

DOCK/ CHEMICALS

SEMICONDUCTORS DECISION

CBr₄

C- Precursor for MOVPE and CVD applications

MO-III/V

BP: 190°C/374°F/1013 hPa

CBr₄ - CARBONTETRABROMIDE

MATERIAL SAFETY
DATASHEET

'CBr₄ - CARBONTETRABROMIDE

Carbontetrabromide CTBr, CBr₄

Revision Date: 01.11.2011

According to EC-Directive
1907/2006/EC

'MO-III/W

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Identification of the product

Product name: Carbontetrabromide
Acronym: CTBr, CBr₄

Manufacturer / Supplier Information

Dockweiler Chemicals GmbH
Emil-von-Behring-Str. 76, Postfach 1746, 35007 Marburg, Germany
T +49 6421 39 -6380 | F -6381

Contact for Information

Dockweiler Chemicals GmbH
T +49 6421 39 -6380 | F -63 81

Emergency telephone no.: +49 178 433 74 34

In case of intoxication:
Giftnotrufzentrale - Munich
T +49 89 41 40 -2211 / -2240 | F +49 89 41 40 -2467
In case of burn: local hospital and/or specialist near at hand

2. HAZARDS IDENTIFICATION

Harmful by inhalation, if swallowed. Restricted to professional users.
Attention - Avoid exposure

3. COMPOSITION / INFORMATION ON INGREDIENTS

Synonym

Acronym: CTBr, CBr₄
(purity 100% w/w)
CAS-No.: 558-13-4
EG-Index-No.: n.r.
EC-No.: 209-189-6
ELINCS-No.: n.r.

Molar mass (g/mol): 331.65
Molecular formula: CBr₄
Dangerous ingredients: none

4. FIRST AID MEASURES

Prompt medical attention is required in all cases of exposure to Carbontetrabromide and its by-products. Rescue personnel should be equipped with appropriate protective equipment (e.g. Self-contained breathing apparatus) to avoid unnecessary exposure and must be aware of the harmful nature of Carbontetrabromide.

Skin contact

Immediately flush affected areas with large quantities of water. Remove contaminated clothing at once.

Eyes

Flush contaminated eyes with large quantities of water for at least 15 minutes. Hold eyelids open to ensure complete flushing. Summon eye specialist.

Inhalation

Move exposed personnel to an uncontaminated area. Apply fresh air. If breathing is difficult, give oxygen. If breathing has stopped, apply artificial respiration.

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sales@dockchemicals.com

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5. FIRE-FIGHTING MEASURES

Extinguishing media

Use Water, Sand, Carbondioxid, foam or powder.

Exposure Hazards

Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire : Hydrobromic acid (HBr), Carbon dioxide, Carbon monoxide.

Spezial protective Equipment for Fire-Fighters

Do not stay in dangerous zone without suitable chemical protection clothes and self-contained breathing apparatus. Prevent fire-fighting water from entering surface water or ground water.

6. ACCIDENTAL RELEASE MEASURES

Personnel Precautions

Evacuate area. Use appropriate protective equipment. Purge equipment with inert gas before attempting repairs. Ensure adequate ventilation. If leak is in container call one of the emergency numbers as appropriate (see section 1.)

Environmental Precautions

Try to stop release, if save to do so. For fire-fighting measures see section 5.

Methods for cleaning up

Contact Dockweiler Chemicals GmbH for specific advice.

7. HANDLING AND STORAGE

Handling

Valve outlet seals must remain in place unless container is secured and valve outlet piped to use point. Use a check valve or trap to prevent hazardous back flow into the container. Any equipment used for Carbontetrabromide service must be thoroughly cleaned and prepared to eliminate contamination and must be maintained in a leak free state. All air and moisture in the system must be eliminated before use. Keep away from sources of ignition. Take measures to prevent electrostatic charging.

Storage

Protect container from physical damage. Do not allow temperatures to exceed 90 °C. Store away from flammable material.

8. LIMITATION AND MONITORING OF EXPOSURE AND PERSONAL PROTECTION

Exposure Controls

OSHA or ACGIH: n.e.
OES and MEL: 1.4 mg/m³ -TWA
Ensure adequate ventilation

Personal Protection

Self-contained breathing apparatus, fire resistant gloves, face shield and safety goggles, safety shoes and fire resistant garments. Safety shower and eyewash.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour: white
State: crystalline solid
Odour: characteristic, faint sweet
pH-Value: n.a.
Viscosity (mPa*s; 20°C): n.a.
Density (g/ccm; 20°C) 2.96
Boiling Point (1013 mbar) 190 °C /374 °F
Melting Point: 90 °C / 194 °F
Flashpoint: n.a.
Auto-Ignition Temperature: n.a.
Explosion-Limit Vol %: n.a.
Vapor Pressure (mbar,20°C): 0.07
Solubility in Water (20°C) insoluble
Solubility in aliphatic Hydrocarbons & alcohols (20°C) soluble

10. STABILITY AND REACTIVITY

Conditions to avoid

Heating above boiling point.

Materials to avoid

Avoid moisture, water, alcohols, oxidisers and strong acids.

Hazardous Decomposition Products

Toxic fumes of Hydrobromic acid (HBr), Carbon dioxide, Carbon monoxide.

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11. TOXICOLOGICAL INFORMATION

Acute toxicity: no data available
Subacute to chronic toxicity: LC50(oral) 298 mg/kg

Further toxicological information:
Irritation of skin, eyes and respiratory system.

12. ECOLOGICAL INFORMATION

No specific data available. Product should not enter sewage or soil.

13. WASTE DISPOSAL CONSIDERATIONS

Regional and national regulations should be followed during waste disposal. Contact Dockweiler Chemicals GmbH representatives for waste disposal of unused quantities and regeneration of refilling containers.

14. TRANSPORT INFORMATION

ADR/RID 2011

GGVS/GGVE-class: 6.1
ADR/RID-class: 6.1
UN-no: 2516
Packaging group: III

IMDG ARNDT. 35-08

IMDG/GGVSee-class: 6.1
UN-no: 2516
Packaging group: III
EmS: F-A, S-A
Shipping Name: Carbontetrabromide
Special Provision: none

ICAO/IATA 2012

ICAO/IATA-class: 6.1
UN-no: 2516
Packaging Group: III
PAX-PIN: Y619 / 100kg
CAO-PIN: 619 /100kg

15. REGULATORY INFORMATION

GHS-Classification

Acute Toxicity (Category 3)
Harmful Solids (Category 1)
Aspiration Hazard (Category 1)



Signal Word: **DANGER**

Hazard and Precautionary Statements:

H302: Harmful if swallowed
H315: Causes skin irritation
H319: Causes serious eye irritation

P260: Do not breathe dust
P302+352: IF ON SKIN: Wash with soap and water
P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P403+233: Store in a well ventilated place. Keep container tightly closed
P405: Store locked up

16. OTHER INFORMATION

DATE: 01.11.2011

Ensure operators understand the toxic and harmful nature of this product. Before using this product it is recommended that a risk assessment and safety study be carried out. The above mentioned information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Dockweiler Chemicals GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.

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