



# Boron trifluoride

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Reference number: EIGA007

Issue date: 16/01/2013 Revision date: 17/02/2026 Supersedes version of: 10/12/2015 Version: 1.1

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

#### 1.1. Product identifier

Product form	: Substance
Name	: Boron trifluoride
Trade name	: Boron trifluoride
EC Index-No.	: 005-001-00-X
EC-No.	: 231-569-5
CAS-No.	: 7637-07-2
REACH registration No.	: 01-2119534579-27
Product code	: 000010021741
Formula	: BF <sub>3</sub>
Synonyms	: ANCA 1040 / Borane, trifluoro- (9CI) / Borfluorid / Boron fluoride / Boron fluoride (BF <sub>3</sub> ) (8CI) / Boron trifluoride / Trifluoroborane / Trifluoroboron

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

##### 1.2.1. Relevant identified uses

Relevant identified uses	: See the list of identified uses and exposure scenarios in the annex of the safety data sheet. Perform risk assessment prior to use.
Use of the substance/mixture	: Use as an Intermediate (transported, on-site isolated). Using gas as feedstock in chemical processes. Electronic component manufacture Raw material for pharmaceutical products

Title	Life cycle stage	Use descriptors
Industrial uses, closed contained conditions (ES Ref.: EIGA007-1)		PROC1, PROC2, PROC3, PROC4, PROC8b, PROC9, ERC2, ERC4, ERC5, ERC6a

Full text of use descriptors: see section 16

##### 1.2.2. Uses advised against

Uses advised against	: Consumer use. Uses other than those listed above are not supported, contact your supplier for more information on other uses.
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#### 1.3. Details of the supplier of the safety data sheet

Linde Gas GmbH  
Carl-von-Linde-Platz 1  
A-4651 Stadl-Paura  
Austria  
T +43 50 4273  
[office@at.linde-gas.com](mailto:office@at.linde-gas.com)

#### 1.4. Emergency telephone number

Emergency number	: UMCO/NCEC: +44 1865 407333 (English); +49 89 220 61012 (German)
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### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical hazards	Gases under pressure : Liquefied gas	H280
Health hazards	Acute toxicity (inhalation:gas) Category 2	H330
	Skin corrosion/irritation, Category 1, Sub-Category 1A	H314
	Serious eye damage/eye irritation, Category 1	H318
	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
	Specific target organ toxicity – Repeated exposure, Category 2	H373

Full text of H- and EUH-statements: see section 16

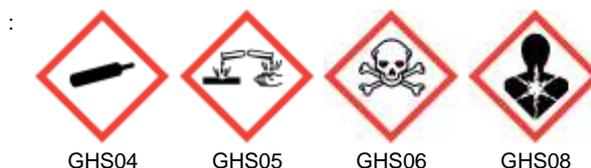
##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

##### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H280 - Contains gas under pressure; may explode if heated.  
H314 - Causes severe skin burns and eye damage.  
H330 - Fatal if inhaled.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
EUH014 - Reacts violently with water.  
EUH071 - Corrosive to the respiratory tract.

EUH-statements

EUH071 supersedes H335 when assigned in the classification.

Precautionary statements (CLP)

- Prevention

: P260 - Do not breathe gas, vapours.  
P280 - Wear eye protection, face protection, protective clothing, protective gloves.

- Response

: P303+P361+P353+P315 - IF ON SKIN : (or hair) Take off immediately all contaminated clothing. Rinse skin with water or shower. Get immediate medical advice.  
P304+P340+P315 - IF INHALED : Remove person to fresh air and keep comfortable for breathing. Get immediate medical advice.  
P305+P351+P338+P315 - IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice.  
P308+P313 - IF exposed or concerned: Get medical advice/attention.

- Storage

: P403 - Store in a well-ventilated place.  
P405 - Store locked up.

#### 2.3. Other hazards

Other hazards

: Not classified as PBT or vPvB. Not classified as PMT or vPvM . The substance/mixture has no endocrine disrupting properties.

