

Walchem Industries (Pvt.) Ltd.

Material Safety Data Sheet For Ethyl Acetate

I. Identification of the Substance/ Preparation and Company

Product Name	Ethyl Acetate
Product Type	Chemical Solvent
Product Code	EAC
CAS-No:	141-78-6
EC No. :	205-500-4
Chemical Name:	Ethyl Acetate
Chemical Formula:	C ₄ H ₈ O ₂
Synonym:	Acetic Acid, Ethyl Ester Acetic Ether

Suggested Use : Ordinary solvents for paints and plastics; organic synthesis;

Details of the supplier of the safety data sheet

Company	Walchem Industries (Pvt.) Ltd PL:299, Sunder Industrial Estate, Raiwand Road Lahore, Pakistan
Tel :	+92(042) 3529 7081
Fax:	+92(042) 3529 7081
Cell Phone:	+92(333) 30 888 20 , (333) 3069 207.
Email :	walchemind@cyber.net.pk

2. HAZARDS IDENTIFICATION



Signal Word	Danger	Hazard Statement
H225		Highly flammable liquid and vapour.
H319		Causes serious eye irritation.
H336		May cause drowsiness or dizziness.



Human Health Hazards:

<i>Inhalation:</i>	<i>Inhalation can cause severe irritation of mucous membranes and upper respiratory tract. Symptoms are burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. High concentrations may cause lung damage and has a narcotic effect and may cause liver and kidney damage.</i>
<i>Ingestion:</i>	<i>Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.</i>
<i>Skin Contact:</i>	<i>Causes irritation to skin. Symptoms include redness, itching, and pain. Repeated or prolonged contact with the skin may cause dryness, cracking and possibly dermatitis.</i>
<i>Eye Contact:</i>	<i>Produces irritation, characterized by a burning sensation, redness, tearing, inflammation and possible corneal injury.</i>
<i>Chronic Exposure:</i>	<i>Chronic overexposure may cause anemia with leukocytosis (transient increase in the white blood cell count) and damage to the liver and kidneys.</i>

3 FIRST AID MEASURES

Emergency and First Aid Procedures:

<i>Inhalation:</i>	<ol style="list-style-type: none">1. If the victim is unconscious or unresponsive, take measures to ensure one's own safety before administering first-aid.2. Remove the pollution source or the patient to a place with fresh air.3. If breathing has stopped, apply artificial respiration by trained professionals immediately. If the heart has stopped, apply cardiopulmonary resuscitation.4. Seek medical attention immediately.
<i>Skin Contact:</i>	<ol style="list-style-type: none">1. Remove soiled clothes, shoes, and leather accessories (such as watchstraps, belts).2. Use gentle, running warm water to rinse the injured area for more than 10 minutes as soon as possible.3. If irritation persists, seek medical attention immediately.
<i>Eye Contact:</i>	<ol style="list-style-type: none">1. Quickly and gently absorb or sweep the excess chemical substances.2. Open the eyelids immediately and wash the injured eye with running warm water for 10 minutes.3. Take caution when washing. Do not allow the water containing pollutants to come in contact with the injured eye.4. If irritation persists, seek medical attention immediately.



Ingestion:

1. If the victim is losing consciousness, is having convulsion, do not feed anything through the mouth.
2. Use water to rinse the mouth thoroughly.
3. Do not induce vomiting.
4. Give 240~300 ml of water to the victim.
5. If the victim vomits spontaneously, allow the victim to rinse the mouth and provide water repeatedly.

6. If breathing has stopped, apply artificial respiration by trained professionals immediately. If the heart has stopped, apply cardiopulmonary resuscitation.

Major Disease and Harm Effects:

Serious exposure will cause disruption of the central nervous system inhibition such as short of breath, headache, fatigue, and dizziness.

4 FIREFIGHTING :



Explosion and Fire Data:

Flammability of the Product: Flammable.
Auto-Ignition Temperature: 426.67°C (800°F)
Flash Points: CLOSED CUP: -4.4°C (24.1°F). (TAG) OPEN CUP: 7.2°C (45°F)
Flammable Limits: LOWER: 2.2% UPPER: 9%
Products of Combustion: These products are carbon oxides (CO, CO₂).

Firefighting measures

Suitable extinguishing media	Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO ₂)
Specific hazards during firefighting	Vapours may form explosive mixtures with air. Flash back possible over considerable distance
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
Further information	Cool containers / tanks with water spray.

6.3. Advice for firefighters

Special Fire Fighting Procedures

Containers close to the fire area should be cooled with water if safe to do so. Be aware that any flammable substance containers are liable to explode when heated. Prevent run-off from entering drains and watercourses. Be aware of dangers from other hazardous substances in the immediate area.



Protective equipment for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

5 Accidental release measures

Personal precautions

Keep people away from and upwind of spill/leak. Remove all sources of ignition. Do not breathe vapours or spray mist.

Environmental precautions

Material can create slippery conditions. Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste.

