

ETHYL AZIDOACETATE

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

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|----------------------------|---------------------------------------------------------|
| Chemical Name: | Ethyl azidoacetate |
| Product Code: | 945 |
| Synonyms: | - |
| Recommended uses: | For R&D purposes |
| Supplier: | UnaveraChemLab GmbH Am Ländbach 20, 82481 Mittenwald |
| Emergency contact numbers: | Telephone: +49-8823-1351 Fax: +49-8823-3449 |

2. HAZARDS IDENTIFICATION

Flammable. Irritating to eyes, respiratory system and skin.

Classification:

According to Regulation (EC) No1272/2008.

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

Labelling and precautionary statements:

Pictogram:



Signal word: Warning.

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| Hazard statement(s): | H226 | Flammable liquid and vapour. |
| | H315 | Causes skin irritation. |
| | H319 | Causes serious eye irritation. |
| | H335 | May cause respiratory irritation. |

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| Precautionary statement(s): | P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| | P240 | Ground/ bond container and receiving equipment. |
| | P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| | P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| | P303 + P361 + P353 | IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. |

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P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P370 + P378 In case of fire: Use sand, CO₂ or extinguishing powder for extinction.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/ regional/ national/ international regulations.

Hazard symbol(s): F Highly flammable.
Xi Irritant.

R-phrases(s): R10 Flammable.
R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrases(s): S16 Keep away from sources of ignition - No smoking.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| | | | |
|-------------------------------------------------------------|-------------------|-------------|----------------|
| Molecular Formula: | Molecular weight: | CAS Number: | EINECS Number: |
| C ₄ H ₇ N ₃ O ₂ | 129.1 | 637-81-0 | 211-301-3 |

4. FIRST AID MEASURES

Eye contact: Immediately flush eye with copious amounts of water for at least 15 minutes. Get medical aid immediately.

Skin contact: In case of contact remove contaminated clothing and immediately wash affected areas with copious quantities of water and soap for at least 15 minutes. Get medical aid immediately. Wash contaminated clothing before reuse.

Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Get medical aid.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water provided person is conscious. Call a physician.

Notes to Physician: Treat symptomatically and supportively.

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5. FIRE-FIGHTING MEASURES

Personal precautions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing media: In case of fire use sand, carbon dioxide, or extinguishing powder.

Special hazards arising from the substance or mixture: In combustion toxic fumes may form.

6. ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8.

Personal precautions: Wear self-contained breathing apparatus, eye protection and gloves. Keep personal hygiene. Avoid contact with skin, eyes and clothing. Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions: Do not let product enter the drains or rivers. Prevent further leakage or spillage if safe to do so.

Spills/Leaks: Mix with sand or vermiculite, then collect with an electrically protected vacuum cleaner or by wet-brushing and place the material in appropriate container for disposal and dispose of as hazardous waste. Ventilate area, clean up spills and wash spill site after material pickup is complete, observing precautions in the Protective Equipment section.

7. HANDLING AND STORAGE

Handling: Wear appropriate protective clothing - see Section 8. Wash hands thoroughly after handling. Use with adequate ventilation. Use only in a chemical fume hood. Take off contaminated clothing and wash before reuse. Ground/bond container and receiving equipment. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid inhalation of vapour or mist. Take measures to prevent the build-up of electrostatic charge. Use explosion-proof electrical/ventilating/lighting. Use only non-sparking tools. Keep away from sources of ignition - No smoking. When using do not eat, drink or smoke.

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Storage: Store in a cool, dry, well-ventilated area. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from sources of ignition. Keep away from direct sunlight. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Refrigerate. Keep cold. Store at 2 - 8 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protection equipment:

Eye protection: Wear appropriate protective safety glasses with side-shields conforming to EN166, chemical safety goggles or face-shield (min. 8-inch) as described by OSHA's eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection: Appropriate protective clothing, overalls.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Respirators and components must be tested and approved under appropriate government standards - NIOSH (US) or CEN (EU).

Hygiene measures: Use good working practices. Wash hands and face thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow liquid.

Odour: Data not available/does not apply.

Odour threshold: Data not available/does not apply.

pH: Data not available/does not apply.

Melting point: Data not available/does not apply.

Boiling point: Data not available/does not apply.

Flash point: Data not available/does not apply.

Evaporation rate: Data not available/does not apply.

Flammability: Data not available/does not apply.

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| Flammability or explosive limits: | Data not available/does not apply. |
| Vapor pressure: | Data not available/does not apply. |
| Vapor density: | Data not available/does not apply. |
| Relative density: | Data not available/does not apply. |
| Solubility in water: | Data not available/does not apply. |
| Refractive index: | Data not available/does not apply. |
| Partition coefficient: n-octanol/water | Data not available/does not apply. |
| Auto-ignition temperature: | Data not available/does not apply. |
| Decomposition temperature: | Data not available/does not apply. |
| Viscosity: | Data not available/does not apply. |

10. STABILITY AND REACTIVITY

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| Chemical stability: | Stable under normal conditions. |
| Reactivity: | No unusual reactivity. |
| Conditions to avoid: | Data not available. |
| Incompatibilities with other materials: | Oxidizing agents, bases. |
| Hazardous decomposition products: | In combustion emits toxic fumes. |
| Hazardous polymerization: | Data not available. |

11. TOXICOLOGICAL INFORMATION

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| RTCS #: | Data not available. |
| Acute toxicity: | Data not available. |
| Skin corrosion/irritation: | Irritant for skin and mucous membranes. |
| Serious eye damage/eye irritation: | Irritant effect. |
| Respiratory or skin sensitization: | No sensitizing effect known. |
| Germ cell mutagenicity: | Data not available. |
| Carcinogenicity: | No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. |
| Reproductive toxicity: | Data not available. |
| Specific target organ toxicity - single exposure: | Inhalation - May cause respiratory irritation. |
| Specific target organ toxicity - repeated exposure: | Data not available. |
| Aspiration hazard: | Data not available. |

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Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Potential health effects:

Eye: Causes serious eye irritation.
Skin: May be harmful by skin absorption.
Causes skin irritation.
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful if inhaled.
Causes respiratory tract irritation.
Chronic: No information found.

12. ECOLOGICAL INFORMATION

Data not available.

Other adverse effects:

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

This product is classified as hazardous for transport.

RID/ADR

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
(Ethyl azidoacetate)
UN Number: 1993
Class: 3
Packing Group: III
Environmental hazards: No.

IMDG

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
(Ethyl azidoacetate)
UN Number: 1993
Class: 3
Packing Group: III
Marine Pollutant: No.

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IATA

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
(Ethyl azidoacetate)
UN Number: 1993
Class: 3
Packing Group: III
Environmental hazards: No.

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. ADDITIONAL INFORMATION

Further information on PPE:

European Standard & performance category markings:

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|-----------|--------------------------------------------------------------|
| EN166 - | Standard applicable to all types of personal eye protectors. |
| EN374 - | Protects hands against chemicals and/or microorganisms. |
| EN14387 - | Gas & vapour filter. |

Gas & vapour protection:

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| A | Organic vapours |
| B | Inorganic vapours |
| E | Acid gases |
| K | Ammonia and its derivatives |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.