

## Boron trifluoride tetrahydrofuran complex 462-34-0 MSDS

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product identifiers

Product name : Boron trifluoride tetrahydrofuran complex

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 462-34-0

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

### SECTION 2: Hazards identification

#### Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Skin corrosion (Category 1B), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

C Corrosive R34

For the full text of the R-phrases mentioned in this Section, see Section 16.

#### Label elements

##### Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

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

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove

contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard none

Statements

#### Other hazards - none

### SECTION 3: Composition/information on ingredients

#### Substances

Formula : C<sub>4</sub>H<sub>8</sub>BF<sub>3</sub>O

Molecular Weight : 139,91 g/mol

CAS-No. : 462-34-0

EC-No. : 207-325-9

#### **Hazardous ingredients according to Regulation (EC) No 1272/2008**

Component	Classification	Concentration
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##### **Boron trifluoride tetrahydrofuran complex**

CAS-No.	462-34-0	Skin Corr. 1B; H314	<= 100 %
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EC-No.	207-325-9
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#### **Hazardous ingredients according to Directive 1999/45/EC**

Component	Classification	Concentration
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##### **Boron trifluoride tetrahydrofuran complex**

CAS-No.	462-34-0	C, R34	<= 100 %
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EC-No.	207-325-9
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For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## **SECTION 4: First aid measures**

### **Description of first aid measures**

#### **General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### **In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### **In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### **If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### **Indication of any immediate medical attention and special treatment needed**

no data available

## **SECTION 5: Firefighting measures**

### **Extinguishing media**

#### **Suitable extinguishing media**

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large

fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as

a mist or

spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**Special hazards arising from the substance or mixture**

Hydrogen fluoride, Borane/boron oxides

**Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Further information**

Use water spray to cool unopened containers.

**SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to

form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and

place in container for disposal according to local regulations (see section 13). Keep in suitable, closed

containers for disposal.

**Reference to other sections**

For disposal see section 13.

**SECTION 7: Handling and storage**

**Precautions for safe handling**

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic

charge.

For precautions see section 2.2.

**Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are

opened must be carefully resealed and kept upright to prevent leakage.

**Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

#### **Components with workplace control parameters**

#### **Exposure controls**

##### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and

at the end of workday.

##### **Personal protective equipment**

###### **Eye/face protection**

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

###### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact

Material: Nature latex/chloroprene

Minimum layer thickness: 0,6 mm

Break through time: 10 min

Material tested:Lapren® (KCL 706 / Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374,

contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

###### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

###### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air

respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

###### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

- a) Appearance      Form: liquid  
Colour: yellow
- b) Odour      no data available
- c) Odour Threshold      no data available
- d) pH      no data available
- e) Melting point/freezing      Melting point/range: 11 - 13 °C - lit.  
point
- f) Initial boiling point and 180 °C - lit.  
boiling range
- g) Flash point      92 °C - closed cup
- h) Evaporation rate      no data available
- i) Flammability (solid, gas) no data available
- j) Upper/lower      no data available  
flammability or  
explosive limits
- k) Vapour pressure      no data available
- l) Vapour density      no data available
- m) Relative density      1,268 g/cm<sup>3</sup> at 25 °C
- n) Water solubility      no data available
- o) Partition coefficient: n- no data available  
octanol/water
- p) Auto-ignition      no data available  
temperature
- q) Decomposition      no data available  
temperature
- r) Viscosity      no data available
- s) Explosive properties      no data available
- t) Oxidizing properties      no data available

### Other safety information

no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

Heat, flames and sparks.

### Incompatible materials

Strong oxidizing agents Strong oxidizing agents, Water

### **Hazardous decomposition products**

Other decomposition products - no data available

In the event of fire: see section 5

## **SECTION 11: Toxicological information**

### **Information on toxicological effects**

#### **Acute toxicity**

no data available

#### **Skin corrosion/irritation**

no data available

#### **Serious eye damage/eye irritation**

no data available

#### **Respiratory or skin sensitisation**

no data available

#### **Germ cell mutagenicity**

no data available

#### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as

probable, possible or confirmed human carcinogen by IARC.

#### **Reproductive toxicity**

no data available

#### **Specific target organ toxicity - single exposure**

no data available

#### **Specific target organ toxicity - repeated exposure**

no data available

#### **Aspiration hazard**

no data available

#### **Additional Information**

RTECS: Not available

Salivation, Nausea, Abdominal pain, Vomiting, Fever, Rapid respiration, Fluoride ion can reduce serum

calcium levels possibly causing fatal hypocalcemia., To the best of our knowledge, the chemical, physical,

and toxicological properties have not been thoroughly investigated., Material is extremely destructive to

tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and

edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema

## **SECTION 12: Ecological information**

### **Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

no data available

**SECTION 13: Disposal considerations****Waste treatment methods****Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and

scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed

professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****UN number**

ADR/RID: 3265    IMDG: 3265    IATA: 3265

**UN proper shipping name**

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Boron trifluoride tetrahydrofuran complex)

IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Boron trifluoride tetrahydrofuran complex)

IATA: Corrosive liquid, acidic, organic, n.o.s. (Boron trifluoride tetrahydrofuran complex)

**Transport hazard class(es)**

ADR/RID: 8    IMDG: 8    IATA: 8

**Packaging group**

ADR/RID: II    IMDG: II    IATA: II

**Environmental hazards**

ADR/RID: no    IMDG Marine pollutant: no    IATA: no

**Special precautions for user**

no data available

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

### **Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

### **SECTION 16: Other information**

#### **Full text of H-Statements referred to under sections 2 and 3.**

H314 Causes severe skin burns and eye damage.

Skin Corr. Skin corrosion

#### **Full text of R-phrases referred to under sections 2 and 3**

C Corrosive

R34 Causes burns.

#### **Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be

used only as a guide. The information in this document is based on the present state of our knowledge

and is applicable to the product with regard to appropriate safety precautions. It does not represent any

guarantee of the properties of the product. Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.