TSCA 8(b) inventory:

Ethyl acetoacetate

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

### Other Classifications:

#### WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

**DSCL (EEC):** R36/38- Irritating to eyes and skin.

#### HMIS (U.S.A.):

**Health Hazard:** 2

**Fire Hazard:** 2

**Reactivity:** 0

**Personal Protection:** h

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

**Health:** 2

**Flammability:** 2

**Reactivity:** 0

#### Specific hazard:

#### Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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