



TAG SOLVENT PRODUCTS (PTY)LTD.

MATERIAL SAFETY DATA SHEET ***ETHYL ACETATE***

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common name	: Ethyl Acetate
Supplier	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600
Synonym	: Acetidin, Acetic Acid Ethyl Ester, Ethyl Acetic Ester, Ethyl Ethanoate.
Trade name	: Ethyl Acetate
Material uses	: Industrial applications: Organic syntheses. Solvent. Polyurethane Systems. Pharmaceutical industry: Manufacture of pharmaceutical products. Coatings: Solvent.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS#	% By Weight	Exposure Limits
Ethyl acetate	141-78-6	99.0(min)	ACGIH TLV (United States, 2002). TWA: 400 ppm TWA: 1440 mg/m ³ OSHA PEL (United States, 2002). TWA: 1400 ppm TWA: 1400 mg/m ³

3 HAZARDS IDENTIFICATION

Physical state and appearance	: Liquid (clear colourless liquid).
Emergency overview	: WARNING! FLAMMABLE LIQUID AND VAPOUR. MAY CAUSE EYE IRRITATION AND SKIN IRRITATION.
Routes of entry	: Eye contact. Ingestion. Inhalation. Absorbed through skin.
Potential acute health effects	
Eyes	: Hazardous in case of eye contact (irritant).
Skin	: Hazardous in case of skin contact (irritant, permeator). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Inhalation	: Hazardous in case of inhalation
Ingestion	: Slightly hazardous in case of ingestion
Potential chronic health effects	: CARCINOGENIC EFFECTS: A5 (Not classifiable for human). By ACGIH. MUTAGENIC EFFECTS: Not listed. TERATOGENIC EFFECTS: Not listed. Ethyl acetate may reduce fertility in males.
Medical conditions aggravated by overexposure	: Persons with pre-existing lung, skin, blood, liver or kidney disease might be at increased risk from ethyl acetate exposure. Persons undergoing ANTABUSE treatment might experience violent gastrointestinal distress, flushing or hypotension. Tobacco smoking increases risk of lung disease in workers exposed to ethyl acetate. Persons simultaneously exposed to ethanol or acetaldehyde might be more sensitive.
Overexposure/signs/ Symptoms	: Ethyl acetate is a primary irritant. It can affect you if breathed in or by passing through the skin. Inhalation exposure can cause irritation of eye, nose, throat and upper respiratory tract. It can produce mild Central Nervous System depression, with symptoms such as lightheadedness, dizziness and to pass out. Repeated contact can cause cracking of the skin.

See toxicological information (section 11)

4 **FIRST AID MEASURES**

Eye contact	: Check for and remove any contact lenses. Immediately flush the eyes with running water for at least 15 minutes, keep eyelids open. Cold water may be used. DO NOT use eye ointment. Get medical attention.
Skin contact	: In the case of contact, flush the skin with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, creases and groin. Cover the irritated skin with an emollient. Wash clothes before reuse. Thoroughly clean shoes before reuse. If irritation persists seek medical attention.
Hazardous skin contact	: Wash with a disinfectant soap and cover skin with an anti-bacterial cream. Seek medical attention.
Inhalation	: If inhaled, remove to fresh air and allow victim to rest. Get medical attention.
Hazardous inhalation	: If inhaled, remove victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is laboured, give oxygen. If not breathing apply artificial respiration. Get medical attention.

Ingestion	: DO NOT induce vomiting unless directed to do so by medical personnel. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing apply artificial respiration. Get medical attention.
Hazardous ingestion	: No additional information
Notes to physician	: Support respiratory and cardiovascular function.

