

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 22.08.2010

Revision: 22.08.2010

1 Identification of substance**Product details****Trade name****Methyl 4,4,4-trifluoroacetoacetate****Stock number:**

L10140

Manufacturer/Supplier:Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com**Informing department:**

Product safety department.

Emergency information:Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240**2 Hazards identification****Hazard designation:**

Xn Harmful

Information pertaining to particular dangers for man and environmentR 10 Flammable.
R 22 Harmful if swallowed.
R 36/37/38 Irritating to eyes, respiratory system and skin.**GHS label elements****Warning**

H226 - Flammable liquid and vapour.

**Warning**

H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H335 - May cause respiratory irritation.
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention:**Response:****Storage:****Disposal:****3 Composition/information on ingredients****Chemical characterization:****Designation: (CAS#)**

Methyl 4,4,4-trifluoroacetoacetate (CAS# 83643-84-9): 100%

4 First aid measures**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contactSeek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.**After eye contact**

Seek immediate medical advice.

After swallowingRinse opened eye for several minutes under running water. Then consult doctor.
Seek immediate medical advice.**5 Fire fighting measures****Suitable extinguishing agents**

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Special hazards caused by the material, its products of combustion or flue gases:Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen fluoride (HF)
Wear self-contained breathing apparatus.
Wear full protective suit.**Protective equipment:****6 Accidental release measures****Person-related safety precautions:**Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Keep away from ignition sources.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.**Additional information:****7 Handling and storage****Handling****Information for safe handling:**Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.**Information about protection against explosions and fires:**Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.**Storage****Requirements to be met by storerooms and containers:**

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Further information about storage conditions:Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

GB

(Contd. on page 2)

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(Contd. of page 1)

8 Exposure controls and personal protection

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with critical values that require monitoring at the workplace:	Not required.
Additional information:	No data
Personal protective equipment	The usual precautionary measures should be adhered to in handling the chemicals.
General protective and hygienic measures	Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition.
Breathing equipment:	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Protection of hands:	Impervious gloves
Material of gloves	Not determined
Penetration time of glove material	Safety glasses
Eye protection:	Face protection
Body protection:	Protective work clothing.

9 Physical and chemical properties:

General Information	
Form:	Liquid
Colour:	Colourless
Smell:	Not determined
Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	117-118°C
Sublimation temperature / start:	Not determined
Flash point:	40°C
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Critical values for explosion:	
Lower:	Not determined
Upper:	Not determined
Steam pressure:	Not determined
Density at 20°C	1.34 g/cm ³

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Oxidizing agents
Dangerous reactions:	No dangerous reactions known
Dangerous products of decomposition:	Carbon monoxide and carbon dioxide Hydrogen fluoride

11 Toxicological information

Acute toxicity:	
Primary irritant effect:	
on the skin:	Irritant for skin and mucous membranes.
on the eye:	Irritant effect.
Sensitization:	No sensitizing effect known.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.


12 Ecological information:

Additional ecological information:	
General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:	
Recommendation	Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)	
	
ADR/RID-GGVS/E Class:	3 (F1) Flammable liquids.
Kemler Number:	30
UN-Number:	3272
Packaging group:	III
Label	3
Designation of goods:	3272 ESTERS, N.O.S. (Methyl 4,4,4-trifluoroacetoacetate)

(Contd. on page 3)

GB

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(Contd. of page 2)

Limited quantities (LQ) LQ7
 Transport category 3
 Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 3
 UN Number: 3272
 Label 3
 Packaging group: III
 Marine pollutant: No
 Correct technical name: ESTERS, N.O.S. (Methyl 4,4,4-trifluoroacetoacetate)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
 UN/ID Number: 3272
 Label 3
 Packaging group: III
 Correct technical name: ESTERS, N.O.S. (Methyl 4,4,4-trifluoroacetoacetate)

UN "Model Regulation":
 UN3272, ESTERS, N.O.S., 3, III

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



Xn Harmful

Risk phrases: 10 Flammable.
 22 Harmful if swallowed.
 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37 Wear suitable protective clothing and gloves.

National regulations

Information about limitation of use: For use only by technically qualified individuals.
 Employment restrictions concerning young persons must be observed.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)