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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP] ATE, EUH-statements, M-Factors
Boron trifluoride	CAS-No.: 7637-07-2 EC-No.: 231-569-5 EC Index-No.: 005-001-00-X REACH-no: 01-2119534579-27	100	Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 (ATE=193.5 ppmv/4h) Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 2, H373 EUH014 EUH071

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Boron trifluoride	CAS-No.: 7637-07-2 EC-No.: 231-569-5 EC Index-No.: 005-001-00-X REACH-no: 01-2119534579-27	(1 ≤ C ≤ 100) STOT SE 3; H335

Full text of H- and EUH-statements: see section 16

Contains no other components or impurities which will influence the classification of the product.

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
First-aid measures after skin contact	: In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available. Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes.
First-aid measures after ingestion	: Ingestion is not considered a potential route of exposure.

#### 4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed	May cause severe chemical burns to skin and cornea. Suitable first-aid treatment should be immediately available. Seek medical advice before using product. Product is destructive to tissue of the mucous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea. See section 11.
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#### 4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance. Treat with corticosteroid spray as soon as possible after inhalation.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Product does not burn, use fire control measures appropriate for the surrounding fire. Be aware of the risk of formation of static electricity with the use of CO<sub>2</sub> extinguishers. Do not use them in places where a flammable atmosphere may be present.
- Unsuitable extinguishing media : Do not use extinguishing media containing water. Do not use water jet to extinguish.

#### 5.2. Special hazards arising from the substance or mixture

- Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.
- Specific hazards : Water reactive product.  
Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : None that are more hazardous than the product itself.

#### 5.3. Advice for firefighters

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.  
If possible, stop flow of product.  
Use water spray or fog to knock down fire fumes if possible.  
Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus.  
Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams.  
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Act in accordance with local emergency plan. Try to stop release. Evacuate area. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Stay upwind. See section 8 of the SDS for more information on personal protective equipment.

##### 6.1.2. For emergency responders

- Emergency procedures : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Use chemically protective clothing. Monitor concentration of released product. See section 5.3 of the SDS for more information.

#### 6.2. Environmental precautions

Try to stop release.

#### 6.3. Methods and material for containment and cleaning up

- Methods and material for containment and cleaning up : Do not use water on leaking product.

#### 6.4. Reference to other sections

See also sections 8 and 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Safe use of the product

- : Avoid contact with aluminium.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
- Avoid exposure, obtain special instructions before use.
- Do not smoke while handling product.
- Avoid suck back of water, acid and alkalis.
- Only experienced and properly instructed persons should handle gases under pressure.
- Ensure the complete gas system was (or is regularly) checked for leaks before use.
- Installation of a cross purge assembly between the container and the regulator is recommended.
- Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service.
- The product must be handled in accordance with good industrial hygiene and safety procedures.
- Consider pressure relief device(s) in gas installations.
- Do not breathe gas.

Safe handling of the gas receptacle

- Avoid release of product into work area.
- Use only lubricants and sealings approved for the specific gas service.
- Do not use water on valves, flanges and other fittings.
- : Do not allow backfeed into the container.
- Protect containers from physical damage; do not drag, roll, slide or drop.
- When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.
- Leave valve protection caps, when provided, in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.
- If user experiences any difficulty operating valve discontinue use and contact supplier.
- Never attempt to repair or modify container valves or safety relief devices.
- Damaged valves should be reported immediately to the supplier.
- Keep container valve outlets clean and free from contaminants particularly oil and water.
- Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
- Close container valve after each use and when empty, even if still connected to equipment.
- Never attempt to transfer gases from one cylinder/container to another.
- Never use direct flame or electrical heating devices to raise the pressure of a container.
- Do not remove or deface labels provided by the supplier for the identification of the content of the container.
- Suck back of water into the container must be prevented.
- Open valve slowly to avoid pressure shock.