6 HANDLING AND STORAGE

Handling:

Avoid inhaling vapor and/or mists. Avoid contact with skin, eyes and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding all equipment. Avoid splash filling. Do not use compressed air for filling, discharging or handling operations.

Storage:

Must be stored in a well-ventilated area and keep away from ignition and heat sources. Keep away from aerosols, oxidizing agents and corrosives. The vapor is heavier than air. Beware of accumulation in pits and confined spaces. Breathing losses during storage should be controlled by a suitable vapor treatment system. 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.

Product transfer:

Electrostatic charges may be generated during pumping and these discharges may cause fire. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling. Containers should be bonded and grounded for transfers to avoid static sparks.

Recommended materials:

For containers or container linings, use mild steel or stainless steel. For gasket and seals use compress asbestos, butyl rubber or Teflon.

Unsuitable materials:

Do not store in certain plastic. May react with aluminum if temperature is more than 50°C.

Other Information:

Ethyl Acetate is available from Walchem in bulk or drums. Details are available upon request.



Respiratory protection:

Where local exhaust ventilation is not practicable, wear a full face-piece or a double cartridge respirator with organic vapor canister . 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.

7 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:

Safety glasses. 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.

Hand protection:

Eye protection:

Body Protection:

Specific Hygiene Measures:

PVC gloves, chemical resistant gloves or nitrile gloves. 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. 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. 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.

8 Physical and chemical Properties

Liquid

State of matter	<i>Liquid</i>
Colour	<i>Clear, colourless liquid</i>
Odour	<i>ether-like</i>
pH	<i>7</i>
Melting point/range	<i>-83.6 °C</i>
Boiling point/boiling range	<i>77 °C</i>
Flash point	<i>-3 °C; Closed cup</i>
Autoignition temperature	<i>427 °C</i>
Lower explosion limit	<i>2.2 %(V)</i>
Upper explosion limit	<i>11.5 %(V)</i>
Vapour pressure	<i>124.256 hPa; 20 °C</i>
Density	<i>0.902 g/cm³</i>
Water solubility	<i>Completely miscible</i>
Viscosity, dynamic	<i>0.44 mPa.s</i>
Viscosity, kinematic	<i>0.48 mm²/s</i>
Relative vapour density	<i>3.04(Air = 1.0)</i>

9 STABILITY AND REACTIVITY

<i>Stability:</i>	Stable under normal temperature and pressure for use and storage.
<i>Conditions to avoid:</i>	Heat, flames, ignition sources and confined spaces. Slowly decomposed by moisture.
<i>Materials to avoid:</i>	Reacts with strong oxidizing agents, strong acids, amines, nitric acid, and alkalis. Will attack some forms of plastic, rubber, and coatings.
<i>Hazardous decomposition products:</i>	Carbon dioxide and carbon monoxide may form when heated to decomposition.

10 TOXICOLOGICAL INFORMATIONS

<i>Basis for assessment:</i>	Information given is based on product data.
<i>Oral rat, LD50</i>	5,620 mg/kg
<i>Inhalation rat, LC50</i>	200 ppm / Hour
<i>Skin rabbit, LD50</i>	Less than 20 mL/kg
<i>Eye irritation:</i>	Moderate irritant.
<i>Skin irritation:</i>	Moderate irritant.
<i>Human effects:</i>	The substance is toxic to mucous membranes and upper respiratory tract. The substance may be toxic to blood, kidneys, liver, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

11 ECOLOGICAL INFORMATION

<i>Environmental Fate:</i>	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.
<i>Bioaccumulation:</i>	The bioconcentration factor (BCF) for Ethyl Acetate can be estimated to be less than 3.0. This material is not expected to significantly bioaccumulate.



12 Disposal Considerations

Refer to Sections 6 before handling the product or containers.

Precautions:

Waste disposal:

Whatever EAC cannot be saved for recovery or treating, it should be managed in an appropriate and approved waste disposal facility. Care should in any case be taken to ensure disposal is compliant with statutory and regulatory requirements or local environmental laws.

Product disposal:

This product is not suitable for disposal by either landfill or via local sewers, drains, natural streams or rivers. The following advice only applies to the product as supplied. Processing, use or contamination of this product may change the waste management options.

Container disposal:

Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not pressure cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. Send to drum handlers that clean, recondition or metal reclaimer. Disposal of container and unused contents must be in accordance to local regulatory requirements and environmental laws.

13 Regulation Information:

Apply Regulation:

1. Enforcement Rules of the Labor Safety and Health Act
2. Regulations of Hazard Communication on Dangerous and Harmful Material
3. Ordinance on Prevention of Organic Solvent Poisoning
4. Standards of Tolerable Hazardous Substance Concentration in the Air of Labor Working Environment
5. Traffic Safety Regulations
6. Standards for the Storage, Clearance, and Disposal of Industrial Waste
7. Public Hazardous Materials and Flammable Pressurized Gases Establishment Standards and Safety Control Regulations.