5 FIRE FIGHTING MEASURES

Flammability of the product	: Flammable
Autoignition temperature	: 427 °C (800.6 °F)
Flash points	: CLOSED CUP: -4.4 °C (24.1°F). OPEN CUP: 4°C (39.2°F). (Cleveland).
Flammable limits	: LOWER: 2.2% UPPER: 11.5%
Products of combustion	: These products are carbon oxides (CO, CO ₂)
Fire hazards in presence of various substances	: Flammable in the presence of open flames and sparks, of heat and moisture.
Explosion hazards in presence of various substances	: Risk of explosive in the presence of static discharge: Possible. Risk of explosive in the presence of mechanical impact: Not available. Vapours may form explosive mixtures with the air. Poses a moderate explosion hazard when exposed to flame. Ethyl acetate forms potentially explosive reaction with lithium tetrahydroaluminate. Ignites on contact with tert-butoxide. Forms a violent reaction with chlorosulfonic acid and oleum.
Fire fighting media and instructions	: Flammable liquid, soluble or dispersed in water. Moisture reactive material. SMALL FIRE: Obtain advice on use of water. Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. DO NOT USE WATER. Cool containing vessels with water jet on order to prevent pressure build-up, autoignition or explosion.
Protective clothing (fire)	: Wear MSHA/NIOSH self-contained respirator or equivalent and full protective gear.
Special remarks on fire hazards	: Vapour may travel considerable distance to source of ignition and flash back. When heated to decomposition it emits acrid smoke and irritating fumes. Cool containers with flooding quantities of water until well after fire is out.
Special remarks on explosive hazards	: Vapour explosion hazard indoors, outdoors and in sewers. Vapors may form explosive mixtures with air. Containers may explode when heated. Most vapours are heavier than air; they will spread along the ground and collect in low confined areas (sewers, basements, tanks).

6 ACCIDENTAL RELEASE MEASURES

Small spill or leak	: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large spill or leak	: 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 touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7 *HANDLING AND STORAGE*

Handling	: Keep locked up. Keep away from heat and sources of ignition. Ground all equipment containing material. DO NOT ingest. DO NOT breath gas, vapour, fumes or spray. In case of inadequate ventilation, use suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, and moisture.
Storage	: Flammable materials should be stored in a separately safety storage cabinet or room. Keep container in a cool, well-ventilated area. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F). Keep container tightly closed and sealed until ready for use. Ground all equipment containing material. Keep away from heat. Avoid all possible sources of ignition (spark of flame).

8 *EXPOSURE CONTROLS, PERSONAL PROTECTION*

Engineering controls	: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below their respective threshold limit values. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal protection	
Eyes	: Splash goggles.
Body	: Lab coat.
Respiratory	: Vapour and dust respirator. Be sure to use an MSHA/NIOSH approved respirator equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	: Butyl rubber gloves.
Feet	: Not applicable.
Protective clothing	: Splash goggles. Lab coat. Vapor respirator. Butyl gloves.
Personal protection in case of large spills	: Splash goggles. Full suit. Vapor and dust 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 the product.

Product name Ethyl acetate	Exposure limits ACGIH TLV (United States, 2002). TWA: 400 ppm TWA: 1440 mg/m ³ OSHA PEL (United States, 2002). TWA: 1400 ppm TWA: 1400 mg/m ³
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9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance	: Liquid.
Colour	: Colourless. Clear.
Odor	: Ether- like fragrance, fruity, pineapple-like odor.
Taste	: Pleasant, bitter-sweet, wine-like burning taste.
Molecular weight	: 88.12g/mole
Molecular formula	: C ₄ H ₈ O ₂
PH (1% soln/water)	: 7 [Neutral.]
Boiling/condensation point	: 77.5°C (170.6 °F)
Melting/freezing point	: -83.6 °C (-118.5°F)
Critical temperature	: 250°C
Specific gravity	: 0.902 (water=1)
Vapor pressure	: 76 mm of Hg (@20°C)
Vapor density	: 3.04 (Air=1)
Volatility	: 100% vlv.
Odor threshold	: 18 ppm
Evaporation rate	: 6.2 [Solvent]
VOC	: Not available.
Viscosity	: 1.44cP.
LogK_{ow}	: The product is more soluble in oil; log _(oil/water) = 0.7
Iconicity (in water)	: No data available.
Dispersion properties	: See solubility in water, methanol, diethyl ether.
Solubility	: Soluble in cold water, methanol, diethyl ether. Partially soluble in hot water.
Physical chemical comments	: No additional remark.

10 STABILITY AND REACTIVITY

Stability and reactivity	: The product is stable.
Conditions of instability	: Overheating, flames, and sources of ignition or direct sunlight. Must not come into contact with oxidizing agents, perchlorates, peroxides, chromic and nitric acids.
Incompatibility with various substances	: Reactive with oxidizing agents, acids, alkalis, moisture.
Hazardous decomposition products	: When heated ethyl acetate emits acrid smoke and irritating fumes.
Hazardous polymerization	: Not pertinent.