#### 7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities

- : Store locked up.
- Observe all regulations and local requirements regarding storage of containers.
- Containers should not be stored in conditions likely to encourage corrosion.
- Container valve guards or caps, when provided, should be in place.
- Containers should be stored in the vertical position and properly secured to prevent them from falling over.
- Stored containers should be periodically checked for general condition and leakage.
- Keep container below 50°C in a well ventilated place.
- Store containers in location free from fire risk and away from sources of heat and ignition.
- Keep away from combustible materials.

#### 7.3. Specific end use(s)

None.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

Boron trifluoride (7637-07-2)	
Austria - Occupational Exposure Limits	
Local name	Bortrifluorid
MAK (OEL TWA)	3 mg/m <sup>3</sup>
	1 ppm
OEL C	3 mg/m <sup>3</sup>
	1 ppm
Regulatory reference	BGBl. II Nr. 330/2024

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

#### DNEL and PNEC

Boron trifluoride (7637-07-2)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	5 mg/m <sup>3</sup>
Acute - local effects, inhalation	5 mg/m <sup>3</sup>
Long-term - systemic effects, inhalation	1 mg/m <sup>3</sup>
Long-term - local effects, inhalation	1 mg/m <sup>3</sup>
PNEC (Water)	
PNEC aqua (freshwater)	1.9 mg/l
PNEC aqua (marine water)	0.6 mg/l
PNEC aqua (intermittent, freshwater)	1.25 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	2.6 mg/kg dwt
PNEC sediment (marine water)	1.92 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

##### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

##### 8.2.1. Appropriate engineering controls

###### Appropriate engineering controls:

Provide adequate general and local exhaust ventilation. Product to be handled in a closed system and under strictly controlled conditions. Preferably use permanent leak-tight installations (e.g. welded pipes). Gas detectors should be used when toxic gases may be released. Consider the use of a work permit system e.g. for maintenance activities. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available).

##### 8.2.2. Personal protection equipment

###### Personal protective equipment:

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A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.

### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Wear goggles and a face shield when transfilling or breaking transfer connections. Provide readily accessible eye wash stations and safety showers. Standard EN 166 - Personal eye-protection - specifications, or Standard EN ISO 16321-1 Eye and face protection for occupational use Part 1 : General requirements

#### 8.2.2.2. Skin protection

##### Hand protection:

Wear working gloves when handling gas containers. Wear chemically resistant protective gloves. Standard EN 374 - Protective gloves against chemicals. Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher. Recommended types include wrist gloves from leather or synthetic material with equivalent performance, fabric gloves, fabric gloves with leather palms. Polyvinylchloride (PVC)

##### Other skin protection

Keep suitable chemically resistant protective clothing readily available for emergency use. Standard EN943-1 - Full protective suits against liquid, solid and gaseous chemicals. Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

Recommended: Filter B (grey). Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems. Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known. Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Gas filters do not protect against oxygen deficiency. Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks . Keep self contained breathing apparatus readily available for emergency use.

#### 8.2.2.4. Thermal hazards

##### Thermal hazard protection:

None in addition to the above sections.

#### 8.2.3. Environmental exposure controls

##### Environmental exposure controls:

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Gives off white fumes in moist air. Colourless.
Form	: Liquefied gas
Odour	: Pungent.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
Melting point	: -129 °C
Freezing point	: Not applicable
Boiling point	: -100 °C
Flammability	: Non flammable.
Oxidising properties	: No oxidising properties.
Lower explosion limit	: Not applicable.
Upper explosion limit	: Not applicable.
Flash point	: Not applicable for gases and gas mixtures.
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.

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pH	: If dissolved in water pH-value will be affected.
Viscosity, kinematic	: Not applicable for gases and gas mixtures.
Viscosity, dynamic	: 0.017 mPa·s @ 25 °C; Not applicable for gases and gas mixtures.
Solubility in water	: 541000 mg/l Completely soluble.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable for inorganic products.
Partition coefficient n-octanol/water (Log Pow)	: Not applicable for gas mixtures.
Vapour pressure	: Not applicable.
Vapour pressure at 50°C	: Not applicable.
Critical pressure	: 4980 kPa
Density	: Not applicable for gases and gas mixtures.
Relative density	: 1.6
Relative vapour density at 20°C	: Not applicable.
Relative gas density	: 2.4
Particle characteristics	: Not applicable Not applicable for gases and gas mixtures. Nanoforms are not relevant for gases and gas mixtures.

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Critical temperature : -12.3 °C

#### 9.2.2. Other safety characteristics

Molecular mass : 68 g/mol  
Gas group : Press. Gas (Liq.)  
Additional information : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Reacts violently with water.

### 10.4. Conditions to avoid

Avoid moisture in installation systems.

### 10.5. Incompatible materials

May react violently with alkalis. Reacts with most metals in the presence of moisture, liberating hydrogen, an extremely flammable gas. With water causes rapid corrosion of some metals. Reacts with water to form corrosive acids. Moisture. For additional information on compatibility refer to ISO 11114.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity : Fatal if inhaled.  
Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Inhalation:gas: Fatal if inhaled.

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### Boron trifluoride (7637-07-2)

LC50 Inhalation - Rat [ppm]	864 ppm/1h (ADR)
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: If dissolved in water pH-value will be affected.
Serious eye damage/irritation	: Causes serious eye damage. pH: If dissolved in water pH-value will be affected.
Respiratory or skin sensitisation	: No known effects from this product.
Germ cell mutagenicity	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Reproductive toxicity	: Not classified
Toxic for reproduction : Fertility	: No known effects from this product.
Toxic for reproduction : unborn child	: No known effects from this product.
STOT-single exposure	: Corrosive to the respiratory tract. Severe corrosion to the respiratory tract at high concentrations.
Target organ(s)	: Kidneys.

### Boron trifluoride (7637-07-2)

, Inhalation	(Additional Target organ(s): liver, heart, lungs)
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Target organ(s)	: Kidneys. heart. liver. lungs.
Additional information	: Severe corrosion to the respiratory tract at high concentrations.

### Boron trifluoride (7637-07-2)

Additional information	: (rat, Female, Male, Inhalation, NOAEL 6 mg/m <sup>3</sup> ; LOAEL 17 mg/m <sup>3</sup> , 1 = reliable without restrictions; Experimental result, Key study)
Aspiration hazard	: Not applicable for gases and gas mixtures.

### Boron trifluoride (7637-07-2)

Viscosity, kinematic	Not applicable for gases and gas mixtures.
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## 11.2. Information on other hazards

### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance/mixture has no endocrine disrupting properties.

### Other information

Other information : Delayed fatal pulmonary oedema possible, Absorption of excessive fluorides can result in acute systemic fluorosis with hypocalcemia, interference with various metabolic functions and organ damage (heart, liver, kidneys), The substance/mixture has no endocrine disrupting properties.

## SECTION 12: Ecological information

### 12.1. Toxicity

Assessment : Classification criteria are not met.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

### Boron trifluoride (7637-07-2)

LC50 96 h - Fish [mg/l]	125 - 600 mg/l
EC50 48h - Daphnia magna [mg/l]	73 - 226 mg/l

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### Boron trifluoride (7637-07-2)

EC50 72h - Algae [mg/l]	17.5 mg/l
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### 12.2. Persistence and degradability

#### Boron trifluoride (7637-07-2)

Assessment	Not applicable for inorganic products.
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### 12.3. Bioaccumulative potential

#### Boron trifluoride (7637-07-2)

Partition coefficient n-octanol/water (Log Pow)	Not applicable for gas mixtures.
Partition coefficient n-octanol/water (Log Kow)	Not applicable for inorganic products.
Assessment	No data available.

### 12.4. Mobility in soil

#### Boron trifluoride (7637-07-2)

Assessment	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.
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### 12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

### 12.6. Endocrine disrupting properties

Assessment : The substance/mixture has no endocrine disrupting properties.

### 12.7. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems. Not classified as PMT or vPvM.

Effect on the ozone layer : No effect on the ozone layer.

Effect on global warming : No known effects from this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction. Contact supplier if guidance is required. Must not be discharged to atmosphere. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.eu> for more guidance on suitable disposal methods. Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 \*: Gases in pressure containers (including halons) containing hazardous substances.

Additional information : External treatment and disposal of waste should comply with applicable local and/or national regulations.

HP Code : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.  
HP6 - "Acute Toxicity:" waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.  
HP8 - "Corrosive:" waste which on application can cause skin corrosion.

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### 13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 1008	UN 1008	UN 1008	UN 1008	UN 1008
<b>14.2. UN proper shipping name</b>				
BORON TRIFLUORIDE	BORON TRIFLUORIDE	Boron trifluoride	BORON TRIFLUORIDE	BORON TRIFLUORIDE
<b>Transport document description</b>				
UN 1008 BORON TRIFLUORIDE, 2.3 (8), (C/D)	UN 1008 BORON TRIFLUORIDE, 2.3 (8)	UN 1008 Boron trifluoride, 2.3 (8)	UN 1008 BORON TRIFLUORIDE, 2.3 (8)	UN 1008 BORON TRIFLUORIDE, 2.3 (8)
<b>14.3. Transport hazard class(es)</b>				
2.3 (8)	2.3 (8)	2.3 (8)	2.3 (8)	2.3 (8)
		Not applicable		
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-C EmS-No. (Spillage): S-U	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

### 14.6. Special precautions for user

Special transport precautions

: Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers: - Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

#### Overland transport

Classification code (ADR) : 2TC  
Special provisions (ADR) : 373  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P200  
Mixed packing provisions (ADR) : MP9  
Portable tank and bulk container instructions (ADR) : (M)  
Tank code (ADR) : PxBH(M)

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Tank special provisions (ADR) : TA4, TT9, TT10  
Vehicle for tank carriage : AT  
Transport category (ADR) : 1  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36  
Special provisions for carriage - Operation (ADR) : S14  
Hazard identification number (Kemler No.) : 268  
Orange plates :



Tunnel restriction code (ADR) : C/D

### Transport by sea

Special provisions (IMDG) : 373  
Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P200  
Stowage category (IMDG) : D  
Stowage and handling (IMDG) : SW2  
Properties and observations (IMDG) : Non-flammable, toxic and corrosive gas. Forms dense white corrosive fumes in moist air. Reacts violently with water, evolving hydrogen fluoride, an irritating and corrosive gas apparent as white fumes. In the presence of moisture, highly corrosive to glass and most metals. Much heavier than air (2.35). Highly irritating to skin, eyes and mucous membranes.

### Air transport

PCA Limited quantities (IATA) : FORBIDDEN  
PCA limited quantity max net quantity (IATA) : FORBIDDEN  
PCA packing instructions (IATA) : FORBIDDEN  
PCA max net quantity (IATA) : FORBIDDEN  
CAO packing instructions (IATA) : FORBIDDEN  
CAO max net quantity (IATA) : FORBIDDEN  
Special provisions (IATA) : A2, A190  
ERG code (IATA) : 2CP

### Inland waterway transport

Classification code (ADN) : 2TC  
Special provisions (ADN) : 373  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EP, TOX, A  
Ventilation (ADN) : VE02  
Number of blue cones/lights (ADN) : 2

### Rail transport

Classification code (RID) : 2TC  
Special provisions (RID) : 373  
Limited quantities (RID) : 0  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P200  
Mixed packing provisions (RID) : MP9  
Portable tank and bulk container instructions (RID) : (M)  
Tank codes for RID tanks (RID) : PxBH(M)  
Special provisions for RID tanks (RID) : TU38, TE22, TE25, TA4, TT9, TT10, TM6  
Transport category (RID) : 1  
Special provisions for carriage - Loading, unloading and handling (RID) : CW9, CW10, CW36  
Hazard identification number (RID) : 268

### 14.7. Maritime transport in bulk according to IMO instruments

IBC code : Not applicable.

