



SAFETY DATA SHEET

Creation Date 10-Sep-2009

Revision Date 16-Apr-2012

Revision Number 2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Ethyl 4,4,4-trifluoro-2-butynoate
Cat No. 399320000; 399320050

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ systemic toxicity (single exposure)	Category 3
Flammable liquids.	Category 2

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) Xn - Harmful
F - Highly flammable
R-phrases R11 - Highly flammable
Risk Combination Phrases R21/22 - Harmful in contact with skin and if swallowed
R36/37/38 - Irritating to eyes, respiratory system and skin

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SECTION 2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

- H312 - Harmful in contact with skin
- H315 - Causes skin irritation
- H335 - May cause respiratory irritation
- H302 - Harmful if swallowed
- H319 - Causes serious eye irritation
- H225 - Highly flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)

- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P240 - Ground/Bond container and receiving equipment

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ethyl 4,4,4-trifluoro-2-butynoate 79424-03-6		>95	79424-03-6	F; R11 Xn; R21/22 Xi; R36/37/38;	Flam. Liq. 2 (H225) STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Acute Tox. 4 (H312)	-
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For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

Description of first aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion

Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Notes to Physician

Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Advice for fire-fighters

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As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location Use explosion-proof electrical/ventilating/lighting/equipment

Personal protective equipment

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Eye Protection
Hand Protection
Skin and body protection
Respiratory ProtectionSafety glasses with side-shields
Protective gloves
Wear appropriate protective gloves and clothing to prevent skin exposure
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced**Hygiene Measures**
Environmental exposure controlsHandle in accordance with good industrial hygiene and safety practice
No information available.**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State	Liquid
pH	No information available.
Boiling Point/Range	96 - 98°C / 204.8 - 208.4°F @ 760 mmHg
Melting Point/Range	No information available.
Flash Point	6°C / 42.8°F
Autoignition Temperature	No information available.
Specific Gravity	1.62
Molecular Formula	C6 H5 F3 O2
Molecular Weight	166.10

SECTION 10. STABILITY AND REACTIVITY**Reactivity****Chemical Stability**

Stable under normal conditions.

Possibility of Hazardous Reactions**Hazardous Polymerization** Hazardous polymerization does not occur.
Hazardous Reactions . None under normal processing..**Conditions to Avoid**

Incompatible products, Excess heat, Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition ProductsCarbon monoxide (CO). Carbon dioxide (CO₂).**SECTION 11. TOXICOLOGICAL INFORMATION**

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SECTION 11. TOXICOLOGICAL INFORMATIONInformation on Toxicological EffectsAcute Toxicity**Product Information**

No acute toxicity information is available for this product

Component InformationChronic Toxicity**Carcinogenicity**

There are no known carcinogenic chemicals in this product

Sensitization

No information available.

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Target Organs

Eyes Skin Respiratory system

Other Adverse Effects

The toxicological properties have not been fully investigated.

Endocrine Disruptor Information

None known

SECTION 12. ECOLOGICAL INFORMATIONToxicity**Ecotoxicity effects**

Do not empty into drains

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessmentOther adverse effects

No information available

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SECTION 13. DISPOSAL CONSIDERATIONSWaste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATIONIMDG/IMO

UN-No	UN3272
Hazard Class	3
Packing Group	II
Proper Shipping Name	Esters, n.o.s

ADR

UN-No	UN3272
Hazard Class	3
Packing Group	II
Proper Shipping Name	Esters, n.o.s

IATA

UN-No	UN3272
Hazard Class	3
Packing Group	II
Proper Shipping Name	Esters, n.o.s

SECTION 15. REGULATORY INFORMATIONSafety, health and environmental regulations/legislation specific for the substance or mixtureInternational InventoriesLegend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

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ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
AICS - Inventory of Chemical Substances
KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment**SECTION 16. OTHER INFORMATION****Full text of R-phrases referred to under sections 2 and 3**

No information available.

Revision Date 16-Apr-2012**Revision Summary****Reason for revision** Not applicable**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006****Disclaimer**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet