

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 13.07.2010

Revision: 13.07.2010

1 Identification of substance

Product details

Trade name

Boron trifluoride dimethyl sulfide complex, purified

Stock number:

42970

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

2 Hazards identification

Hazard designation:

C Corrosive
F Highly flammable

Information pertaining to particular dangers for man and environment

R 11 Highly flammable.
R 34 Causes burns.
R 37 Irritating to respiratory system.

GHS label elements

**Danger**

H224 - Extremely flammable liquid and vapour.

**Danger**

H314 - Causes severe skin burns and eye damage.

**Warning**

Prevention:

H335 - May cause respiratory irritation.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

Response:

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.

Storage:

P405 Store locked up.

Disposal:

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

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Boron trifluoride-methyl sulfide (CAS# 353-43-5); 100%

4 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

Rub in Ca-gluconate solution or Ca-gluconate gel immediately.
Rinse opened eye for several minutes under running water. Then consult doctor.
Seek immediate medical advice.

After swallowing

5 Fire fighting measures

Suitable extinguishing agents

CO2, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:
Carbon monoxide and carbon dioxide
Hydrogen fluoride (HF)
Hydrogen sulphide
Sulphur oxides (SOx)
Wear self-contained breathing apparatus.
Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Measures for environmental protection:

Keep away from ignition sources
Do not allow material to be released to the environment without proper governmental permits.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.

Measures for cleaning/collecting:

Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

Additional information:

Do not flush with water or aqueous cleansing agents
Keep away from ignition sources.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.(Contd. on page 2)
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Storage Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

Store in cool location.

Store away from water.
 Store away from oxidizing agents.
 Do not store together with acids.

Further information about storage conditions:

Store under dry inert gas.
 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.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with critical values that require monitoring at the workplace:

Fluorides (as F)
 mg/m³
 ACGIH TLV 2.5
 Austria MAK 2.5
 Belgium TWA 2.5
 Finland TWA 2.5
 France TWA 2.5
 Germany MAK 2.5
 Hungary TWA 1; 2-STEL
 Netherlands MAC-K 3.5
 Norway TWA 0.6
 Poland TWA 1; 3-STEL
 Sweden NGV 2
 Switzerland MAK-W 1.5; 3-KZG-W
 United Kingdom TWA 2.5
 Russia TWA 2
 Denmark TWA 2.5
 USA PEL 2.5
 No data

Additional information:

Personal protective equipment

General protective and hygienic measures

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.
 Use breathing protection with high concentrations.
 Tightly sealed safety glasses.
 Full face protection
 Face protection
 Protective work clothing.

Breathing equipment:

Eye protection:

Body protection:

9 Physical and chemical properties:

General Information

Form: Liquid
Colour: Light yellow
Smell: Stench

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: -15°C

Ignition temperature: Not determined

Decomposition temperature: Not determined

Critical values for explosion:
Lower: Not determined
Upper: Not determined

Steam pressure: Not determined

Density at 20°C 1.235 g/cm³

Solubility in / Miscibility with Water: Reacts

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

Materials to be avoided:

Water/moisture
 Oxidizing agents
 Acids

Dangerous reactions:

Reacts with water and acids

Dangerous products of decomposition:

Hydrogen fluoride
 Hydrogen sulphide
 Sulphur oxides (SO_x)
 Carbon monoxide and carbon dioxide

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin:

Corrosive effect on skin and mucous membranes.

Irritant for skin and mucous membranes.

on the eye:

Strong corrosive effect.

Irritant effect.

Sensitization:

No sensitizing effect known.

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Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**Additional ecological information:
General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:
Recommendation**

Consult state, local or national regulations for proper disposal.
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.

**Uncleaned packagings:
Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 8 (CF1) Corrosive substances.
Kemler Number: 883
UN-Number: 2920
Packaging group: I
Label: 8+3
Designation of goods: 2920 CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Boron trifluoride-methyl sulfide complex)
Limited quantities (LQ) LQ0
Transport category 1
Tunnel restriction code D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8
UN Number: 2920
Label: 8+3
Packaging group: I
Marine pollutant: No
Correct technical name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Boron trifluoride-methyl sulfide complex)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2920
Label: 8+3
Packaging group: I
Correct technical name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Boron trifluoride-methyl sulfide complex)

UN "Model Regulation":

UN2920, CORROSIVE LIQUID, FLAMMABLE, N.O.S., 8 (3), I

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

C Corrosive
F Highly flammable

Risk phrases:

11 Highly flammable.
34 Causes burns.
37 Irritating to respiratory system.

Safety phrases:

7 Keep container tightly closed.
20 When using do not eat or drink.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
33 Take precautionary measures against static discharges.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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