

## MATERIAL SAFETY DATA SHEET

Doc #: EHS/F/027

Ref SOP #: EHS/SOP/024

Product Name: Ethyl Acetate

Effective Date: 10.05.2016

Rev. #: 00



## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>		Ethyl Acetate	
<b>Chemical Formula</b>	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	<b>Chemical Name</b>	Ethyl Acetate
<b>Synonyms</b>	Ethyl Ethanoate, Acetic Acid Ethyl Ester, Ethanoic Acid Ethyl Ester		
<b>Company Identification</b>	IOL Chemicals and Pharmaceuticals Limited Vill. - Fatehgarh Channa, Mansa Road, Trident Complex, Barnala - 148101 (Punjab) India Tel No.: +91-1679-285285-86 Fax No.: +91-1679-285292 Email: <a href="mailto:contact@iolcp.com">contact@iolcp.com</a>		

## SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

<b>Hazardous Ingredients (specific)</b>	Ethyl Acetate	<b>LD<sub>50</sub> of Ingredients (specify species &amp; route of administration)</b>	Oral(LD50): Acute:5620 mg/kg [Rat] 4100 mg/kg [Mouse] 4935 mg/kg [Rabbit]
<b>% (by weight)</b>	100%	<b>LC<sub>50</sub> of Ingredients (specify species)</b>	Vapor (LC50): Acute: 45000 mg/m <sup>3</sup> hr [Mouse] 6000 ppm 6 hr [Rat]
<b>CAS Number</b>	141-78-6	<b>EC No.</b>	205-500-4

## SECTION 3 - HAZARDS IDENTIFICATION

Route of Entry	Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
<b>Symptoms</b>	In case of skin contact (irritant, permeator)	Slightly Hazardous in case of skin contact (permeator)	Eye contact (irritant)	Hazardous in case of inhalation, dizziness and headache	Hazardous in case of swallowed
<b>Health Class</b>	Class : 1				
<b>[WHMIS Symbols]</b>	  -3YE Class 3 – Highly Flammable liquids				

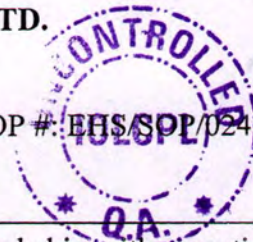




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## SECTION 4 - FIRST AID MEASURES

<b>Skin Contact</b>	Wash with disinfectant soap and cover the contaminated skin with an anti-bacterial cream seek get medical attention immediately.
<b>Serious Skin Contact</b>	Not available
<b>Eye Contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes, cold water may be used, lifting upper and lower eyelids occasionally.
<b>Serious Eye Contact</b>	Get medical attention immediately.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration, if breathing is difficult, give oxygen. Get medical attention immediately
<b>Serious Inhalation</b>	Evacuate the victim to a safe area as soon as possible. Loosen up tight clothing such as a collar, tie belt or waistband. If breathing is difficult, administer oxygen.
<b>Ingestion</b>	Do not induce vomiting, give large quantity of water or milk if available. Never give anything by mouth to an unconscious person.
<b>Serious Ingestion</b>	Not available

## SECTION 5 - FIRE FIGHTING MEASURES

<b>Flammable:</b> <input checked="" type="checkbox"/> Yes		Flammable			
<b>Means of Extinction &amp; Instruction</b>		Water, dry chemical, alcohol foam or water spray may be used to keep fire exposed container cool.			
<b>Fire Class</b>		Class B			
<b>Flash Point</b>		<b>UEL (% by volume)</b>	9 %	<b>LEL (% by volume)</b>	2.2 %
<b>Open Cup</b>	7.2°C (45°F)				
<b>Close Cup</b>	-4.4 °C (24.1°F)				
<b>Auto Ignition Temperature</b>	426.67°C (800°F)	<b>Explosion Data Sensitivity To Contact</b>	Not available	<b>Explosion Data-Sensitivity to Static Discharge</b>	Not available
<b>Hazardous Combustion Products</b>		CO, CO <sub>2</sub>			
<b>Fire Hazard in Presence of</b>		Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials, of acid, of alkalis. Non-flammable in presence of shocks.			
<b>Explosion Hazard</b>		Slightly explosive in presence of heat. Non explosive in presence of shocks.			
<b>Remarks on Fire Hazard</b>		Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition it emits acid smock and irritating fumes.			





