



ETHYL ACETATE (1-13C, 99%)

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 22/02/2011

Revision date: 20/07/2016

Supersedes: 16/07/2014

Version: 3.0

CLM-131

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : ETHYL ACETATE (1-13C, 99%)
EC index no : 607-022-00-5 (Unlabeled)
EC no : 205-500-4 (Unlabeled)
CAS No : 3424-59-7
Product code : CLM-131
Formula : CH₃¹³COOCH₂CH₃

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225
Eye Irrit. 2 H319
STOT SE 3 H336

Full text of H-statements: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
Xi; R36
R66
R67

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225
Eye Irrit. 2A H319
STOT SE 3 H336

Adverse physicochemical, human health and environmental effects

Blood, Kidney, Liver, Central nervous system.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P261 - Avoid breathing dust, fume, gas, mist, spray, vapours
P264 - Wash Both hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

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

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P261 - Avoid breathing dust, fume, gas, mist, spray, vapours
P264 - Wash both hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P337+P313 - If eye irritation persists: Get medical advice/attention
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide., Dry chemical, Water spray for extinction
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

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| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
|--|---|-----|--|
| ETHYL ACETATE (1-13C, 99%) (Main constituent) | (CAS No) 3424-59-7 (EC no) 205-500-4 (Unlabeled) (EC index no) 607-022-00-5 (Unlabeled) | 100 | F; R11 Xi; R36 R66 R67 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--|---|-----|---|
| ETHYL ACETATE (1-13C, 99%) (Main constituent) | (CAS No) 3424-59-7 (EC no) 205-500-4 (Unlabeled) (EC index no) 607-022-00-5 (Unlabeled) | 100 | Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 |

Full text of R- and H-statements: see section 16

| Name | Product identifier | % | GHS-US classification |
|--|--------------------|-----|--|
| ETHYL ACETATE (1-13C, 99%) (Main constituent) | (CAS No) 3424-59-7 | 100 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336 |

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Move out of dangerous area. Consult a physician and show this safety data sheet. |
| First-aid measures after inhalation | : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician. |
| First-aid measures after skin contact | : Wash with soap and plenty of water. Consult a physician. |
| First-aid measures after eye contact | : Flush eye with water for 15 minutes. Get medical attention. |
| First-aid measures after ingestion | : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|---|
| Symptoms/injuries after inhalation | : Harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness. |
| Symptoms/injuries after skin contact | : Repeated exposure may cause skin dryness or cracking. |
| Symptoms/injuries after eye contact | : Causes eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|------------------------------|---|
| Suitable extinguishing media | : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. |
|------------------------------|---|

5.2. Special hazards arising from the substance or mixture

| | |
|------------|---|
| Reactivity | : Vapors may form explosive mixture with air. |
|------------|---|

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Wear self contained breathing apparatus for fire fighting if necessary. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|--|
| Emergency procedures | : Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. |
|----------------------|--|

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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6.3. Methods and material for containment and cleaning up

For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in accordance with applicable Federal, State and local regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent build up of electrostatic charge.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ETHYL ACETATE (1-13C, 99%) (3424-59-7)

| | | |
|------------------------------|-------------------------------------|--|
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 400.0000000000 ppm Eye & Upper respiratory tract irritation. |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1400.0000000000 mg/m ³ |

ETHYL ACETATE (1-13C, 99%) (3424-59-7)

DNEL/DMEL (Workers)

| | |
|--|-------------------------|
| Acute - systemic effects, inhalation | 1468 mg/m ³ |
| Acute - local effects, inhalation | 1468 mg/m ³ |
| Long-term - systemic effects, dermal | 63 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 734 mg/m ³ |
| Long-term - local effects, inhalation | 734 mg/m ³ |

DNEL/DMEL (General population)

| | |
|--|--------------------------|
| Acute - systemic effects, inhalation | 734 mg/m ³ |
| Acute - local effects, inhalation | 734 mg/m ³ |
| Long-term - systemic effects, oral | 4.5 mg/kg bodyweight/day |
| Long-term - systemic effects, inhalation | 367 mg/m ³ |
| Long-term - systemic effects, dermal | 37 mg/kg bodyweight/day |
| Long-term - local effects, inhalation | 367 mg/m ³ |

PNEC (Water)

| | |
|--------------------------|------------|
| PNEC aqua (freshwater) | 0.26 mg/l |
| PNEC aqua (marine water) | 0.026 mg/l |

PNEC (Sediment)

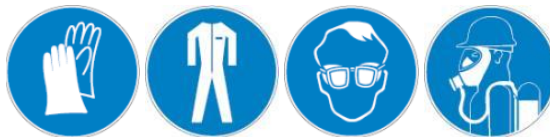
| | |
|------------------------------|-----------------|
| PNEC sediment (freshwater) | 1.25 mg/kg dwt |
| PNEC sediment (marine water) | 0.125 mg/kg dwt |

PNEC (Soil)

| | |
|-----------|----------------|
| PNEC soil | 0.24 mg/kg dwt |
|-----------|----------------|

