



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Version 2.0
Revision date: 13.12.2010

Reservoir SiO₂ (BDAC)

Material: 346561-8080-000
Print Date 27.03.2012

1. Identification of the substance / preparation and the company / undertaking

Trade name : Gas reservoir, contains: Di-tert-butoxy-diacetoxysilane (BDAC)
Manufacturer/supplier : Carl Zeiss NTS GmbH
Address : Carl-Zeiss-Straße 22
D-73447 Oberkochen
Telephone : +49 7364 20-0
Technical Information : Chemical and material engineering
Telephone : +49 7364 20-4599
Telefax : +49 7364 20-4521
Product Safety : Chemical and material engineering
Mailto : zeih@zeiss.de, hamm@zeiss.de
Emergency telephone : Poisoning Control Center
Telephone : +49 551 19240 (24 hours)

Use of the Substance / Preparation

Sector : Laboratory areas in industry and business, Research and Development
Application category : Industrial use, Professional use
Use : Gas reservoir for vacuum applications

2. Hazards identification

Classification according to Regulation (EC) No. 1272/2008 (GHS) ¹

Skin corrosion, Category 1B
H314: Causes severe skin burns and eye damage.

Classification procedure: Statement of the manufacturer/supplier

Classification according to Directive 67/548/EEC or Directive 1999/45/EC ²

C: Corrosive
R34: Causes burns.

For footnotes, see section 16.

3. Composition / information on ingredients

Information on the substance / preparation (mixture)

Di-tert-butoxy-diacetoxysilane (BDAC)

EC-No. : 236-112-3
CAS-No. : 13170-23-5



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4. First aid measures

- | | | |
|----------------|---|--|
| General advice | : | Take off all contaminated clothing immediately. |
| Inhalation | : | Remove affected person to fresh air and keep at rest. Call a physician. If unconscious, storage and transport in stable lateral position. |
| Skin contact | : | Wash off immediately with soap and plenty of water. Call a physician immediately. |
| Eye contact | : | Rinse immediately with plenty of water, also under the eyelids. Call a physician immediately. |
| Ingestion | : | Clean mouth with water and drink plenty of water afterwards. Only trained first-aid staff may induce vomiting. Call a physician immediately. |

5. Fire-fighting measures

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|---|---|---|
| Suitable extinguishing media | : | Carbon dioxide (CO ₂), Dry chemical, Foam |
| Extinguishing media which shall not be used for safety reasons | : | Water |
| Hazards caused by the substance/combustion products/origin of gases | : | In case of fire formation of carbonoxides and other toxic gases/vapors is possible. (see section 10). |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus and protective suit. |
| Other data | : | Dispose extinguishing water according the local, official regulations. |

6. Accidental release measures

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|---------------------------|---|--|
| Personal precautions | : | Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Keep people away from. |
| Environmental precautions | : | Do not discharge into sewerage system, surface water or soil. |
| Removal | : | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. |

7. Handling and storage

Handling

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|---|---|--|
| Safe handling advice | : | Avoid contact with skin, eyes and clothing. Use personal protective equipment. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |

Storage

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|--------------------------------|---|--|
| Requirements for storage areas | : | Keep containers tightly closed in a cool, well-ventilated place. |
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and containers : Protect against humidity.
Incompatibilities/not to be stored with : Do not store together with oxidizing agents. Never allow product to get in contact with water during storage.

8. Exposure controls / personal protection

Exposure limit(s)

Remarks : None.

Occupational exposure controls

Protective measures : Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. Take off all contaminated clothing immediately.

Hygiene measures : Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

Respiratory protection : Provide sufficient air exchange and/or exhaust in work rooms. In exceptional situations (e.g. unintentional release, exceeding of air limit values, aerosol formation), appropriately approved breathing protection must be worn. Respiratory mask with filter model ABEK (EN 14387).

