

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**D-Gluconic acid, 50% aqueous solution**

Stock number:

A16806

**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



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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

C; Corrosive

R34: Causes burns.

**Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

**Other hazards that do not result in classification**

No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

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

GHS05

Danger

Hazard-determining components of labelling:

Hazard statements

Precautionary statements

D-Gluconic acid

H314 Causes severe skin burns and eye damage.

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

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.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P405

Store locked up.

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

**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Dangerous components:**

CAS: 526-95-4

D-Gluconic acid

EINECS: 208-401-4

C R34

Skin Corr. 1B, H314

50,0%

**Additional information**

None known.

**Non-Hazardous Ingredients**

CAS: 7732-18-5

Water

EINECS: 231-791-2

50,0%

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General information

After inhalation

Instantly remove any clothing soiled by the product.

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<sub>2</sub>, 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.

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**SECTION 6: Accidental release measures**

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
<b>6.2 Environmental precautions:</b>	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.
<b>6.3 Methods and material for containment and cleaning up:</b>	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
<b>Prevention of secondary hazards:</b>	No special measures required.
<b>6.4 Reference to other sections</b>	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**

<b>7.1 Precautions for safe handling</b>	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.
<b>Information about protection against explosions and fires:</b>	No information known.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	
<b>Storage Requirements to be met by storerooms and containers:</b>	No special requirements.
<b>Information about storage in one common storage facility:</b>	Store away from strong bases. Water reacts with many metals to give hydrogen, often violently. Water also reacts violently with many reactive organic and inorganic chemicals.
<b>Further information about storage conditions:</b>	Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Store in a locked cabinet or with access restricted to technical experts or their assistants. No further relevant information available.
<b>7.3 Specific end use(s)</b>	

**SECTION 8: Exposure controls/personal protection**

<b>Additional information about design of technical systems:</b>	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
<b>8.1 Control parameters</b>	
<b>Components with critical values that require monitoring at the workplace:</b>	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
<b>Additional information:</b>	No data
<b>8.2 Exposure controls</b>	
<b>Personal protective equipment</b>	
<b>General protective and hygienic measures</b>	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 eyes and skin. Maintain an ergonomically appropriate working environment.
<b>Breathing equipment:</b>	Use breathing protection with high concentrations.
<b>Protection of hands:</b>	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.
<b>Material of gloves</b>	Impervious gloves
<b>Penetration time of glove material</b>	Not determined
<b>Eye protection:</b>	Tightly sealed safety glasses. Full face protection
<b>Body protection:</b>	Protective work clothing.

**SECTION 9: Physical and chemical properties**

<b>9.1 Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Appearance:</b>	
<b>Form:</b>	Liquid
<b>Colour:</b>	Yellow
<b>Smell:</b>	Not determined
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined.
<b>Inflammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Self-inflammability:</b>	Product is not selfigniting.
<b>Critical values for explosion:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Steam pressure at 20 °C:</b>	23 hPa
<b>Density at 20 °C</b>	1,234 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix
<b>Partition coefficient (n-octanol/water):</b>	Not determined.

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

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Printing date 01.07.2013

Trade name **D-Gluconic acid, 50% aqueous solution**

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**Viscosity:**  
dynamic: Not determined.  
kinematic: Not determined.

**Solvent content:**  
Organic solvents: 0,0 %  
**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** Water reacts violently with alkali metals.  
**10.5 Incompatible materials:** Bases  
Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.  
**10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**  
**Acute toxicity:** Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
**LD/LC50 values that are relevant for classification:** No data  
**Skin irritation or corrosion:** Causes severe skin burns.  
**Eye irritation or corrosion:** Causes serious eye damage.  
**Sensitization:** No sensitizing effect known.  
**Germ cell mutagenicity:** No effects known.  
**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
**Reproductive toxicity:** No effects known.  
**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. The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:  
Corrosive

**SECTION 12: Ecological information**

**12.1 Toxicity**  
**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. Generally not hazardous for water. 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.

**SECTION 14: Transport information**


**UN-Number**  
**ADR, IMDG, IATA** UN3265

**14.2 UN proper shipping name**  
**ADR** 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (D-Gluconic acid)  
**IMDG, IATA** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (D-Gluconic acid)

**14.3 Transport hazard class(es)**  
**ADR**



**Class**  
**Label** 8 (C3) Corrosive substances.  
**IMDG, IATA** 8



**Class**  
**Label** 8 Corrosive substances.  
**Label** 8

**Packing group**  
**ADR, IMDG, IATA** III

**14.5 Environmental hazards:**  
**Marine pollutant:** No

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DE/E

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**14.6 Special precautions for user** Warning: Corrosive substances.  
**Kemler Number:** 80

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**Transport/Additional information:**

**ADR**  
**Excepted quantities (EQ):** E1  
**Limited quantities (LQ)** 5L  
**Transport category** 3  
**Tunnel restriction code** E  
**UN "Model Regulation":** UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (D-Gluconic acid), 8, III

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

All ingredients are listed.

**Standard for the Uniform Scheduling of Drugs and Poisons**

None of the ingredients is listed.

**National regulations**

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

**Classification according to VbF:** Not applicable

**Water hazard class:** Generally not hazardous for water.

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

None of the ingredients is listed.

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

None of the ingredients are listed.

**REACH - Pre-registered substances**

All ingredients are 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.

**Relevant phrases** H314 Causes severe skin burns and eye damage.

R34 Causes burns.

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

**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)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
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