

MSDS Number: **B3708** * * * * * *Effective Date: 10/16/06* * * * * * *Supercedes: 08/10/04*



Material Safety Data Sheet

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

Boric Anhydride

1. Product Identification

Synonyms: Boron Trioxide; Boron Oxide; Boron Sesquioxide

CAS No.: 1303-86-2

Molecular Weight: 69.62

Chemical Formula: B₂O₃

Product Codes: 1176, 5314

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous	-----	-----
-----	-----	-----
Boron Oxide	1303-86-2	90 - 100%
Yes		

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

Repeated ingestion of small amounts may cause dryness of mucous membranes, appearance of a red tongue, hair loss, cracked lips, swelling around eyes and irritability. Prolonged ingestion or skin contact can sometimes progress to anorexia, vomiting, mild diarrhea, skin rash, convulsions and low blood cell count. The kidneys may be damaged because of repeated excretion.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not expected to be a fire hazard.

Explosion:

No information found.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Use water carefully as material will react with water to form acidic solution.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Material is corrosive to metals in the presence of oxygen. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):
15 mg/m³ (TWA), Boron Oxide, Total Dust

-ACGIH Threshold Limit Value (TLV):
10 mg/m³ (TWA), Boron Oxide

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder.

Odor:

Odorless.

Solubility:

Moderate (1-10%)

Specific Gravity:

1.85 @ 25C/4C

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

1500C (2732F)

Melting Point:

450C (842F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

0 @ 25C (77F)

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Reacts slowly with water to release heat and form boric acid.

Hazardous Decomposition Products:

No information found.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

May react violently on contact with bromine pentafluoride. Material is corrosive to metals in the presence of oxygen.

Conditions to Avoid:

Moisture, dusting and incompatibles.

11. Toxicological Information

Oral mouse LD50: 3163 mg/kg.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	

Boron Oxide (1303-86-2)	No	No	
None			

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
-----
Ingredient                TSCA  EC   Japan
Australia
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Boron Oxide (1303-86-2)   Yes   Yes  Yes
Yes

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-----\Chemical Inventory Status - Part 2\-----
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Ingredient                Korea  DSL  NDSL  --Canada--
Phil.
-----
Boron Oxide (1303-86-2)   Yes   Yes  No
Yes

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-----\Federal, State & International Regulations - Part 1\-----
-----
313-----
Ingredient                -SARA 302-  -----SARA
Chemical Catg.           RQ      TPQ      List
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Boron Oxide (1303-86-2)	No	No	No
No			
-----\Federal, State & International Regulations - Part 2\-----			
			-RCRA-
TSCA-			-
Ingredient	CERCLA	261.33	8 (d)
-----	-----	-----	-----
-			
Boron Oxide (1303-86-2)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **2** Flammability: **0** Reactivity: **0**

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Label Precautions:

- Avoid breathing dust.
- Keep container closed.
- Avoid contact with eyes, skin and clothing.
- Use only with adequate ventilation.
- Wash thoroughly after handling.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3.

Disclaimer:

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