

Material Safety Data Sheet

Boron tribromide

ACC# 26399

Section 1 - Chemical Product and Company Identification

MSDS Name: Boron tribromide

Catalog Numbers: AC295200000, AC295200250, AC295201000, AC365210000, AC365210250, AC365211000 AC365211000

Synonyms: Tribromoborane; Tribromoboron; Boron bromide.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10294-33-4	Boron tribromide	>99	233-657-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless fuming liquid.

Danger! Reacts violently and/or explosively with water, steam or moisture. May be fatal if inhaled or swallowed. Causes burns by all exposure routes.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: May be fatal if swallowed. May cause severe and permanent damage to the digestive tract.

Inhalation: May be fatal if inhaled. Causes chemical burns to the respiratory tract. Combines with moisture in the lungs to form hydrobromic acid.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Use carbon dioxide or dry chemical. DO NOT USE WATER! Do NOT get water inside containers.

Flash Point: None.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Isolate area and deny entry. Provide ventilation. Do not expose spill to water. Evacuate unnecessary personnel. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Store protected from light. Discard contaminated shoes. Keep from contact with moist air and steam. Use only with adequate ventilation.

Storage: Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep away from metals. Poison room locked. Do not store in metal containers. Do not store near alkaline substances. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Boron tribromide	1 ppm Ceiling	none listed	none listed
Hydrogen bromide	2 ppm Ceiling	30 ppm IDLH	3 ppm TWA; 10 mg/m ³ TWA

OSHA Vacated PELs: Boron tribromide: No OSHA Vacated PELs are listed for this chemical. Hydrogen bromide: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Fuming Liquid

Appearance: clear amber - clear - colorless

Odor: pungent odor - irritating odor - acrid odor

pH: Not available.

Vapor Pressure: 40 mm Hg @ 14 deg C

Vapor Density: 8.6

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 91 deg C @ 760 mm Hg

Freezing/Melting Point: -46 deg C

Decomposition Temperature: Not available.

Solubility: Reacts.

Specific Gravity/Density: 2.6500 g/ml

Molecular Formula: BBr₃

Molecular Weight: 250.52

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Reacts violently with water to yield hydrogen bromide.

Conditions to Avoid: Light, moisture, excess heat, confined spaces.

Incompatibilities with Other Materials: Potassium, sodium, water, metals, strong bases.

Hazardous Decomposition Products: Hydrogen bromide, oxides of boron.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 10294-33-4: ED7400000

CAS# 10035-10-6: MW3850000

LD50/LC50:

Not available.

CAS# 10035-10-6:

Inhalation, mouse: LC50 = 814 ppm/1H;

Inhalation, rat: LC50 = 2858 ppm/1H;

Carcinogenicity:

CAS# 10294-33-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 10035-10-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	BORON TRIBROMIDE	BORON TRIBROMIDE
Hazard Class:	8	8
UN Number:	UN2692	UN2692
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 10294-33-4 is listed on the TSCA inventory.

CAS# 10035-10-6 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10035-10-6: immediate, delayed.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 10035-10-6 is considered highly hazardous by OSHA.

STATE

CAS# 10294-33-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 10035-10-6 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+ C

Risk Phrases:

R 14 Reacts violently with water.

R 26/28 Very toxic by inhalation and if swallowed.

R 35 Causes severe burns.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 9 Keep container in a well-ventilated place.
S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 10294-33-4: No information available.
CAS# 10035-10-6: 1

Canada - DSL/NDSL

CAS# 10294-33-4 is listed on Canada's DSL List.
CAS# 10035-10-6 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, E, F.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 10294-33-4 is listed on the Canadian Ingredient Disclosure List.
CAS# 10035-10-6 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 12/16/1998

Revision #4 Date: 7/12/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.