

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 24.08.2010

Revision: 24.08.2010

1 Identification of substance**Product details****Trade name****1,2-Diethoxyethane****Stock number:**

L14283

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:**T Toxic
F Highly flammable**Information pertaining to particular dangers for man and environment**R 61 May cause harm to the unborn child.
R 62 Possible risk of impaired fertility.
R 11 Highly flammable.
R 19 May form explosive peroxides.
R 36 Irritating to eyes.**GHS label elements****Danger**

H225+EUH019 - Highly flammable liquid and vapour. May form explosive peroxides.

**Danger**

H360Df - May damage the unborn child. Suspected of damaging fertility.

**Warning**H319 - Causes serious eye irritation.
P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P308+P313 IF exposed or concerned: Get medical advice/attention.**Prevention:****Response:****3 Composition/information on ingredients****Chemical characterization:****Designation: (CAS#)**

1,2-Diethoxyethane (CAS# 629-14-1)

Identification number(s):**EINECS Number:**

211-076-1

Index number:

603-208-00-5

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.
Rinse opened eye for several minutes under running water. Then consult doctor.**After swallowing**

Seek immediate medical advice.

5 Fire fighting measures**Suitable extinguishing agents**

CO2, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

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
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.

Measures for environmental protection:

Ensure adequate ventilation

Keep away from ignition sources

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.
Open and handle container with care.**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.
Do not distill to dryness.
Explosive peroxides may form, handle container cautiously.**Storage****Requirements to be met by storerooms and containers:**

Store in cool location.

Information about storage in one common storage facility:

Store away from oxidizing agents.

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Trade name **1,2-Diethoxyethane****Further information about storage conditions:**

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Store in cool, dry conditions in well sealed containers.
 Avoid contact with air / oxygen (formation of peroxide).
 Store in a locked cabinet or with access restricted to technical experts or their assistants.
 Check container pressure periodically to prevent explosive peroxides.

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.
 No data

Additional information:**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

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 skin.

Avoid contact with the eyes and skin.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

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.

Impervious gloves

Not determined

Safety glasses

Tightly sealed safety glasses.

Face protection

Protective work clothing.

Breathing equipment:**Protection of hands:****Material of gloves****Penetration time of glove material****Eye protection:****Body protection:****9 Physical and chemical properties:****General Information**

Form: Liquid
Colour: Colourless
Smell: Ether-like

Change in condition

Melting point/Melting range: -74°C
Boiling point/Boiling range: 120-121°C
Sublimation temperature / start: Not determined

Flash point: 19°C

Ignition temperature: 175°C

Decomposition temperature: Not determined

Danger of explosion: May form explosive peroxides.
 Do not distill to dryness.

Critical values for explosion:

Lower: Not determined
Upper: Not determined

Steam pressure at 20°C: 12.5 hPa

Density at 20°C 0.842 g/cm³

Solubility in / Miscibility with Water at 20°C: 34 g/l

Viscosity: dynamic at 20°C: 0.65 mPas

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:

Forms peroxides

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	4390 mg/kg (rat) 1275 mg/kg (rabbit)
Inhalative	LCLo/4H	8000 ppm/4H (rat)
Irritation of eyes	severe	100 mg (rat)

Primary irritant effect:

Irritant for skin and mucous membranes.

on the skin:

Irritant effect.

on the eye:

No sensitizing effect known.

Sensitization:**Other information (about experimental toxicology):**

Reproductive effects have been observed on tests with laboratory animals.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
 Possible risk of harm to the unborn child.

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.

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13 Disposal considerations

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

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: 1153
Packaging group: II
Label: 3
Designation of goods: 1153 ETHYLENE GLYCOL DIETHYL ETHER
Limited quantities (LQ) LQ4
Transport category 2
Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 3
UN Number: 1153
Label: 3
Packaging group: II
Marine pollutant: No
Correct technical name: ETHYLENE GLYCOL DIETHYL ETHER

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 3
UN/ID Number: 1153
Label: 3
Packaging group: II
Correct technical name: ETHYLENE GLYCOL DIETHYL ETHER

UN "Model Regulation":
 UN1153, ETHYLENE GLYCOL DIETHYL ETHER, 3, II

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



T Toxic
 F Highly flammable

Risk phrases:
 61 May cause harm to the unborn child.
 62 Possible risk of impaired fertility.
 11 Highly flammable.
 19 May form explosive peroxides.
 36 Irritating to eyes.

Safety phrases:
 53 Avoid exposure - obtain special instructions before use.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations

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

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
 EINECS: European Inventory of Existing Commercial Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent