Safety Data Sheet

Boron Trichloride

PurityPlus Gases
6331 East 30th Street
P.O. Box 19907
Indianapolis, IN 46219-0907
317.562.1483 (tel)
317.562.1484 (fax)

Section 1: Product and Company Identification

PurityPlus Gases
6331 East 30th Street
P.O. Box 19907
Indianapolis, IN 46219-0907
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Product Code: Boron Trichloride

Section 2: Hazards Identification



Danger

Hazard Classification:

Acute Gas Inhale Toxicity (Category 2)
Acute Oral Toxicity (Category 2)
Eye Effects (Category 1)
Gases Under Pressure
Skin Corrosion (Category 1.B)

Hazard Statements:

Causes serious eye damage
Causes severe skin burns and eye damage
Contains gas under pressure; may explode if heated
Fatal if inhaled
Fatal if swallowed

Precautionary Statements

Prevention:
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
[In case of inadequate ventilation] wear respiratory protection.
Do not breathe dust/fume/gas/mist/ vapors/spray..
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing, eye protection and face protection.

Response:
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Immediately call a poison center or doctor.

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Specific treatment is urgent.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Protect from sunlight.
Store locked up.

Disposal:
Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #
10294-34-5

Chemical Substance	Chemical Family	Trade Names
BORON TRICHLORIDE	non-metallic, halides	BORON CHLORIDE; CHLORURE DE BORE; TRICHLOROBORANE; TRICHLOROBORON; BORANE, TRICHLORO-; BORON CHLORIDE (BCL3); UN 1741; BCL3

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.	Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	If swallowed, drink plenty of water, DO NOT induce vomiting. Get immediate medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen. Avoid gastric lavage or emesis.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Non-flammable. Use suitable extinguishing media for surrounding fire.	Halogenated compounds	▪ Any self-contained breathing apparatus with a full facepiece. ▪ Any self-contained breathing apparatus with a full facepiece. ▪ Protective material types: butyl rubber, neoprene, polyvinyl chloride (PVC), polyethylene

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet.	Effects on environment unknown, avoid contamination of environment.	Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside container.

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Methods for Cleanup	Other Information
Small spills: Flood with water. Large spills: Dike for later disposal.	Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

Section 7: Handling and Storage

Handling	Storage
SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30). Store in a well-ventilated area. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Store below 52 C. Store in a cool, dry place. Keep separated from incompatible substances.	Store and handle in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302).

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
BORON TRICHLORIDE: No occupational exposure limits established.

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any self-contained breathing apparatus with a full facepiece.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Colorless	Colorless	N/A	Fuming liquid, gas	Pungent odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
54.5 F (12.5 C)	-161 F (-107 C)	131.7 kPa @ 21.1 C	4.03 (Air=1)	1.349 @ 11 C	Decomposes/reacts	Acidic	Not available	Not applicable	0.342 cP @ 0 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
117.16	B-CL3	Not available	Not available	100%	Not applicable	Soluble: Decomposes: alcohol

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
May react with evolution of heat on contact with water. Releases corrosive gases.	May react with evolution of heat on contact with water. Releases corrosive gases.	Combustible materials, amines

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Hazardous Decomposition Products	Possibility of Hazardous Reactions
Chlorine; on contact with water or moisture: boron compounds, hydrochloric acid	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
LC50, 1 hr, rat = 2541 ppm	Not established	Burns

Eye Irritation	Skin Irritation	Sensitization
Burns	Burns	Respiratory tract burns, skin burns, eye burns, mucous membrane burns

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not available	Not established	Not established	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertibrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D003.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Boron trichloride	UN1741	2.3	C	2.3; 8	Forbidden	Forbidden	Toxic-Inhalation Hazard Zone C

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Boron trichloride	UN1741	2.3; 8	C

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	500 LBS TPQ	500 LBS RQ

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	No	Yes	Yes

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SARA 372.65

BORON TRICHLORIDE

OSHA Process Safety

2500 LBS TQ

State Regulations

CA Proposition 65
Not regulated.

Canadian Regulations

WHMIS Classification
AD1E

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating
HEALTH=3 FIRE=0 REACTIVITY=2

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

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