

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

Revision: 03.12.2013

Printing date 06.12.2013

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

1.1 Product identifier	
Trade name	Triethylene glycol
Stock number:	A10772, L13313
CAS Number:	112-27-6
EC number:	203-953-2
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 Product safety Tel + +049 (0) 7275 988687-0
Informing department:	Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
1.4 Emergency telephone 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	The substance is not classified as hazardous to health or the environment according to the CLP regulation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC	Not applicable
Information concerning particular hazards for human and environment:	No information known.
Other hazards that do not result in classification	No information known.
2.2 Label elements	
Labelling according to Regulation (EC) No 1272/2008	Not applicable
Hazard pictograms	Not applicable
Signal word	Not applicable
Hazard statements	Not applicable
2.3 Other hazards	
Results of PBT and vPvB assessment	
PBT:	Not applicable.
vPvB:	Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances	
CAS# Designation:	112-27-6 Triethylene glycol
Identification number(s):	
EC number:	203-953-2

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.
After skin contact	Instantly 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 doctor.
After swallowing	Seek medical treatment.
4.2 Most important symptoms and effects, both acute and delayed	No further relevant information available.
4.3 Indication of any immediate medical attention and special treatment needed	No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media	
Suitable extinguishing agents	CO ₂ , extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture	If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide
5.3 Advice for firefighters	
Protective equipment:	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
6.2 Environmental precautions:	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).
Prevention of secondary hazards:	No special measures required.
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.
Information about protection against explosions and fires:	No information known.

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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:****112-27-6 Triethylene glycol (100,0%)**

AGW (Germany) 1000E mg/m³
2(II);DFG, Y

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.

Breathing equipment: Use breathing protection with high concentrations.
Check protective gloves prior to each use for their proper condition.

Protection of hands: 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

Material of gloves Not determined

Penetration time of glove material Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

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

Form: Liquid

Colour: Colourless

Smell: Nearly odourless

Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: -7 °C

Boiling point/Boiling range: 284-288 °C

Sublimation temperature / start: Not determined

Flash point: 165 °C

Inflammability (solid, gaseous) Not determined.

Ignition temperature: 355 °C

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Critical values for explosion:

Lower: 0,9 Vol %

Upper: 9,2 Vol %

Steam pressure at 20 °C: 0,001 hPa

Density at 20 °C 1,125 g/cm³

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Fully miscible

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not determined.

kinematic: Not determined.

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.

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: Water/moisture
Oxidizing agents

10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute toxicity: 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:

Oral LD50 17000 mg/kg (rat)

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Skin irritation or corrosion:	May cause irritation
Eye irritation or corrosion:	May cause irritation
Sensitization:	No sensitizing effect known.
Germ cell mutagenicity:	The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
Carcinogenicity:	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:	The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
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.
Other information (about experimental toxicology):	May cause respiratory irritation.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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:	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.
General notes:	
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	Hand over to disposers of hazardous waste.
Recommendation	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	Not applicable
ADR, ADN, IMDG, IATA	
14.2 UN proper shipping name	Not applicable
ADR, ADN, IMDG, IATA	
14.3 Transport hazard class(es)	Not applicable
ADR, ADN, IMDG, IATA	
Class	
Packing group	Not applicable
ADR, IMDG, IATA	
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.
UN "Model Regulation":	-

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	Substance is not listed.				
National regulations					
Information about limitation of use:	For use only by technically qualified individuals.				
Classification according to VbF:	Not applicable				
Technical instructions (air):	<table border="1"> <thead> <tr> <th>Class</th> <th>Share in %</th> </tr> </thead> <tbody> <tr> <td>NK</td> <td>100,0</td> </tr> </tbody> </table>	Class	Share in %	NK	100,0
Class	Share in %				
NK	100,0				
Water hazard class:	Water hazard class 1 (Assessment by list): slightly hazardous for water.				
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 SDS:	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

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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

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