# Boron trifluoride

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### EU-Regulations

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

##### Council Regulation (EC) for the control of dual-use items

Not listed on the COUNCIL REGULATION (EC) of dual-use items.

##### VOC Directive (2004/42)

Restrictions on use : None.

##### Seveso Directive (Disaster Risk Reduction)

Seveso Directive : 2012/18/EU (Seveso III) : Listed.

Seveso III Part II (Named dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
Boron trifluoride	5	20

##### Explosives Precursors Regulation (EU 2019/1148)

Not listed on the Explosives Precursors list (EU)

Please see [https://home-affairs.ec.europa.eu/policies/internal-security/counter-terrorism-and-radicalisation/protection/legislation-chemicals-used-home-made-explosives\\_en](https://home-affairs.ec.europa.eu/policies/internal-security/counter-terrorism-and-radicalisation/protection/legislation-chemicals-used-home-made-explosives_en)

##### Drug Precursors Regulation (EC 273/2004)

Not applicable.

##### 15.1.2. National regulations

Ensure all national/local regulations are observed.

Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Council Directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work

Directive 2016/425/EEC on personal protective equipment

Directive 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX)

Only products that comply with the food regulations (EC) No. 1333/2008 and (EU) No. 231/2012 and are labelled as such may be used as food additives.

This Safety Data Sheet has been produced to comply with Regulation (EU) 2015/830.

#### 15.2. Chemical safety assessment

A CSA has been carried out.

# Boron trifluoride

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### SECTION 16: Other information

#### Indication of changes:

Safety data sheet in accordance with commission regulation (EU) No 2020/878.

#### Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	ATE - Acute Toxicity Estimate
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAO	Cargo Aircraft only / Cargo Aircraft only
CAS-No.	Chemical Abstracts Service number
CLP	CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	CSA - Chemical Safety Assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC	European Inventory of Existing Commercial Chemical Substances
ED	Endocrine disruptor
EINECS	EINECS - European Inventory of Existing Commercial Chemical Substances
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PCA	Passenger and Cargo Aircraft / Passenger and Cargo Aircraft
PNEC	Predicted No-Effect Concentration
PPE	PPE - Personal Protection Equipment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

# Boron trifluoride

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:	
RMM	RMM - Risk Management Measures
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
STOT-RE	Specific Target Organ Toxicity-Repeated Exposure
STOT-SE	Specific Target Organ Toxicity-Single Exposure
UFI	Unique Formula Identifier
UN	UN - United Nations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
MiM	Mixture in Mixture [MiM]
MAK	maximum workplace concentration
vPvM	Very persistent and very mobile
PMT	Persistent, mobile and toxic
IARC	International Agency for Research on Cancer
JArbSchG	Act on the Protection of Young People in Employment (JArbSchG)
MuSchG	Act on the Protection of Working Mothers (MuSchG)
TALuft	Technical Instructions on Air Quality Control (TA Luft)
VbF	Ordinance on Flammable Liquids (VbF)
TWA	Time Weighted Average
TLV	Threshold Limit Value
RMM	Risk Management Measures
ThOD	Theoretical oxygen demand (ThOD)
PPE	Personal protective equipment
EWC	European waste catalogue

Training advice : Users of breathing apparatus must be trained. Ensure operators understand the toxicity hazard.

Other information : Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP). Key literature references and sources of data are maintained in EIGA Doc 169 : 'Classification and Labelling Guide', downloadable at <http://www.Eiga.eu> .

Full text of H- and EUH-statements:	
Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

# Boron trifluoride

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:	
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H280	Contains gas under pressure; may explode if heated.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
EUH014	Reacts violently with water.
EUH071	Corrosive to the respiratory tract.

