

'DOCK/ CHEMICALS

SEMICONDUCTORS DECISION

C₄H₁₀Te

Te- Precursor as dopant for III/V MOVPE

'MO-III/V

BP: 137°C/278°F/1013 hPa

'DETe - DIETHYLTELLURIDE

MATERIAL SAFETY
DATASHEET

'DETe - DIETHYLTELLURIDE

Diethyltelluride C₄H₁₀Te

Revision Date: 30.12.2010

According to EC-Directive
1907/2006/EC

'MO-III/W

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Identification of the product

Product name: Diethyltelluride
Acronym: DETe

Manufacturer / Supplier Information

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

Contact for Information

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

Emergency telephone no.: +49 178 433 74 34

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

2. HAZARDS IDENTIFICATION

Flammable. Toxic by inhalation, skin contact and if swallowed. Restricted to professional users. Attention - Avoid exposure – obtain special instructions before use.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Synonym

Acronym: DETe
{purity 100% w/w}
CAS-No.: 627-54-3
EG-Index-No.: n.r.
EC-No.: 211-002-8
ELINCS-No.: n.r.

Molar mass (g/mol): 185.7
Molecular formula: C₄H₁₀Te
Dangerous ingredients: none

4. FIRST AID MEASURES

Prompt medical attention is required in all cases of exposure to Diethyltelluride and it's 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 flammable and toxic nature of Diethyltelluride.

Skin contact

Immediately flush affected areas with large quantities of water and wash it with soap and 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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5. FIRE-FIGHTING MEASURES

Extinguishing media

Use Water, Sand, Carbondioxide, foam or powder.

Exposure Hazards

Combustible. Vapours heavier than air. Formation of explosive mixtures possible with air. Take measures to prevent electrostatic charging. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire : Telluriumoxides.

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 Diethyltelluride 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 125 °C. Store away from flammable material.

8. LIMITATION AND MONITORING OF EXPOSURE AND PERSONAL PROTECTION

Exposure Controls

OSHA or ACGIH: none established

OES and MEL:

Tellurium and compounds long term exposure limits (8-hour TWA reference period) 0.1mg/m³ as Te. 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:	yellow
State:	liquid
Odour:	very unpleasant
pH-Value:	n.a.
Viscosity (mPa*s; 20°C):	n.a.
Density (g/ccm; 20°C)	1.59
Boiling Point (1013 mbar)	137 °C /278°F
Melting Point:	n.a.
Flashpoint:	n.a.
Auto-Ignition Temperature:	n.a.
Vapor Pressure (20°C):	9.4 mbar
Solubility in Water (20°C)	unsoluble
Solubility in aliphatic Hydrocarbons & alcohols (20°C)	soluble

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10. STABILITY AND REACTIVITY

Conditions to avoid

Heating above boiling point.

Materials to avoid

Avoid oxidisers and strong acids.

Hazardous Decomposition Products

Toxic fumes of CO, CO₂, H₂Te and Tellurium oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: no data available

Subacute to chronic toxicity: no data available

Further toxicological information:

After swallowing no description of toxic symptoms. The product should be handled with care usual when dealing with chemicals. The product is listed on TSCA inventory.

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 2007

GGVS/GGVE-class: 3 Sec.Risc: 6.1

ADR/RID-class: 3

UN-no: 1992

Packaging group: II

IMDG ARNDT. 33-06

IMDG/GGVSee-class: 3 Sec.Risc: 6.1

UN-no: 1992

Packaging group: II

EmS: F-E, S-D

Shipping Name: FLAMMABLE LIQUID, TOXIC ORGANIC, N.O.S.
(Diethyltelluride)

Special Provision: 274

ICAO/IATA 2007

ICAO/IATA-class: 3

UN-no: 1992

Packaging Group: II

PAX-PIN: Y305 / 1L

CAO-PIN: 307 / 60L

15. REGULATORY INFORMATION

GHS-Classification

Flammable Liquids (Category 2)

Acute Toxicity (Category 1)



Signal Word: **DANGER**

Hazard and Precautionary Statements:

H225: Highly flammable liquid and vapour

H301: Toxic if swallowed

H311: Toxic in contact with skin

H330: Fatal if inhaled

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking

P233: Keep container tightly closed

P240: Ground/bond container and receiving equipment

P241: Use explosion-proof electrical/ventilating/light equipment

P242: Use only non-sparking tools

P243: Take precautionary measures against static discharge

P264: Wash with water and soap thoroughly after handling

P270: Do not eat, drink or smoke when using this product

P271: Use only outdoors or in a well-ventilated area

P280: Wear protective gloves/protective clothing/eye protection/face protection

P284: Wear respiratory protection

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P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302+352: IF ON SKIN: Wash with soap and water
P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310: Immediately call a POISON CENTER or doctor/physician
P312: Call a POISON CENTER or doctor/physician if you feel unwell
P330: Rinse mouth
P361: Remove/Take off immediately all contaminated clothing
P363: Wash contaminated clothing before reuse
P370+378: In case of fire: Use water, sand, carbondioxide, foam or powder for extinction
P403+233: Store in a well ventilated place. Keep container tightly closed
P403+235: Store in a well ventilated place. Keep cool
P405: Store locked up

16. OTHER INFORMATION

DATE: 30.12.2010

Ensure operators understand the flammable and toxic 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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