

Kimya Resin Arak
Chemical Industrial Co.

Material Safety Data Sheet

Ethyl acetate

Tel: (+98) 086-3422-4515
(Company)
Tel: (+98) 086-3823-2049
(Factory)

1. Identification

Trade name	Ethyl Acetate
Synonyms	Ethyl ethanoate, Acetidin, Acetic acid ethyl ester, Ethyl acetic ester, Acetic ester.
Use	Flavors and Fragrances, Industrial use, Intermediate, Paint and Coatings Pharmaceutical, Process/Extraction Solvent, Process material, Raw material for chemical processes, Raw material for industry, Raw material for pharmaceutical, solvent.
Company	Kimya Resin Arak Company
Address	Unit 19, 7th Floor, Edge Of Daneshsara Alley, Shariati Sq., Arak, Iran.
Telephone	+98 86 34224514-15 & +98 86 34224864
E-mail	info@kimyaresin-arak.com
Factory Address	Shazand Industrial Zone (Shahid Babaei), Shazand, Iran.
Tel	+98 86 38232049 & +98 86 38232162
Email	sales@kimyaresin-arak.com

2. Hazard Identification

OSHA/GHS	Flammable liquids	Category 2
Hazards	Eye irritation	Category 2A
	Specific target organ toxicity - Single exposure	Category 3 (Narcotic effects)

Label Element





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Hazard symbols

Signal word Danger

Hazard statements

- H225** Highly flammable liquid and vapor.
- H336** May cause drowsiness or dizziness.
- H319** Causes serious eye irritation.

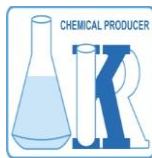
Precautionary statements

Prevention

- P210** Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233** Keep container tightly closed
- P240** Ground/bond container and receiving equipment.
- P241** Use explosion-proof electrical/ ventilating/ lighting equipment.
- P242** Use only non-sparking tools.
- P243** Take precautionary measures against static discharge.
- P280** Wear protective gloves/ eye protection/ face protection.
- P264** Wash skin thoroughly after handling.
- P261** Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P271** Use only outdoors or in a well-ventilated area.

Response

- P303+P361+P353** IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378** In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313** If eye irritation persists: Get medical advice/ attention.
- P304+P340** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312** Call a POISON CENTER/doctor if you feel unwell. Storage
- P403+P405+P235** Store locked up in a well-ventilated place. Keep cool.



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3. First aid measures

- Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use
- Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.
- Ingestion** If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

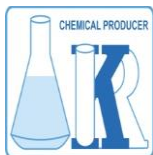
4. Firefighting measures

Flammable properties

- Fire/explosion** Vapors may form explosive mixture with air. Flash back possible over considerable distance. Use water spray to disperse the vapors. NFPA Class 1B flammable liquid.
- Suitable extinguishing** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Protective equipment and precautions for firefighters** In the event of fire, wear self-contained breathing apparatus.
- Further information** Keep containers and surroundings cool with water spray. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

5. Accidental release measures

- Methods and materials for containment and cleaning up** Evacuate personnel to safe areas. Remove all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 12). Do not flush into surface water or sanitary sewer system.



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6. Handling and storage

Safe handling advice Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition.

Storage/Transport pressure

Ambient

Load/Unload temperature

Ambient

7. Exposure controls/Personal protection

Engineering measures Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines). Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment.

Personal protective equipment

Eyes Chemical resistant goggles must be worn., Face-shield.

Skin Wear suitable protective clothing, gloves and eye/face protection.

Inhalation Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

Exposure guidelines

Components	Exposure limit(s)
Ethyl Acetate	ACGIH TLV (8-hour) 400 ppm 1,400 mg/m ³ OSHA PEL (Permissible Exposure Limit) 400 ppm 1,400 mg/m ³

PEL: Permissible Exposure Limits

TLV: Threshold Limit Value

EL: Excursion Limit

TWA: Time Weighted Average (8 hr.)

STEL: Short Term Exposure Limit (15 min.)

WEEL: Workplace Environmental Exposure Level



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8. Physical and chemical properties

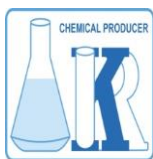
Chemical Formula	C ₄ H ₈ O ₂	Molecular weight	88.11 g/mol
Color	Colorless	Flash point	-4 °C, 25 °F;
Form	Liquid	Vapor density (Relative to air)	3.04
Boiling point	77 °C, 170 °F	Odor	Similar to glue or nail polish
Melting point	-84 °C, -119 °F	Density	0.90 g/cm ³ at 20 °C, 68 °F
Auto-ignition	426 °C, 799 °F	Water solubility	8.3 g/100ml at 20 °C
Flammability	lower flammability limit 2% upper flammability limit 11.5%	Vapor pressure	73 mmHg at 68 °F; 100 mmHg at 81 °F