Full text of use descriptors	
ERC2	Formulation into mixture
ERC4	Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC5	Use at industrial site leading to inclusion into/onto article
ERC6a	Use of intermediate
PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4	Chemical production where opportunity for exposure arises
PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

The classification complies with  
DISCLAIMER OF LIABILITY

: ATP 12  
: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Safety Data Sheet (SDS), EU AT

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

### Annex to the safety data sheet

This Annex documents the Exposure Scenarios (ESs) related to the identified uses of the registered substance. The ESs detail protective measures for workers and the environment in addition to those described in sections 7, 8, 11, 12 and 13 of the SDS that are required to ensure that the potential exposure to workers and the environment remains within acceptable levels for each of the identified uses.

#### Table of contents of the Annex

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

### 1. EIGA007-1: Industrial uses, closed contained conditions

#### 1.1. Title section

##### Industrial uses, closed contained conditions

ES Ref.: EIGA007-1  
Version: 1.0

Processes, tasks, activities covered	Industrial uses, including product transfers and associated laboratory activities within different closed or contained systems
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Environment	Use descriptors
CS01	ERC2, ERC4, ERC5, ERC6a

Worker	Use descriptors
CS02	PROC1
CS03	PROC2
CS04	PROC3
CS05	PROC4
CS06	PROC8b
CS07	PROC9

Assessment method	ECETOC TRA 2.0
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#### 1.2. Conditions of use affecting exposure

##### 1.2.1. Control of environmental exposure: ERC2, ERC4, ERC5, ERC6a

ERC2	Formulation into mixture
ERC4	Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC5	Use at industrial site leading to inclusion into/onto article
ERC6a	Use of intermediate

Product (article) characteristics	
Physical form of product	Liquefied gas
Concentration of substance in product	≤ 100 %

Amount used, frequency and duration of use (or from service life)	
The actual tonnage handled per site is not considered to influence the immissions as such for this scenario as there is practically no release	

Technical and organisational conditions and measures	
No additional requirement	

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

Ensure operatives are trained to minimise releases	
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Conditions and measures related to sewage treatment plant	
Not applicable as there is no release to wastewater	

Conditions and measures related to treatment of waste (including article waste)	
See section 13 of the SDS. No additional information	

### 1.2.2. Control of worker exposure: PROC1

PROC1	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
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Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	≤ 100 %

Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≤ 8 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Personal protection measures have to be applied in case of potential exposure only.	

Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor use	

### 1.2.3. Control of worker exposure: PROC2

PROC2	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
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Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

Concentration of substance in product	≤ 100 %
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Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≥ 4 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Fill containers at dedicated fill points supplied with local extract ventilation. Drain down and flush system prior to equipment break-in or maintenance. See sections 2 and 7 of the SDS.	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Wear a respirator providing a minimum efficiency of (%):	95 Personal protection measures have to be applied in case of potential exposure only.
Use suitable eye protection. Wear chemically resistant protective gloves. Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin	Personal protection measures have to be applied in case of potential exposure only.

Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor or outdoor use	

### 1.2.4. Control of worker exposure: PROC3

PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
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Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	≤ 100 %

Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≥ 4 h/day
Covers frequency up to:	5 days/week

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Fill containers at dedicated fill points supplied with local extract ventilation. Drain down and flush system prior to equipment break-in or maintenance. See sections 2 and 7 of the SDS.	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Wear a respirator providing a minimum efficiency of (%):	95 Personal protection measures have to be applied in case of potential exposure only.
Use suitable eye protection. Wear chemically resistant protective gloves. Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin	Personal protection measures have to be applied in case of potential exposure only.

Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor or outdoor use	

### 1.2.5. Control of worker exposure: PROC4

PROC4	Chemical production where opportunity for exposure arises
-------	---

Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	≤ 100 %

Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≥ 4 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Fill containers at dedicated fill points supplied with local extract ventilation. Drain down and flush system prior to equipment break-in or maintenance. See sections 2 and 7 of the SDS.	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Wear a respirator providing a minimum efficiency of (%):	95 Personal protection measures have to be applied in case of potential exposure only.