Hand protection : Use protective gloves which have been adapted to the respective purpose and are appropriately resistant to chemicals (DIN EN 374). Ask the glove supplier for the penetration time of the glove material.
: Glove material: butyl-rubber

Eye protection : Tightly fitting safety goggles

Skin and body protection : impervious clothing

Environmental exposure controls

Additional advice : see section 6

9. Physical and chemical properties

General Information

Form : liquid
Colour : colourless
Odour : stinging

Important Health Safety and Environmental Information

Boiling point/boiling range : ca. 190 °C
Melting point/range : -10 - 0 °C
Flash point : > 93 °C
Ignition temperature : 405 °C



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Explosive properties	:	not explosive
Vapour pressure	:	< 5 hPa at 20 °C
Density	:	ca. 1,02 g/cm ³ at 20 °C
Water solubility	:	980 g/l at 20 °C
Viscosity, dynamic	:	ca. 7 mPa.s at 25 °C

10. Stability and reactivity

Hazardous reactions	:	Reactions with substances to be avoided. Spontaneous hydrolysis with moisture entering (possibly explosively!). Development of corrosive gases and vapors. No decomposition if stored and applied as directed.
Materials to avoid	:	Strong oxidizing agents, Water, Acids, Bases, Alcohols, Amines
Hazardous decomposition products	:	acetic acid
Hazardous decomposition products in the event of fire	:	Carbon monoxide, carbon dioxide

11. Toxicological information

Toxicology tests

Acute oral toxicity	:	LD50 rat: > 5.000 mg/kg
Skin irritation	:	Corrosive effect on the skin and mucous membranes.
Eye irritation	:	extremely corrosive
Sensitisation	:	None known.
Ingestion	:	Burns in mouth, throat, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach.

General Information

Other information on toxicity	:	The product should be handled with the care usual when dealing with chemicals.
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12. Ecological information

Other environmental data

Other data	:	Do not discharge into sewerage system, surface water or soil. Adequate disposal
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13. Disposal considerations

Product	:	In accordance with local and national regulations, if applicable
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send back the empty reservoir for refilling.

14. Transport information

Land transport ADR/RID

Class : 8 UN No. : 3265 Packaging group : II
Classification code : C3
Labels : 8
Description of the goods : Corrosive liquid, acidic, organic, n.o.s. (Di-tert-butoxy-diacetoxysilane)

Sea transport IMDG

Class : 8 UN No. : 3265 Packaging group : II
EmS : F-A, S-B

Marine pollutant :

Labels : 8
Description of the goods : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
(DI-TERT-BUTOXY-DIACETOXYSILANE)

Air transport ICAO/IATA

Class : 8 UN No. : 3265 Packaging group : II
Labels : 8
Description of the goods : Corrosive liquid, acidic, organic, n.o.s. (Di-tert-butoxy-diacetoxysilane)

15. Regulatory information

Labelling according to Regulation (EC) No. 1272/2008 (GHS) ¹



Signal word: Danger

Hazard statements

H314 : Causes severe skin burns and eye damage.

Precautionary statements

P260 : Do not breathe 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



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P310 : rinsing.
: Immediately call a POISON CENTER or doctor/physician.
P405 : Store locked up.

Other data

CAS-No.: 13170-23-5
For footnotes, see section 16.

Labelling according to Directive 67/548/EEC or Directive 1999/45/EC ²

Letter(s) for the symbol(s) and indications of danger



C : Corrosive

R-phrases(s)

R34 : Causes burns.

S-phrases(s)

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 : After contact with skin, wash immediately with plenty of water and soap.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other data

EC-No.: 236-112-3

For footnotes, see section 16.

EU-Regulations

Seveso Directive II : 96/82/EG: Does not fall under Seveso II - Directive / Major accident legislation

Restrictions : 94/33/EG:
Follow Directive 94/33/EC on the protection of young people at work and its national implementations.
: 92/85/EWG:
Follow Directive 92/85/EC on the protection of pregnant workers and workers who have recently given birth or are breastfeeding, and its national implementations.

16. Other information



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The information in this safety sheet is based on the data available at the time of compilation and is intended to describe the product with respect to the precautions to be taken in its use. This information is provided without any guarantee of the properties specified.

Update information

Relevant changes to the previous version are symbolized by vertical bars at the left edge.

Additions : Classification and Labelling according to GHS (Regulation 1272/2008)

Additional advice

Sources: Directive 67/548/EEC Annex I, TRGS 900, TRGS 903, International dangerous goods regulations, Supplier details

Footnotes:

- 1] Obligatory for substances from December, 01, 2010, obligatory for mixtures from June, 01, 2015.
- 2] Valid for substances until November, 30, 2010, valid for preparations (mixtures) until May, 31, 2015.