9. Stability and reactivity

Reactivity	Stable under recommended storage conditions.
Chemical stability	No decomposition if stored and applied as directed.
Conditions to avoid	Heat, flames and sparks.
Hazardous decomposition products	Not known.
Hazardous Materials to avoid	Alkali metals/ Strong oxidizing agents.
Polymerization	Not known
Acute dermal toxicity	
LD50 Rabbit: > 2,000 mg/kg. (literature value)	

10. Toxicological information

Acute inhalation toxicity	No data available
Acute oral toxicity	LD50 Rat: > 2,000 mg/kg. (literature value)
Skin	(Rabbit)



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Corrosion/irritation	Not irritating (literature value)
Serious eye	(Rabbit)
Damage/eye irritation	slight irritation (literature value)
Respiratory or skin	Guinea pig: not sensitizing; Maximisation Test
Sensitisation	OECD Test Guideline 406
Germ cell mutagenicity	Genotoxicity in vitro: Type: Ames test System: Salmonella typhimurium; with and without metabolic activation Result: In vitro tests did not show mutagenic effects (literature value) Genotoxicity in vivo: No data available Assessment Mutagenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity	Reproductive toxicity: No data available Assessment Reproductive toxicity: No data available Teratogenicity: No data available Assessment teratogenicity: No data available
STOT - single exposure	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
STOT - repeated exposure	No data available
Aspiration toxicity	No data available
Carcinogenicity	Assessment carcinogenicity: Contains no ingredient listed as a carcinogen



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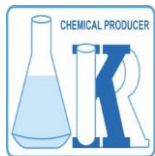
(Factory)

11. Ecological information

Toxicity to fish	LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; semi-static test. (literature value)
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 48 hours: > 100 mg/l; static test (literature value)
Toxicity to algae	EC50 (Desmodesmus subspicatus (green algae)) 72 hours: > 100 mg/l; static test (literature value)
Chronic toxicity to aquatic invertebrates	NOEC (Daphnia magna (Water flea)) 21 d: > 1 - 10 mg/l; semi-static test; OECD Test Guideline 211. (literature value)
Biodegradation	Readily biodegradable. OECD Test Guideline 301B (28 d): > 60 %. (literature value)
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).
Mobility in soil	No data available
Other adverse effects	This substance is not considered to be persistent, bioaccumulating and toxic.

12. Disposal information

Waste Code	U112 - Ethyl Acetate - (RQ 5,000 LB).D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.
Disposal methods	Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.
Empty containers.	Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.



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13. Transport information

DOT	UN 1173, Ethyl Acetate, 3, II When shipped in quantities greater than 5,000 lbs, RQ must be added to the shipping description.
IATA	UN 1173, Ethyl Acetate, 3, II When shipped in quantities greater than 5,000 lbs, RQ must be added to the shipping description.
IMDG	UN 1173, Ethyl Acetate, 3, II When shipped in quantities greater than 5,000 lbs, RQ must be added to the shipping description.

Transport in bulk according to Annex II of **MARPOL 73/78** and the **IBC** Code.

14. Regulation information

International regulations

WHMIS Classification

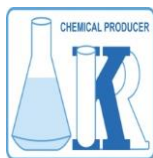
Flammable liquids	Category 2
Eye irritation	Category 2A
Specific target organ toxicity -single exposure	Category 3 (Narcotic effects)

European Union

Classification according to Regulation (EU) 1272/2008.

Flammable liquids, Category 2
Eye irritation, Category 2
Specific target organ toxicity - single exposure, Category 3 (Narcotic effects)

Australia. Inventory of Chemical Substances (AICS)	Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS)	Listed
Japan. ISHL - Inventory of Chemical Substances	Listed
Canada. Domestic Substances List (DSL) Inventory	Listed
Canada. Non-Domestic Substance Listing (NDSL)	Not listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS)	Listed



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Korea. Existing Chemicals Inventory (KECI)	Listed
China. Inventory of Existing Chemical Substances (IECSC)	Listed
Mexico. National Inventory of Chemical Substances (INSQ)	Listed
New Zealand. Inventory of Chemical Substances (NZIC)	Listed
Switzerland. Inventory of Notified New Substances (CHINV)	Listed
Taiwan. National Existing Chemical Inventory (NECI)	Listed

15. Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

Abbreviations and acronyms:

DOT: US Department of Transportation/ **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals/ **IATA:** International Air Transport Association/ **IMDG:** International Maritime Code for Dangerous Goods/ **MARPOL:** The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes./ **NIOSH:** National Institute for Occupational Safety and Health./ **NOEC:** No Observed Effect Concentration/ **OECD:** Organization for Economic Co-operation and Development/ **OSHA:** Occupational Safety and Health Administration/ **SARA:** Superfund Amendments and Reauthorization Act (USA)./ **STOT:** specific target organ toxicity.