

# BORON #10<sup>®</sup>

## SAFETY DATA SHEET

EFFECTIVE DATE: January 01, 2020

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

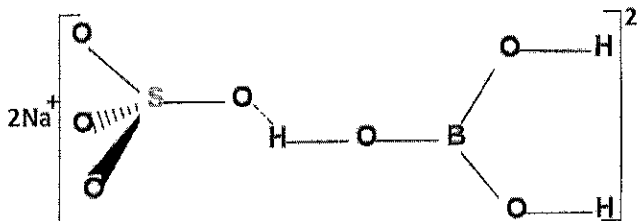
**PRODUCT NAME:** Boron #10<sup>®</sup>  
**Chemical Name/Synonym:** Sodium Polyborate

**MANUFACTURER:** InCide<sup>®</sup> Technologies, Inc.  
**ADDRESS:** 50 N 41<sup>st</sup> Ave  
Phoenix, AZ 85009

**EMERGENCY PHONE:** (602) 233-0756  
**CHEMTREC PHONE:** (800) 424-9300

**RECOMMENDED USE:** Flame retardant

**SECTION 1 NOTES:** BORON #10<sup>®</sup> is a registered trademark of InCide<sup>®</sup> Technologies, Inc.



### SECTION 2: HAZARDS IDENTIFICATION

**HAZARD OVERVIEW:** Sodium polyborate is a white, odorless, powdered substance that is not flammable, combustible, or explosive. It presents no unusual hazard if involved in a fire. Sodium polyborate presents little or no hazard to humans and has low acute oral and even lower dermal toxicity. Care should be taken to minimize the amount of sodium polyborate released to the environment to avoid ecological effects.

**OSHA Classification:**

Warning

Eye Irritation Hazard Category 2B: causes eye irritation

Wash hands thoroughly after handling. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, seek medical attention.

### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>SARA 313 REPORTABLE</u>
Sodium polyborate	183290-63-3	100%	No

### SECTION 4: FIRST AID MEASURES

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

**SKIN:** No treatment necessary with exposure to intact skin.

**INGESTION:** Small amounts (e.g., a teaspoonful) swallowed accidentally are not likely to cause effects. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

**INHALATION:** Occasional mild irritation of nose and throat may occur from inhalation of sodium polyborate dusts at levels greater than 10 mg/m<sup>3</sup>. Prolonged exposure to dust levels in excess of regulatory limits should always be avoided. No specific treatment is necessary.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Observation only is required for adult ingestion of a few grams of sodium polyborate. For ingestion of larger amounts, 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. Boron 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.

### SECTION 5: FIRE-FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Use extinguishing media that are appropriate to local circumstances and the surrounding environment.

**SPECIAL FIRE FIGHTING PROCEDURES:** None.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.

**SECTION 5 NOTES:** Sodium polyborate is not flammable, combustible, or explosive. The product itself is a flame retardant.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

**General:** Sodium polyborate is a water-soluble white powder that may cause damage to trees or vegetation by root absorption. (Refer to Ecological Information for specific information).

**Land Spill:** Vacuum, shovel, or sweep up sodium polyborate and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during clean up and disposal. No personal protective equipment is needed to clean up land spills.

**Water Spill:** Sodium polyborate may cause localized contamination of surrounding waters depending on the quantity dissolved in these waters. At high concentrations some damage to local vegetation, fish, and other aquatic life may occur.

**SECTION 6 NOTES:** Sodium polyborate is a non-hazardous waste when spilled or disposed of, as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261). (Refer to Regulatory Information for additional references and information regarding EPA and California regulations.)

### SECTION 7: HANDLING AND STORAGE

**HANDLING AND STORAGE:** No special handling precautions are required, but dry, indoor storage is recommended. To maintain package integrity and to minimize caking of the product, bags should be handled on a "first-in first-out" basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation.

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**OSHA PEL-TWA:** 15 mg/m<sup>3</sup> total sodium polyborate dust and 5 mg/m<sup>3</sup> respirable dust

**ACGIH TLV-TWA:** 2 mg/m<sup>3</sup> inhalable sodium polyborate particles and 3 mg/m<sup>3</sup> respirable particles

**CalOSHA PEL-TWA:** 10 mg/m<sup>3</sup> total sodium polyborate dust and 5 mg/m<sup>3</sup> respirable dust

**ENGINEERING CONTROLS AND VENTILATION:** Use local exhaust ventilation to keep airborne concentrations of Boron#10<sup>®</sup> dust below permissible exposure levels.

**RESPIRATORY PROTECTION:** Where airborne concentrations are expected to exceed exposure limits, NIOSH/MSHA certified respirators must be used.