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

Use suitable eye protection. Wear chemically resistant protective gloves. Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin	Personal protection measures have to be applied in case of potential exposure only.
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Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor or outdoor use	

### 1.2.6. Control of worker exposure: PROC8b

PROC8b	Transfer of substance or mixture (charging and discharging) at dedicated facilities
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Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	≤ 100 %

Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≥ 4 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Fill containers at dedicated fill points supplied with local extract ventilation. Drain down and flush system prior to equipment break-in or maintenance. See sections 2 and 7 of the SDS.	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Wear a respirator providing a minimum efficiency of (%):	95 Personal protection measures have to be applied in case of potential exposure only.
Use suitable eye protection. Wear chemically resistant protective gloves. Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin	Personal protection measures have to be applied in case of potential exposure only.

Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor or outdoor use	

### 1.2.7. Control of worker exposure: PROC9

PROC9	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
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# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

Product (article) characteristics	
Physical form of product	See section 9 of the SDS, No additional information
Concentration of substance in product	≤ 100 %

Amount used (or contained in articles), frequency and duration of use/exposure	
The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario. Instead, the combination of the scale of operation and level of containment/automation (as reflected in the technical conditions) is the main determinant of the process-intrinsic emission potential.	
Exposure duration	≥ 4 h/day
Covers frequency up to:	5 days/week

Technical and organisational conditions and measures	
Handle product within a closed system. Provide extract ventilation to points where emissions could occur. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Fill containers at dedicated fill points supplied with local extract ventilation. Drain down and flush system prior to equipment break-in or maintenance. See sections 2 and 7 of the SDS.	
Ensure operatives are trained to minimise exposure	

Conditions and measures related to personal protection, hygiene and health evaluation	
Wear a respirator providing a minimum efficiency of (%):	95 Personal protection measures have to be applied in case of potential exposure only.
Use suitable eye protection. Wear chemically resistant protective gloves. Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin	Personal protection measures have to be applied in case of potential exposure only.

Other conditions affecting workers exposure	
Assumes use at not more than 20°C above ambient temperature.	
Indoor or outdoor use	

### 1.3. Exposure estimation and reference to its source

#### 1.3.1. Environmental release and exposure: ERC2, ERC4, ERC5, ERC6a

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed

#### 1.3.2. Worker exposure: PROC1

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Long term - Local - Inhalation	0.028 mg/m <sup>3</sup>		0.028

# Boron trifluoride

## Annex to the safety data sheet: Exposure scenario

Reference number: EIGA007 CAS-No.: 7637-07-2 Product form: Substance Physical state: Gas

### 1.3.3. Worker exposure: PROC2

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Long term - Local - Inhalation	0.706 mg/m <sup>3</sup>	Indoor with LEV 90%	0.706

### 1.3.4. Worker exposure: PROC3

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Long term - Local - Inhalation	0.848 mg/m <sup>3</sup>	ECETOC TRA 2.0; Indoor with LEV 90%	0.848

### 1.3.5. Worker exposure: PROC4

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Long term - Local - Inhalation	0.848 mg/m <sup>3</sup>	ECETOC TRA 2.0; Indoor with LEV 90%	0.848

### 1.3.6. Worker exposure: PROC8b

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

### 1.3.7. Worker exposure: PROC9

Since the product has corrosive properties, dermal exposure has to be minimised as far as technically feasible. A DNEL for dermal effects has not been derived. Thus, dermal exposure is not assessed in this exposure scenario

Route of exposure and type of effects	Exposure estimate	Assessment conditions	RCR
Long term - Local - Inhalation	0.565 mg/m <sup>3</sup>	ECETOC TRA 2.0; Indoor with LEV 90%; exposure <1 h/day	0.565

## 1.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

### 1.4.1. Environment

Guidance - Environment	Check that RMMs and OCs are as described above or of equivalent efficiency
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### 1.4.2. Health

Guidance - Health	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. For scaling see : <a href="http://www.ecetoc.org/tra">http://www.ecetoc.org/tra</a>
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End of document