8.2. Exposure controls

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---|
| Physical state | : Liquid |
| Appearance | : Clear, Liquid. |
| Molecular mass | : 89.10 g/mol (Labeled) |
| Colour | : Colourless. |
| Odour | : No data available |
| Odour threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : -84 °C (-119 °F) |
| Freezing point | : No data available |
| Boiling point | : 76.5 - 77.5 °C (169.7 - 171.5 °F) |
| Flash point | : -3.0 °C (26.6 °F) - closed cup |
| Auto-ignition temperature | : 427 °C (800.6 °F) |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : 97.3 hPa (73.0 mmHg) at 20.0 °C (68.0 °F) |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : No data available |
| Density | : .90 g/mL at 20 °C (68 °F) |
| Solubility | : Water: 100 % soluble |
| Log Pow | : 0.73 |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : 2.2 - 11.5 % (V) |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

formed under fire conditions: Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| ETHYL ACETATE (1-13C, 99%) (3424-59-7) | |
|--|-------------------------------------|
| LD50 oral rat | 5620 mg/kg |
| LD50 dermal rabbit | > 180000 mg/kg |
| LC50 inhalation rat (mg/l) | 45000 mg/m ³ Mouse - 2 h |
| ATE CLP (oral) | 5620.000 mg/kg bodyweight |

Skin corrosion/irritation : Not classified
Skin - rabbit - Mild skin irritation

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| | |
|---|--|
| Serious eye damage/irritation | : Causes serious eye irritation. No data available |
| Respiratory or skin sensitisation | : Not available No data available |
| Germ cell mutagenicity | : Not available |
| Carcinogenicity | : This product is or contains a component that is not classifiable as to its carcinogenicity on its IARC, ACGIH, NTP, or EPA classification. |
| Reproductive toxicity | : Not available |
| Specific target organ toxicity (single exposure) | : May cause drowsiness or dizziness. May cause drowsiness or dizziness. |
| Specific target organ toxicity (repeated exposure) | : Not classified No data available |
| Aspiration hazard | : Not classified |
| Potential adverse human health effects and symptoms | : Headache. Dizziness. Drowsiness. Narcosis. Vomiting. Anemia. Central nervous system depression. Kidney - irregularities - Based on Human Evidence. |
| Symptoms/injuries after inhalation | : Harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness. |
| Symptoms/injuries after skin contact | : Repeated exposure may cause skin dryness or cracking. |
| Symptoms/injuries after eye contact | : Causes eye irritation. |
| Symptoms/injuries after ingestion | : May be harmful if swallowed. |

SECTION 12: Ecological information

12.1. Toxicity

| ETHYL ACETATE (1-13C, 99%) (3424-59-7) | |
|--|--|
| LC50 fish 1 | 350 - 600 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h |
| LC50 other aquatic organisms 1 | 220 - 250 mg/l Pimephales promelas (fathead minnow) - 96 h |
| EC50 Daphnia 1 | 2300 - 3090 mg/l Daphnia magna (Water flea) - 24 h |
| EC50 other aquatic organisms 1 | 4300 mg/l Algae - 24 h |
| LC50 fish 2 | 560 mg/l Daphnia magna (Water flea) - 48 h |
| EC50 other aquatic organisms 2 | 1800 - 3200 mg/l SELENASTRUM - 72 h |

12.2. Persistence and degradability

| ETHYL ACETATE (1-13C, 99%) (3424-59-7) | |
|--|---|
| Persistence and degradability | Biodegradability Result: - Readily biodegradable. |
| Biodegradation | 79 % |

12.3. Bioaccumulative potential

| ETHYL ACETATE (1-13C, 99%) (3424-59-7) | |
|--|----------------|
| Bioconcentration factor (BCF REACH) | 30 - 3 d |
| Log Pow | 0.73 |
| Bioaccumulative potential | Not available. |

12.4. Mobility in soil

| ETHYL ACETATE (1-13C, 99%) (3424-59-7) | |
|--|----------------|
| Ecology - soil | Not available. |

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|---|
| Regional legislation (waste) | : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations. |
| Waste treatment methods | : Burn in a chemical incinerator equipped with an afterburner and a scrubber, but use extra care in ignition as this material may be pyrophoric, highly flammable or explosive. Attention : national and/or local laws and regulations may preclude the use of this method. |
| Waste disposal recommendations | : Dispose of as unused product. |

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SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 1173
DOT NA no. UN1173

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Ethyl acetate
Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT RQ : 5000 lbs
Marine pollutant : No

14.3. Additional information

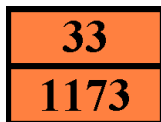
Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II
Class (ADR) : 3 - Flammable liquids
Hazard identification number (Kemler No.) : 33
Classification code (ADR) : F1
Danger labels (ADR) : 3 - Flammable liquids



Orange plates :



Tunnel restriction code : D/E
Limited quantities (ADR) : 1l
EAC code : •3YE
Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
MFAG-No : 129

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Air transport

DOT Quantity Limitations Passenger aircraft/rail : 5 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

Civil Aeronautics Law : Flammable liquids(Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

ETHYL ACETATE (1-13C, 99%) (3424-59-7)

| | |
|-------------------------------------|---|
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard |
|-------------------------------------|---|

15.2. International regulations

CANADA

ETHYL ACETATE (1-13C, 99%) (3424-59-7)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

ETHYL ACETATE (1-13C, 99%)(3424-59-7)

| | |
|----------------------------|---|
| State or local regulations | U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. |
|----------------------------|---|

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-statements:

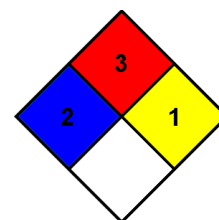
| | |
|--------------|--|
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| H225 | Highly flammable liquid and vapour |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |
| R11 | Highly flammable |
| R36 | Irritating to eyes |
| R66 | Repeated exposure may cause skin dryness or cracking |
| R67 | Vapours may cause drowsiness and dizziness |
| F | Highly flammable |
| Xi | Irritant |

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- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
- NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 1 Slight Hazard

CIL Multi-Solvent Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product