**EYE PROTECTION:** Eye goggles are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

**SKIN PROTECTION:** Gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty.

**SECTION 8 NOTES:** Sodium polyborate is listed/regulated by OSHA, Cal OSHA, and ACGIH as "Particulate Not Otherwise Classified" or "Nuisance Dust." PEL: Permissible Exposure Limit, TLV: Threshold Limit Value, TWA: Time Weighted Average.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** White powder

**ODOR:** Odorless

**ODOR THRESHOLD:** Not applicable

**pH AS SUPPLIED:** 7.0 (2.0% solution) @ 25° C

**MELTING POINT/ FREEZING POINT:** 376.5°C

**BOILING POINT AND BOILING RANGE:** Not applicable

**FLASH POINT:** Not applicable: inorganic substance

**EVAPORATION RATE:** not applicable: non-volatile

**FLAMMABILITY:** Non-flammable; used as a flame retardant

**UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** Not applicable; non-flammable

**VAPOR PRESSURE (mmHg):** Negligible@ 20° C

**VAPOR DENSITY:** Not applicable

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**RELATIVE DENSITY:** Not applicable

**DENSITY:** 57-65 lb/ft<sup>3</sup> (poured)

**SOLUBILITY IN WATER:** Yes (7.46% at 77° F/25° C)

**PARTITION COEFFICIENT; n-octanol/water:** Not applicable: inorganic substance

**AUTO-IGNITION TEMPERATURE:** Not applicable: not self-heating

**DECOMPOSITION TEMPERATURE:** Not applicable melting point 376.5°C

**VISCOSITY:** Not applicable: solid substance

**EXPLOSIVE PROPERTIES:** Not explosive: does not contain chemical groups associated with explosive properties

**OXIDIZING PROPERTIES:** Not oxidizing: does not contain chemical groups associated with oxidizing properties

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.4 @ 25° C

**MOLECULAR WEIGHT:** 389.376

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### SECTION 10: STABILITY AND REACTIVITY

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**REACTIVITY:** Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard.

**STABILITY:** Sodium polyborate is a stable product and does not change under normal storage conditions.

**OTHER:** Wide fluctuations in temperature and humidity can result in caking. Care should therefore be taken to avoid such fluctuations during storage of the product.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** None with recommended conditions of use, storage, or heating.

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### SECTION 11: TOXICOLOGICAL INFORMATION

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**ROUTES OF EXPOSURE:** Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern as sodium polyborate is not absorbed through intact skin.

**SYMPTOMS RELATED TO THE PHYSICAL, AND CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS:** Products containing sodium polyborate are not intended for ingestion. Small amounts (e.g., a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing larger amounts may cause gastrointestinal symptoms. Sodium polyborate does not cause irritation to intact skin in normal industrial use. Occasional mild irritation of nose and throat may occur from inhalation of sodium polyborate dusts at levels greater than 10 mg/m<sup>3</sup>. Prolonged exposure to dust levels in excess of regulatory limits should always be avoided.

**DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE:** Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid and sodium borate dust. Human epidemiological studies indicate no effect on fertility in occupational populations with chronic exposures to borate dust and indicate no effect to a general population with high exposures to borates in the environment.

**ACUTE HEALTH HAZARDS:** Mild, temporary irritation of eyes, respiratory tract, and abraded skin.

**Oral LD<sub>50</sub> (rat):** 3,479 mg/kg of body weight

**Dermal LD<sub>50</sub> (rabbit):** >2000 mg/kg of body weight

**Inhalation LC<sub>50</sub> (rat):** >5.8 mg/L

**Dermal irritation/corrosivity:** 0 (Zero), sodium polyborate is non-corrosive.

**Eye irritation:** Draize test in rabbits produced mild eye irritation effects. Many years of occupational exposure history reflects no indication of human eye injury from exposure to sodium polyborate.

**CHRONIC HEALTH HAZARDS:** No chronic effects from sodium polyborate have been reported in the literature. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to inorganic borates and sodium borate dust.

**CARCINOGENICITY:** Sodium polyborate is not listed as a known or suspected carcinogen by OSHA, ACGIH, NTP, or IARC.

### SECTION 12: ECOLOGICAL INFORMATION

**Phytotoxicity:** Although boron is an essential micronutrient for healthy growth of boron-sensitive plants, it can be harmful to plants in higher quantities. Plants and trees can easily be exposed by root absorption to toxic levels of boron in the form of water-soluble borate leached into nearby soil or waters. Care should be taken to minimize the amount of borate product released to the environment.