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<b>Remarks on Explosion Hazard</b>	The liquid produces vapor that forms explosive mixtures with air at normal temperatures. Explosive reaction with Lithium Tetrahydroaluminate.
<b>Extinguishing Media</b>	Use water spray by multipurpose nozzle, dry chemical and MAP stored pressure type fire extinguishers. Carbon Dioxide fire extinguishers. AFFF mechanical foam fire extinguishers. Do not use the jet force of water.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES:

<b>Small Spill/Leak</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
<b>Large Spill/Leak</b>	Flammable liquid, keep away from heat, keep away from sources of ignition. Stop leak if without risk. Absorb with dry earth, sand or other non-combustible material. Do not get inside the container.

## SECTION 7 - HANDLING AND STORAGE

<b>Handling Procedure</b>	Handle with care.
<b>Storage &amp; Condition</b>	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)
<b>Storage Protection</b>	Keep container dry. Keep away from heat. Keep away from source of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes vapor. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>General Occupational Hygiene Measures</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Always maintain and practice good housekeeping.
<b>Remarks on Storage</b>	Storage and use areas should be No smoking areas. Use non-sparking type tools and equipment including explosive proof ventilation.

## SECTION 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limit	ACGIH / TLV	OSHA (PEL)	NIOSH (REL)
TWA	400 ppm	400 ppm	1400 (mg/m <sup>3</sup> )





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STEL	Not available	Not available	Not available
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**Specific Engineering Controls:** Provide exhaust ventilation or other engineering control to keep the airborne concentration of vapor below their respective threshold limit value. Ensure that eyewash station and safety shower are proximal to the workstation location.

**Personal Protection:**

- 1. Respiratory Protection:** Where local exhaust ventilation is not practicable, wear a full face-piece or a double cartridge respirator with organic vapor canister NPF 400. It may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face-piece positive-pressure, air-supplied respirator.

**Warning:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

- 2. Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area
- 3. Skin/Hands Protection:** Wear impervious protective clothing such as one-piece overall, including safety shoes or boots, gloves, lab coat, apron and any appropriate cotton-made clothing to prevent skin contact.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

" Polychloroprene

" Nitrile Rubber

" Polyvinyl Chloride

Gloves should be examined for wear and/or degradation constantly

**OTHER**

Overalls body protection

Approved SCBA set

P.V.C. apron

Skin cleansing cream

Eye wash unit

**Thermal Hazards:** Not available

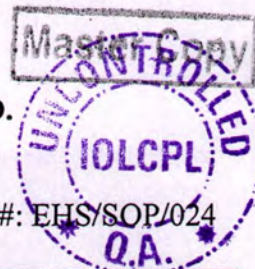
**Environmental Exposure Control:** Expected to have high mobility in soil. Volatilization of Ethyl Acetate from moist soil surfaces is expected to be important. It is not expected to adsorb to suspended solids and sediment in water. Expected to exist solely as a vapor in the ambient atmosphere.

Vapor-phase Ethyl Acetate is degraded in the atmosphere by reaction with photochemical-produced hydroxyl radicals. The half-life for this reaction in air is estimated to be 10 days.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State &amp; Appearance</b>	Liquid	<b>Odour</b>	Ethereal. Fruity (slight)
<b>Odour Threshold (ppm)</b>	3.9 ppm	<b>Molecular Weight</b>	88.11 g/mole





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<b>Color</b>	Colorless	<b>Melting Point</b>	-83°C (-117.4 °F)
<b>Specific Gravity</b>	0.902 (Water=1)	<b>Vapour Density (Air=1)</b>	3.04 (Air=1)
<b>Vapour Pressure (mmHg)</b>	12.4 kpa	<b>Evaporation Rate/Volatility</b>	Not available
<b>Boiling Point</b>	77°C (170.6 °F)	<b>Freezing Point (°C)</b>	Not available
<b>pH (1% Solution in Water)</b>	Not available	<b>Coefficient of Water/Oil Distribution</b>	The product is more soluble in oil;log (oil/water)=0.7
<b>Solubility in Water</b>	In cold water, hot water, benzene	<b>Taste</b>	Bittersweet, wine-like burning taste
<b>Ionicity</b>	Not available	<b>Critical Temperature</b>	250°C (482°F)
<b>Oxidization Property</b>	Not available	<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available	<b>Dispersion Property</b>	See solubility in water, Diethyl Ether, Acetone

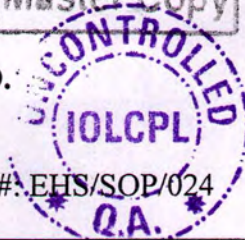
## SECTION 10 - STABILITY AND REACTIVITY

<b>Chemical Stability</b>	√ yes This product is stable.
<b>Incompatibility with Other Substances</b>	√ yes Reactive with oxidizing agent acids alkalis.
<b>Reactivity and its Conditions:</b>	
<b>Reactivity Class</b>	Not available
<b>Corrosively</b>	Non corrosive
<b>Polymerization</b>	Will not occur
<b>Hazardous Decomposition Products</b>	Not available

