

INTERNATIONAL_GASES_AND_CHEMICALS_LTD

MATERIAL SAFETY DATA SHEETS

DATE: 10/02/97

SUPPLIER ADDRESS: SPEEDWELL RD
PARKHOUSE EAST
NEWCASTLE-U-LYME

EMERGENCY PHONE: (178) 256-5556
NUMBER

1. CHEMICAL PRODUCT

PRODUCT NAME: BORON TRICHLORIDE

SYNONYMS: Trichloroborane

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS#	Concentration	Exposure Limits (PPM)			
				ACGIH TLV	OSHA PEL	MAC	Other STEL
BORON TRICHLORIDE	BCl3	10294-34-5	100%	NE	NE	NE	NE

Note: NE = NONE ESTABLISHED

3. HAZARD IDENTIFICATION

*** EMERGENCY OVERVIEW ***

Corrosive liquid and gas under pressure.
Can cause eye, skin, and respiratory tract burns.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation , Eye , Skin

ACUTE EFFECTS: This material will severely irritate and damage the skin, eyes, mucous membranes and upper respiratory tract. If inhaled, severe irritation of the nose, throat and upper respiratory tract will result. Prolonged contact with the eyes will result in impaired vision or complete loss of vision.

CHRONIC EFFECTS: None known

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Cardiovascular problems.
Respiratory problems.

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US Only):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

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_4._FIRST_AID_MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes.

SKIN CONTACT: Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

INGESTION: None

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

_5._FIRE_FIGHTING_MEASURES

FLASH POINT: Nonflammable

AUTOIGNITION TEMPERATURE: N/Ap

FLAMMABLE LIMITS: Nonflammable
LOWER:
UPPER:

EXTINGUISHING MEDIA: Use what is appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing.

HAZARDOUS COMBUSTION PRODUCTS: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinder rupture may occur under fire conditions. This material reacts with water and moisture. If water is introduced to boron trichloride while in a closed container or cylinder, pressure will build and an explosion will occur.

_6._ACCIDENTAL_RELEASE_MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Liquid spills should be diked or flushed with water spray.

SPECIALIZED EQUIPMENT: Neutralize spills

with soda ash or lime.

_7._HANDLING_AND_STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation.

PERSONAL PROTECTION

EYE/FACE PROTECTION: Safety glasses

SKIN PROTECTION: Protective gloves.

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Acrid

PHYSICAL STATE: Liquefied gas.

VAPOR PRESSURE: @ 20 deg.C: 4.4 psig

VAPOR DENSITY (AIR=1): 4.04

BOILING POINT (C): 12.5

SOLUBILITY IN WATER: Reacts

SPECIFIC GRAVITY (H2O=1): Gas

EVAPORATION RATE: N/Ap

ODOR THRESHOLD: N/Av

10._STABILITY_AND_REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Strong oxidizers, caustics, water, alcohol, oxygen,

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phosphine, fats, grease, and organic materials.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Hydrolysis produces boric acid and hydrochloric acid.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): 2541 ppm, rat 1 hour.

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/Ap

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Boron trichloride

HAZARD CLASS: 2.3 (poison), Hazard Zone C

IDENTIFICATION NUMBER: UN1741

REPORTABLE QUANTITIES: None

LABELING: POISON GAS, CORROSIVE

ADR/RID (EU Only): Class 2, 1tc

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for this material is 500 lbs.

EU NUMBER: 233-658-4

NUMBER IN ANNEX 1 OF DIR 67/548: Not listed in annex 1.

EU CLASSIFICATION: N/Av

R: 14-26/28-34

S: 9-26-28-36-45

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS:

N/Ap - Not Applicable

N/Av - Not Available

SA - Simple Asphyxiant

NE - None Established

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