11 TOXICOLOGICAL INFORMATION

Toxicity to animals	: WARNING: THE LC50 VALUES HERE UNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE Acute oral toxicity (LD50): 5620 mg/kg [Rat]. Acute toxicity of the vapour (LC50): 19596 ppm 4 hour(s) [Rat].
Chronic effects on humans	: CARCINOGENIC EFFECTS: A5 (Not suspected for human.) by ACGIH.
Other toxic effects on humans	: Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation. Slightly hazardous in case of ingestion.
Special remarks on toxicity to animals	: No additional remark.
Special remarks on chronic effects on humans	: No additional remark.
Special remarks on other toxic effects on humans	: Exposure can cause nausea, headache and vomiting. Material is irritating to mucous membranes and upper respiratory tract.

12 ECOLOGICAL INFORMATION


Ecotoxicity	: Ecotoxicity (LC50): 1540 ppm/24 hours [Brine shrimp].
BOD and COD	: 36% - 68% in 5 days.
Biodegradable/OECD	: Biodegradable.
Mobility	: No data available
	: Will NOT bioaccumulate.
Toxicity of the products of biodegradation	: The products of biodegradation are less toxic than the original product.
Special remarks on the products of biodegradation	: No additional remark.

13 DISPOSAL CONSIDERATIONS

Waste information	: Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste stream	: Not available.

Consult your local or regional authorities.

14 TRANSPORT INFORMATION

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN 1173	ETHYL ACETATE	DOT CLASS 3: Flammable liquid.	II		Marine Pollutant: Not available. Hazardous Substances Reportable QUANTITY: 2270 Special Provisions For Transport: No additional remark
TDG Classification			TDG CLASS 3: Flammable liquid.			

ADR/RID Classification	ADR CLASS: flammable liquid. Flammable liquid with a flash point lower than 21°C (70°F).					
IMO/IMDG Classification			IMDG CLASS 3: Flammable liquid.			
ICAO/IATA Classification			IATA CLASS 3: Flammable liquid.			

15 REGULATORY INFORMATION

HCS Classification	: HCS Class: Flammable liquid having flash point lower than 37.8°C (100°F)
U.S. Federal regulations	: TSCA 8(b) inventory: Ethyl acetate Clean water act (CWA) 307: No products were found. Clean water act (CWA) 311: No products were found. Clean water act (CAA) 112 accidental release prevention: No products were found. Clean water act (CAA) 112 regulated flammable substances: No products were found. Clean water act (CAA) 112 regulated toxic substances: No products were found.
International Regulations WHMIS (Canada)	: WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8°C. <u>CEPA DSL:</u> Ethyl Acetate.
EINECS DACL (EEC)	: 205-500-4
International lists	: R11 – Highly flammable. R18 – in use, may form flammable/explosive vapour-air mixtures. : No products were found.
State regulations	: Pennsylvania RTK: Ethyl Acetate. Florida: Ethyl Acetate. Massachusetts RTK: Ethyl Acetate. California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: No products were found

16 OTHER INFORMATION

Label requirements	: EXTREMELY FLAMMABLE LIQUID AND VAPOUR, VAPOUR MAY CAUSE FLASH FIRE. MAY CAUSE SKIN IRRITATION. MAY CAUSE EYE IRRITATION.
Hazardous Material information System (U.S.A.)	[Frame1]
References	: -LOLI Database: The regulated List of Lists. - CHEMINFO: Canadian Centre for Occupational Health and Safety, Issue: 97-3 (August 1997). – BDH; Hazard Data Disk, Version 3. – CESARS: Chemical Evaluation and Retrieval System, Produced by: Ontario Ministry of Environment and Michigan Department of Natural Resources, Issue 97-3 (August 1997). – TOMES Plus System: Toxicology, Occupational Medicine & Environmental Series: incorporating: - MEDITEX, HAZARDTEXT, 1 st Medical Response Protocols, INFOTEXT, HSDB, CHRIS, OHM/TAD, IRIS, NIOSH Pocket Guide, RTECS, NJ Facts Sheets, North American Emergency Response Guides, REPROTEXT, REPROTOX, TERIS, Shepard's Catalog of Teratogenic Agents.
Other special considerations	No additional remarks.
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Notice to reader:

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.