**Fish Toxicity:** Boron naturally occurs in sea water at an average concentration of 5 mg boron/liter. In laboratory studies the acute toxicity (96-hr LC<sub>50</sub>) for under-yearling Coho salmon (*O. kisutch*) in sea water was determined to be 40 mg boron/L. Boron concentrations in fresh surface waters are generally less than 1 mg boron/L. Laboratory studies on the toxicity of freshwater fish were determined using early life (embryo-larval) stages in natural water. The results were:

Rainbow trout (*S. gairdneri*): 24-d LC<sub>50</sub> = 150 mg boron/L  
36-day NOEC/LOEC = 0.75 / 1 mg boron/L  
Goldfish (*C. auratus*): 7-day NOEC/LOEC = 26.5 mg boron/L  
3-day LC<sub>50</sub> = 178 mg boron/L

**Invertebrate Toxicity:** The acute toxicity (48-hour LC<sub>50</sub>) to Daphnids (*D. magna* Straus) in natural water is reported to be 133 mg boron/L. Estimated chronic toxicity (21-day NOEC/LOEC) values of 6/13 mg boron/L have also been reported.

### ENVIRONMENTAL FATE DATA

**Persistence/Degradation:** Boron and boron containing compounds, such as sodium polyborate is naturally occurring and ubiquitous in the environment.

**Soil Mobility:** The product is soluble in water and is leachable through normal soil.

**SECTION 12 NOTES:** No information is available on the ecological effects of sodium polyborate. The information in this section is based on other borates and is normalized to boron content. Boron is the element in sodium polyborate which is used to characterize borate product ecological effects.

### SECTION 13: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD:** Small quantities of sodium polyborate 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 product should, if possible, be re-used for an appropriate application. Avoid spillage into water and cover drains.

**RCRA HAZARD CLASS:** Sodium polyborate is not listed under any section of the Federal Resource Conservation and Recovery Act (RCRA).

**California Hazardous Waste Designation:** California identifies substances with acute LD<sub>50</sub>'s less than 5000 mg/kg as "hazardous wastes." Sodium polyborate is therefore a "hazardous waste" if spilled in California, and should be handled in accordance with applicable state regulations. Refer to Regulatory Information for additional information.

### SECTION 14: TRANSPORT INFORMATION

**U.S. DEPARTMENT OF TRANSPORTATION:** Sodium polyborate is not a US Department of Transportation (DOT) Hazardous Material.

**RCRA HAZARD CLASS:** Sodium polyborate is not listed under any section of the Federal Resource Conservation and Recovery Act (RCRA).

**California Hazardous Waste Designation:** California identifies substances with acute oral, acute dermal, or acute inhalation LD<sub>50</sub>'s less than 2,500, 4,300, or 10,000 mg/kg, respectively as "hazardous wastes." Additionally, the aquatic LC<sub>50</sub> is less than 500 mg/L, the chemical is considered a "hazardous waste." Sodium polyborate is therefore a "hazardous waste" if spilled in California, and should be handled in accordance with applicable state regulations. Refer to Regulatory Information for additional information.

### SECTION 15: REGULATORY INFORMATION

**TSCA No.:** Sodium polyborate does not appear on the EPA TSCA Inventory list.

**SUPERFUND: CERCLA/SARA:** Sodium polyborate is not listed under CERCLA (the Comprehensive Environmental Response Compensation and Liability Act) or its 1986 amendments, SARA, (the 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:** Sodium polyborate 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.) Sodium polyborate 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, 33 USC 1317, 40 CFR 129
- c.) It is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.

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**OSHA/CAL OSHA:** This MSDS document meets the requirements of both OSHA (29 CFR 1910.1200) and Cal OSHA (Title 8 CCR 5194(g)) hazard communication standards. Refer to Exposure Control/Personal Protection for regulatory exposure limits.

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

**NTP ANNUAL REPORT ON CARCINOGENS:** Sodium polyborate is not listed.

**OSHA CARCINOGEN:** Sodium polyborate is not listed.

**CALIFORNIA PROPOSITION 65:** Sodium polyborate tetrahydrate is not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

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### SECTION 16: OTHER INFORMATION

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**OTHER INFORMATION:** This SDS was finalized on January 01, 2020 and is compliant with OSHA HCS/HazCom 2012 Final Rule. This replaces the previous version dated January 26, 2018.

**DISCLAIMER:** Information presented herein has been compiled from sources considered dependable and is accurate and reliable to the best of our knowledge and belief, but it is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any law or regulation. It is the user's responsibility to determine the suitability of any material for a specific purpose and adopt necessary safety precautions. We make no warranty as to results to be obtained in using any material and, since conditions or use are not under our control, we must necessarily disclaim all liability with respect to use of any material supplied by us.