

Material Safety Data Sheet

According to OSHA and ANSI

Printing date 09/27/2011

Reviewed on 09/23/2011

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Product name:** Diethyl ether, stab. with ethanol**Stock number:** 38990**CAS Number:**

60-29-7

EC number:

200-467-2

Index number:

603-022-00-4

Relevant identified uses of the substance or mixture and uses advised against.**Sector of Use** SU24 Scientific research and development**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department**Emergency telephone number:**

During normal hours the Health, Safety and Environmental Department at (800) 343-0660. After normal hours call Carechem 24 at (866) 928-0789.

2 Hazards identification**Classification of the substance or mixture**

GHS02 Flame

H224 Extremely flammable liquid and vapour.



GHS07

H302 Harmful if swallowed.

H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R22: Harmful if swallowed.



F+; Extremely flammable

R12: Extremely flammable.

R19-66-67: May form explosive peroxides. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Causes a narcotic effect.

Label elements**Labelling according to EU guidelines:****Code letter and hazard designation of product:**

Xn Harmful

F+ Extremely flammable

Risk phrases:

12 Extremely flammable.

19 May form explosive peroxides.

22 Harmful if swallowed.

66 Repeated exposure may cause skin dryness or cracking

67 Vapours may cause drowsiness and dizziness

Safety phrases:

9 Keep container in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

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29 Do not empty into drains.
33 Take precautionary measures against static discharges.

Hazard description:**WHMIS classification**

B2 - Flammable liquid

**Classification system****HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

HEALTH	2
FIRE	4
REACTIVITY	1

Health (acute effects) = 2

Flammability = 4

Reactivity = 1

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances****CAS# Description:**

60-29-7 Diethyl ether, anhydrous

Identification number(s):

EC number: 200-467-2

Index number: 603-022-00-4

4 First aid measures**Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.**Information for doctor****Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**Extinguishing media**Suitable extinguishing agents CO₂, sand, extinguishing powder. Do not use water.**Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions:

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

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Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Keep away from heat and direct sunlight.

Ensure good ventilation at the workplace.

Open and handle container with care.

Information about protection against explosions and fires:

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.

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Store in cool, dry conditions in well sealed containers.

Protect from heat and direct sunlight.

Avoid contact with air/oxygen (formation of peroxide).

Check container pressure periodically to prevent explosive peroxides.

Specific end use(s) No further relevant information available.**8 Exposure controls/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.

Control parameters**Components with limit values that require monitoring at the workplace:****60-29-7 Diethyl ether, anhydrous (100.0%)**PEL () 1200 mg/m³, 400 ppmTLV () Short-term value: 1520 mg/m³, 500 ppmLong-term value: 1210 mg/m³, 400 ppm**Additional information:** No data**Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:**

Impervious gloves

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

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses**Body protection:** Protective work clothing.

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9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Sweet
Odour threshold:	Not determined.

pH-value:	Not determined.
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Change in condition

Melting point/Melting range:	-116°C (-177 °F)
Boiling point/Boiling range:	34.6°C (94 °F)
Sublimation temperature / start:	Not determined

Flash point:	-45°C (-49 °F)
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Flammability (solid, gaseous)	Not applicable.
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Ignition temperature:	170°C (338 °F)
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Decomposition temperature:	Not determined
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Auto igniting:	Not determined.
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Danger of explosion:	May form explosive peroxides. Do not distill to dryness.
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Explosion limits:

Lower:	1.7 Vol %
Upper:	36 Vol %

Vapor pressure at 20°C (68 °F):	586.3 hPa (440 mm Hg)
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Density at 20°C (68 °F):	0.713 g/cm ³ (5.95 lbs/gal)
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Relative density	Not determined.
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Vapour density	Not determined.
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Evaporation rate	Not determined.
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Solubility in / Miscibility with

Water at 20°C (68 °F):	12 g/l
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Segregation coefficient (n-octanol/water):	Not determined.
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Viscosity:

dynamic at 20°C (68 °F):	0.233 mPas
kinematic:	Not determined.

Other information	No further relevant information available.
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10 Stability and reactivity**Reactivity****Chemical stability****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions May form explosive peroxides.**Incompatible materials:** Oxidizing agents**Hazardous decomposition products:** Carbon monoxide and carbon dioxide**11 Toxicological information****Information on toxicological effects****Acute toxicity:****Primary irritant effect:****on the skin:** May cause irritation**on the eye:** May cause irritation**Sensitization:** No sensitizing effects 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.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.

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The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive and/or mutation data for components in this product.

12 Ecological information**Toxicity**

Acquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations**Waste treatment methods**

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information**UN-Number**

DOT, ADR, IMDG, IATA

UN1155

UN proper shipping name

DOT, IMDG, IATA

DIETHYL ETHER (ETHYL ETHER)

ADR

1155 DIETHYL ETHER (ETHYL ETHER)

Transport hazard class(es)

DOT, IMDG, IATA



Class

3 Flammable liquids.

Label

3

ADR



Class

3 (F1) Flammable liquids

Label

3

Packing group

DOT, ADR, IMDG, IATA

I

Environmental hazards:**Marine pollutant:**

No

Special precautions for user

Warning: Flammable liquids

Danger code (Kemler):

33

EMS Number:

F-E, S-D

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

UN "Model Regulation":

UN1155, DIETHYL ETHER (ETHYL ETHER), 3, I

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15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Product related hazard informations:

Hazard symbols:

Xn Harmful

F+ Extremely flammable

Risk phrases:

12 Extremely flammable.

19 May form explosive peroxides.

22 Harmful if swallowed.

66 Repeated exposure may cause skin dryness or cracking

67 Vapours may cause drowsiness and dizziness

Safety phrases:

9 Keep container in a well-ventilated place.

16 Keep away from sources of ignition - No smoking.

29 Do not empty into drains.

33 Take precautionary measures against static discharges.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

Information about limitation of use:

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 MSDS: Health, Safety and Environmental Department.

Contact:

Zachariah C. Holt

Global EHS Manager

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

ICAO: International Civil Aviation Organization

EINECS: European Inventory of Existing Commercial Chemical Substances

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

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

USA