

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 12.05.2011

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

1.1 Product identifier

Trade name: **Diethylene glycol**
Stock number: A14728

CAS Number: 111-46-6
EC number: 203-872-2

Index number: 603-140-00-6

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

Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number: Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



Acute Tox. 4 H302 Harmful if swallowed.

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

Xn; Harmful

R22: Harmful if swallowed.

Information concerning particular hazards for human and environment:

Other hazards that do not result in classification

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

Precautionary statements

2.3 Other hazards

Results of PBT and vPvB assessment

PBT:

vPvB:

Not applicable

No information known.

The substance is classified and labelled according to the CLP regulation.

GHS07

Warning

H302 Harmful if swallowed.

P264 Wash thoroughly after handling.

P270 Do no eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Not applicable.

Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS# Designation: 111-46-6 Diethylene glycol
Identification number(s):

EC number: 203-872-2

Index number: 603-140-00-6

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

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

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

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

Seek medical treatment.

No further relevant information available.

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

5.2 Special hazards arising from the substance or mixture

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

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Wear self-contained breathing apparatus.

Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

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

Do not allow product to reach sewage system or water bodies.

Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.

No special measures required.

Prevention of secondary hazards:

(Contd. on page 2)
DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 12.05.2011

Trade name *Diethylene glycol*

(Contd. of page 1)

6.4 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 information on disposal.

SECTION 7: Handling and storage**7.1 Precautions 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:

No information known.

7.2 Conditions for safe storage, including any incompatibilities**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.
Store away from water.

Further information about storage conditions:

This product is hygroscopic.
Store under dry inert gas.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.

7.3 Specific end use(s)

No further relevant information available.

SECTION 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.

8.1 Control parameters**Components with critical values that require monitoring at the workplace:****111-46-6 Diethylene glycol (100,0%)**AGW (Germany) 44 mg/m³, 10 ppm

4(I);DFG, Y

WEEL (USA) 10 mg/m³

Additional information:

No data

8.2 Exposure controls**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.

Maintain an ergonomically appropriate working environment.

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.

Breathing equipment:

Impervious gloves

Protection of hands:

Not determined

Material of gloves

Safety glasses

Penetration time of glove material

Protective work clothing.

Eye protection:**Body protection:****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form:

Colour:

Smell:

Odour threshold:

Not determined.

pH-value:

Not determined.

Change in condition

Melting point/Melting range:

Boiling point/Boiling range:

Sublimation temperature / start:

Not determined.

-10 °C

245-246 °C

Flash point:

Not applicable.

143 °C

Inflammability (solid, gaseous)

225 °C

Ignition temperature:

Not determined.

Decomposition temperature:

Not determined.

Self-inflammability:

Not determined.

Danger of explosion:

Product is not explosive.

Critical values for explosion:

Lower:

Upper:

0,7 Vol %

22 Vol %

Steam pressure at 20 °C:

0,03 hPa

Density at 20 °C

1,118 g/cm³

Relative density

Not determined.

Vapour density

Not determined.

Evaporation rate

Not determined.

Solubility in / Miscibility with

Water:

Fully miscible

Not determined.

Partition coefficient (n-octanol/water):

38 mPas

Not determined.

Viscosity:

Not determined.

dynamic at 20 °C:

kinematic:

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

No information known.

10.2 Chemical stability

Stable under recommended storage conditions.

(Contd. on page 3)

DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 12.05.2011

Trade name *Diethylene glycol*

(Contd. of page 2)

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

No dangerous reactions known

10.5 Incompatible materials:

Oxidizing agents

Water/moisture

Carbon monoxide and carbon dioxide

10.6 Hazardous decomposition products:**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

No data

Skin irritation or corrosion:

May cause irritation

Eye irritation or corrosion:

May cause irritation

Sensitization:

No sensitizing effect known.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.

Reproductive toxicity:

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

Specific target organ system toxicity - repeated exposure:

No effects known.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No 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.

SECTION 12: Ecological information**12.1 Toxicity**

No further relevant information available.

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Additional ecological information:

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

Water hazard class 1 (Assessment by list): slightly hazardous for water.

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

Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

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.

Recommended cleaning agent:

Water, if necessary with cleaning agent.

SECTION 14: Transport information**UN-Number**

ADR, IMDG, IATA None

14.2 UN proper shipping name

ADR, IMDG, IATA None

14.3 Transport hazard class(es)

ADR, IMDG, IATA None

Class

None

Packing group

ADR, IMDG, IATA None

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

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

Not applicable.

Transport/Additional information:

Not dangerous according to the above specifications.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Australian Inventory of Chemical Substances**

Substance is listed.

Standard for the Uniform Scheduling of Drugs and Poisons

111-46-6 Diethylene glycol

S5+APPENDIX

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.

Not applicable

Class	Share in %
NK	100,0

Classification according to VbF:**Technical instructions (air):**

Water hazard class 1 (Assessment by list): slightly hazardous for water.

(Contd. on page 4)

DE/E

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.07.2013

Revision: 12.05.2011

Trade name *Diethylene glycol*

(Contd. of page 3)

Other regulations, limitations and prohibitive regulations**ELINCS (European List of Notified Chemical Substances)**

Substance is not listed.

Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 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.**Abbreviations and acronyms:**

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

ICAO: International Civil Aviation Organization

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

DE/E