



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

Version 2.0
Revision date: 06.12.2010

Reservoir W(CO)6

Material: 346561-8070-000
Print Date 27.03.2012

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

Trade name : Gas reservoir, contains: tungsten hexacarbonyl
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

Not a dangerous substance according to GHS.

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

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

For footnotes, see section 16.

Additional risk advice for man and the environment

Release of toxic substances during decomposition. Harmful and/or toxic effects cannot be excluded in principle.

3. Composition / information on ingredients

Information on the substance / preparation (mixture)

Tungsten hexacarbonyl

EC-No. : 237-880-2
CAS-No. : 14040-11-0



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4. First aid measures

- | | | |
|----------------|---|--|
| General advice | : | If symptoms occur or if in doubt, seek medical advice. |
| Inhalation | : | Provide with fresh air. Consult a physician after significant exposure. |
| Skin contact | : | Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. |
| Eye contact | : | Rinse immediately with plenty of water, also under the eyelids. Consult a physician. |
| Ingestion | : | Rinse mouth. Immediately give large quantities of water to drink. Call a physician. |

5. Fire-fighting measures

- | | | |
|---|---|--|
| Suitable extinguishing media | : | water spray jet, Carbon dioxide (CO ₂), Dry chemical, Foam |
| Extinguishing media which shall not be used for safety reasons | : | High volume water jet |
| Hazards caused by the substance/combustion products/origin of gases | : | Combustible. In case of fire formation of carbonoxides and other toxic gases/vapors is possible. In the event of fire and/or explosion do not breathe fumes. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. |
| Other data | : | Avoid extinguishing water reaching water or ground water system. |

6. Accidental release measures

- | | | |
|---------------------------|---|---|
| Personal precautions | : | Avoid contact with skin, eyes and clothing. Use personal protective equipment. Do not breathe dust. |
| Environmental precautions | : | Do not discharge into sewerage system, surface water or soil. |
| Removal | : | Use mechanical handling equipment. Avoid dust formation. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. |

7. Handling and storage

Handling

- | | | |
|---|---|--|
| Safe handling advice | : | Avoid contact with skin, eyes and clothing. Avoid breathing. Avoid prolonged or repeated exposure. |
| Advice on protection against fire and explosion | : | Keep away from heat and sources of ignition. |

Storage

- | | | |
|---|---|---|
| Requirements for storage areas and containers | : | Keep tightly closed. Keep in a dry place. |
|---|---|---|

Storage stability

- | | | |
|---------------------|---|------------|
| Storage temperature | : | 15 - 25 °C |
|---------------------|---|------------|



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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.

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

Respiratory protection : Required if dust is formed.

Hand protection : Use protective gloves which have been adapted to the respective purpose and are appropriately resistant to chemicals (DIN EN 374).
: Glove material: Nitrile rubber
: Layer thickness: 0,11 mm
: Break through time: > 480 min

Eye protection : Safety glasses

Skin and body protection : closed work clothing

Environmental exposure controls

Additional advice : see section 6

9. Physical and chemical properties

General Information

Form : powder crystalline
Colour : white
Odour : nearly odorless

Important Health Safety and Environmental Information

Melting point/range : 150 °C
Flash point : not applicable
Vapour pressure : 1,4 hPa at 67 °C
Density : 2,65 g/cm³ at 20 °C
Water solubility : insoluble at 20 °C

10. Stability and reactivity

Hazardous reactions : Violent reactions are possible with oxidizing agents.



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Conditions to avoid : Heating.
Materials to avoid : Strong oxidizing agents
Hazardous decomposition products : In case of fire formation of carbonoxides and other toxic gases/vapors is possible.
Additional advice : The following applies in general to flammable organic substances and preparations: in correspondingly fine distribution, when whirled up, a dust explosion potential may generally be assumed.

11. Toxicological information

General Information

Other information on toxicity : Quantitative data on the toxicity of this product are not available. Hazardous properties cannot be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Other environmental data

Other data : We have no quantitative data concerning the ecological effects of this product. Do not discharge into sewerage system, surface water or soil. Adequate disposal

13. Disposal considerations

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

14. Transport information

Land transport ADR/RID

Class : 6.1 UN No. : 3466 Packaging group : III
Classification code : T3
Labels : 6.1
Description of the goods : Metal carbonyls, solid, n.o.s. (Tungsten hexacarbonyl)

Sea transport IMDG

Class : 6.1 UN No. : 3466 Packaging group : III
EmS : F-A, S-A



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Marine pollutant :

Labels : 6.1
Description of the goods : METAL CARBONYLS, SOLID, N.O.S. (TUNGSTEN HEXACARBONYL)

Air transport ICAO/IATA

Class : 6.1 UN No. : 3466 Packaging group : III
Labels : 6.1
Description of the goods : Metal carbonyls, solid, n.o.s. (Tungsten hexacarbonyl)

15. Regulatory information

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

Exempt

Other data

CAS-No.: 14040-11-0
For footnotes, see section 16.

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

The product does not need to be labelled in accordance with EC directives or respective national laws.

S-phrases)

S22 : Do not breathe dust.

Other data

EC-No.: 237-880-2

For footnotes, see section 16.

16. Other information

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



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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.