

SAFETY DATA SHEET

Version: v1

Revision Date: 2025-09-19

Print Date: 2025-09-25

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

1.1 Product identifiers

Product name : Ethyl 4,4,4-trifluoroacetoacetate
Product Number : E109508
Brand : aladdin
CAS-No. : 372-31-6

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H226 Flammable liquid and vapor
H302 Harmful if swallowed
H315 Causes skin irritation
H412 Harmful to aquatic life with long lasting effects

Precautionary statement(s)

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P210	Keep away from heat, hot surface, 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/ventilating/lighting/.../] equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P302+P352	IF ON SKIN: wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use ... to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P317	IF SWALLOWED: Get medical help.
P332+P317	If skin irritation occurs: Get medical help.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Ethyl 3-oxo-4,4,4-trifluorobutyrate; Ethyl 4,4,4-trifluoro-3-oxobutanoate; 4,4,4-Trifluoroacetoacetic Acid Ethyl Ester;ETFAA
Formula	: C ₆ H ₇ F ₃ O ₃
Molecular weight	: 184.11
CAS No.	: 372-31-6
EC-NO.	: 206-750-7

Component	Classification	Concentration
Ethyl 4,4,4-trifluoroacetoacetate	no data available	≥98%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution

If swallowed

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

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.- Carbon oxides, Hydrogen fluoride

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance

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at the specific workplace

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

no data available

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

a) Appearance	form: clear liquid color: colorless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	6.2 at 10 g/l
e) Melting point/freezing point	Melting point/range: -39 °C (-38 °F)
f) Initial boiling point and boiling range	129 - 130 °C (264 - 266 °F) - lit
g) Flash point	38 °C (100 °F) - closed cup
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	8 hPa (6 mmHg) at 20 °C (68 °F)
l) Vapour density	1.259 g/cm ³ at 25 °C (77 °F)
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity
10.1 Reactivity

no data available

10.2 Chemical stability

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Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Oxidizing agents, Strong acids, Strong bases, Strong reducing agents

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Skin - rabbit - Mild skin irritation - 4 h

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

May be harmful if inhaled. May cause respiratory tract irritation

Additional Information

no data available

SECTION 12: Ecological information

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12.1 Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 101.0 mg/l - 96.0 h Toxicity to daphnia and other aquatic invertebrates

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company

Contaminated packaging

Dispose of as unused product

SECTION 14: Transport information

DOT (US)

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: UN number:

Reportable Quantity(RQ): no data

Poison Inhalation Hazard: no data available

3272 Class: 3 Packing group: III Proper

shipping name: Esters, n.o.s. Marine

Pollutant: No Poison Inhalation Hazard:

No

Environmental Hazards: no data available

IMDG

UN number: no data available

Packing group: no data available

EMS-No: no data available

Proper shipping name: UN number: 3272 Class: 3 Packing group: III Proper shipping name: Esters, n.o.s. Marine Pollutar

No Poison Inhalation Hazard: No

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IATA

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: UN number: 3272 Class: 3 Packing group: III Proper shipping name: Esters, n.o.s. Marine Pollutar

No Poison Inhalation Hazard: No

SECTION 15: Regulatory information

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

SECTION 16: Other information

Prepared By

Regulatory Affairs

ALADDIN SCIENTIFIC CORPORATION

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Creation Date

10-Sep-2020

Revision Date

19-Sep-2025

Print Date

25-Sep-2025

Revision Summary

SDS sections updated v1

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