

Borates Plus

1101 S. Orange Blossom Trail
Apopka, FL 32703

Safety Data Sheet
Hydroboracite

Revised: 4/23/2015

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Product identifier

Commercial Name: Hydroboracite 10.5% Boron
Chemical Name: Hydroboracite
CAS No: 12046-12-7
Chemical Family: Inorganic Borates

Substance's identified relevant applications and unadvisable uses:

Advisable uses:

- Agriculture

Uses advised against:

- Not specified

Supplier information from the Safety Information Sheet:

Producer: Borates Plus
1101 S. Orange Blossom Trail
Apopka, FL 32703
Tel: 724-332-1446 Fax: 440-398-0476

Emergency line: CHEMTREC - Within USA and Canada: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Hydroboracite is a brown odorless, granular substance that is not flammable, combustible, or explosive, and it presents no unusual hazard if involved in a fire. Hydroboracite presents little or no hazard (to humans) and has low acute oral and dermal toxicities.

Classification of the substance

GHS-US classification –

Health: 0
Fire: 0
Reactivity: 0

Label elements:
WARNING

H316: Causes mild skin irritation
H320: Causes eye irritation
P103: Read label before use
P264: Wash hands thoroughly after handling

3. COMPOSITION

Chemical Name: Hydroboracite
CAS No: 12046-12-7
Chemical Formula: $\text{CaMgB}_8\text{O}_{11} \cdot 6(\text{H}_2\text{O})$
Chemical Family: Inorganic Borates

4. FIRST-AID MEASURES

IF INHALED: No specific treatment is necessary since Hydroboracite is not likely to be hazardous by inhalation. Prolonged exposure to dust levels in excess of regulatory limits should always be avoided.

IF IN EYES: Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

IF ON SKIN: Wash with soap and water.

IF SWALLOWED: Swallowing less than one teaspoon will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

NOTE TO PHYSICIANS: Observation only is required for adult ingestion of less than 6 grams of Hydroboracite. For ingestion in excess of 6 grams, maintain adequate kidney function and force fluids. Gastric lavage is recommended for symptomatic patients only. Hemodialysis should be reserved for massive acute ingestion or patients with renal failure. Hydroboracite analyses of urine or blood are only useful for documenting exposure and should not be used to evaluate severity of poisoning or to guide treatment. (For further information: Litovitz T.L., Norman, S.A., Veltri, J.C. Annual Report of the American Association of Poison Control Centers Data Collection System. Am. J. Emerg. Med. 1986; 4:427-458)

5. FIRE-FIGHTING MEASURES

Fire Extinguishing Media: Use any means suitable for extinguishing fire.

Hazards: Not considered to be a fire hazard, because Hydroboracite is not flammable, combustible or explosive. The product is itself a flame retardant.

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

Flammability Classification (29CFR 1910.1200): Non-flammable solid.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protection, equipment and emergency procedures:

Personal protection equipment: No personal protective equipment is needed to clean up land spills.

Emergency procedures: Unnecessary

Environment related precautions:

- Prevent product from entering sewers and watercourses.
- Place containers to eliminate collected residues according to the existing regulations.
- Hydroboracite is a water-soluble white powder that may cause damage to trees or vegetation by root absorption.

Methods and materials for containment and cleaning material:

Cleaning

Collect with a vacuum, broom, or shovel and use a container which meets the local regulations when discarding. Avoid polluting adjacent water when undergoing cleaning and the elimination of ground spills.

Spilling in water:

- Prevent the solution from being consumed or from polluting water or effluents.
- Hydroboracite will cause localized contamination of surrounding waters depending on the quantity dissolved. At high concentrations some damage to local vegetation, fish and other aquatic life may be expected.

Hydroboracite is a non-hazardous waste when spilled or disposed of, as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261).

7. HANDLING AND STORAGE

Precautions for safe handling: Handle the product far away from sewers, surface and underground water and water sources for human consumption.

Safe Storing Conditions:

- Though Hydroboracite does not require any special precautions, it is sensitive to moisture and will cake. Therefore, the bags should be kept tightly sealed and be stored indoors in a dry environment. Also, the bags should be rotated on a "first-in first-out" basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation.
- **Storage Temperature:** Room Temperature (72F)
- **Storage Pressure:** Atmospheric
- **Special Sensitivity:** Moisture (Caking)

8. PERSONAL PROTECTION

Occupational Exposure Limits: Hydroboracite is listed/regulated by OSHA, Cal OSHA and ACGIH as “Particulate Not Otherwise Classified” or “Nuisance Dust.”

- OSHA:PEL -15 mg/m³ total dust
-5 mg/m³ respirable dust
- ACGIH:TIV -10 mg/m³
- Cal OSHA:PEL -10 mg/m³
- PEL= “Permissible Exposure Limit”
- TLV= “Threshold Limit Value”

Engineering Controls: Use local exhaust ventilation to keep airborne concentrations of Hydroboracite dust below permissible exposure levels.