## SECTION 11 - TOXICOLOGICAL INFORMATION

<b>Effect on Animals</b>	<b>Warning:</b> The LC50 values hereunder are estimated on the basis of 4 hour exposure acute oral toxicity (LD50 4100 mg/kg [Mouse] acute toxicity0 Acute toxicity of the vapor LC50; 45000 mg/m <sup>3</sup> 3 hr [Mouse]
<b>Chronic Effect on Human</b>	Cause damage to the following organs; lungs, mucous membranes upper





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	respiratory tract. May cause damage to the following organs; blood, kidney liver, central nervous system.		
<b>Toxic Effect on Human</b>	Skin contact (irritant, permeator) inhalation; may cause respiratory tract and mucous membrane irritation. Acute pulmonary adema, ingestion; gastrointestinal tract irritation with nausea and vomiting.		
<b>Irritancy of Product</b>	Nil reported		
<b>Skin Sensitization</b>	Not available		
<b>Respiratory Sensitization</b>	Not available		
<b>Carcinogenicity-IARC</b>	None	<b>Carcinogenicity (ACGIH)</b>	None
<b>Reproductive Toxicity</b>	None	<b>Teratogenicity</b>	None
<b>Embrototoxicity</b>	None	<b>Mutagenicity</b>	None
<b>Developmental Toxicity</b>	Not available	<b>Aspiration Hazard</b>	Not available
<b>Specific Target Organ Toxicity - Single Exposure</b>	May cause respiratory tract and mucous membrane irritation	<b>Specific Target Organ Toxicity- Repeated Exposure</b>	Cause liver, kidney, lung, and heart damage. It may also affect metabolism, and blood (anemia, leukocytosis).
<b>Name of Synergistic Products/Effects</b>	Not available		

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Aquatic Toxicity</b>	Eco-toxicity in water (LC50); 220 mg/L 96 hours [Fish(Fathead Minnow)] 212.5 ppm 96 hours [Fish (Indian Catfish)]
<b>BOD &amp; COD</b>	Not available
<b>Biodegradation Product</b>	Possibly hazardous short-term degradation products are not likely to arise however; long-term degradation products may arise.
<b>Toxicity of Biodegradation Product</b>	The products of degradation are less toxic than the product itself.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Waste must be disposed if in accordance with federal state and local environment control regulation. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
<b>Waste Code</b>	RCRA - U Series Wastes U112





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## SECTION 14 - TRANSPORT INFORMATION

<b>Special Shipping Information</b>	Ethyl Acetate	
<b>Transport Classification</b>	<b>Class:</b> 3	<b>Property:</b> Flammable liquid
<b>Identification</b>	Ethyl Acetate	
<b>Hazchem Code</b>	-3YE	
<b>TDG</b>	None allocated	
<b>IMO</b>	Proper Shipping Name	Ethyl Acetate
	Hazards Class	Class 3
	UN Number	1173
	Packing Group	II

## SECTION 15 - REGULATORY INFORMATION

<b>WHMIS Classification</b>	Class B-2: Flammable liquid with a flash point lower than 37.8°C (100 F), HIN-33 Highly flammable liquid (flash-point below 23°C)		
<b>OSHA</b>	Not available		
<b>DSCL (EEC)</b>	<p><b>R Phrases:</b>  R11-Highly flammable.  R 3-Irritating to eyes.</p> <p><b>S Phrases:</b>  S 2-Keep out of the reach of children.  S 16-Keep away from sources of ignition - No smoking  S 26-In case of case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  S 33-Take precautionary measures against static discharges.  S 46-If swallowed seek medical advice immediately and show this container or label</p> <p><b>H Phrases</b>  H 225-Highly flammable liquid and vapour.  H 319-Causes serious eye irritation.  H 336-May cause drowsiness or dizziness.</p>		
<b>NFPA (USA)</b>			
<b>Health Hazard</b>	1	<b>Flammability Hazard</b>	3
<b>Reactivity Hazard</b>	0	<b>Other Hazard</b>	None





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SECTION 16 - OTHER INFORMATION

**References:** <http://www.sciencelab.com> , <http://www.sipchem.com/en/affiliates.htm>

**Danger:** Flammable liquid. Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. Affects central nervous system.

**Label Precautions:** Keep locked up keep container dry Do not ingest Do not breathe gas/fumes/vapor/spray. Never add water to this product in case of insufficient ventilation. Wear suitable respiratory equipment.

**Label First Aid:** If swallowed, induce vomiting immediately as directed by medical personnel .never given anything by mouth to an unconscious person. If inhaled get medical attention immediately. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.