Individual Protection Measures: Where airborne concentrations are expected to exceed exposure limits, NIOSH/MSHA certified respirators must be used. Eye goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	grey, crystalline solid
Odor:	Odorless.
Solubility:	0.46% by wt. (25°C)
Bulk Density:	60 lbs/ft ³
Specific Gravity:	2.4

10. STABILITY AND REACTIVITY

Chemical stability: Hydroboracite is a stable product, but when heated it loses water, first forming Metaboric Acid (H₃BO₂), and on further heating it is converted into Boric Oxide (B₂O₃).

Incompatible Materials: Hydroboracite reacts as a weak acid which may cause corrosion of base metals. Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.

11. TOXICOLOGICAL INFORMATION

Ingestion (Acute Oral Toxicity): May cause gastrointestinal disturbances, nausea, vomiting, diarrhea.

Skin (Acute Dermal Toxicity): May cause skin redness or peeling with prolonged or repeated contact. Hydroboracite is not absorbed through intact skin.

Primary Skin Irritation Index: 0 (zero) Hydroboracite is non-corrosive.

Eye: Abrasive effects of dust may cause redness and blurred vision.

Inhalation: Dust may irritate upper respiratory tract (nose, throat)

Chronic Effects: No information available.

12. ECOLOGICAL INFORMATION

Phytotoxicity: Although boron is an essential micronutrient for healthy growth of plants, it can be harmful to boron-sensitive plants in higher quantities. Care should be taken to minimize the amount of Hydroboracite released to the environment.

Fish Toxicity:

Rainbow Trout (*S. gairdneri*)

24 day LC50=150.0 mg B/L

36 day NOEC-LOEC=0.75-1 mg B/L

Goldfish (*Carassius auratus*)

7 day NOEC-LOEC=26.50 mg B/L

3 day LC50=178 mg B/L

Persistence/Degradation: Boron is naturally occurring and ubiquitous in the environment.

Soil Mobility: Hydroboracite is soluble in water and is leachable through normal soil.

13. DISPOSAL CONSIDERATIONS

Disposal Guidance: Small quantities of Hydroboracite can usually be disposed of at Municipal Landfill sites. No special disposal treatment is required, but refer to state and local regulations for applicable site-specific requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such products should be re-used for an appropriate application. RCRA (40 CFR 261): Hydroboracite is not listed under any sections of the Federal Resource Conservation and Recovery Act (RCRA).

14. TRANSPORT INFORMATION

DOT Hazardous Material Classification: Hydroboracite is not a U.S. Department of Transportation (DOT) Hazardous Material.

DOT Hazardous Substances Classification: Hydroboracite is not a DOT Hazardous Substance.

International Transportation: Hydroboracite has no U.N. number and is not regulated under any international rail, highway, water or air transport regulations.

15. REGULATORY INFORMATION

RCRA: Hydroboracite is not listed as a hazardous waste under any sections of the Resource Conservation and Recovery Act or regulations (40 CFR 261 et seq.)

Superfund: CERCLA/SARA. Hydroboracite is not listed under CERCLA (the Comprehensive Environmental Response Compensation and Liability Act) or its 1986 amendments, SARA (Superfund Amendments and Reauthorization Act), including substances listed under Section 313 of SARA, Toxic Chemicals, 42 USC 11023, 40 CFR 372.65; Section 302 of SARA, Extremely Hazardous Substances, 42 USC 11002, 40 CFR 355; or the CERCLA Hazardous Substances list, 42 USC 9604, 40 CFR 302.

Safe Drinking Water Act: Hydroboracite is not regulated under the SDWA, 42 USC 300g-1, 40 CFR 141 et seq. Consult state and local regulations for possible water quality advisories regarding boron. Clean Water Act (Federal Water Pollution Control Act): 33 USC 1251 et seq. (a) Hydroboracite is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314.

(b) It is not on the Section 307 List of Priority Pollutants.

(c) It is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.

IARC: The International Agency for Research on Cancer (of the World Health Organization) does not list or categorize Hydroboracite as a carcinogen.

OSHA Carcinogen: Hydroboracite is not listed.

California Proposition 65: Hydroboracite is not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

Federal Food, Drug and Cosmetic Act: Pursuant to 21 CFR 175.105, 176.180 and 181.30, Hydroboracite is approved by the FDA for use in adhesive components of packaging materials, as a component of paper coatings on such materials, or for use in the manufacture thereof, which materials are expected to come in contact with dry food products.

CONEG Model Legislation: Hydroboracite meets all the CONEG requirements relating to heavy metal limitations on components of packaging materials.

16. OTHER INFORMATION

SDS updated on: 4-23-2015