



ProTEKtor IID®

Technical Data Sheets

P: (780) 612- 7740

E: info@barriertek.com



A World Without Catastrophic Fire

ProTEKtor IID®

Technical Data Sheet

Water Based Coating

Intended Uses:

A fire-resistant and preserving inorganic borate designed for use with dimensional lumber to reduce flame spread, smoke development, and deterioration of wood.

Product Description:

An inorganic borate solution with termiticide, insecticide, fungicide, and fire resistant properties.

Date of Issue:

January 21, 2021

Technical Information	
Finish: Clear	Standard Colours: Green or Blue
Tint Range: N/A	Secondary Colours: N/A
Required Coverage: 15 grams / ft ²	Typical Volume Solids: 10%
Recommended # of Coats: 1 at recommended coverage	Typical Specific Gravity: 1.1
Flash Point: N/A	Application Thinner: DO NOT THIN
Clean Up: Warm to hot water	

Flame Spread Index: 20 (CAN/ULC S102)

Smoke Development Index: 10 (CAN/ULC S102)

Surface Preparation

Surfaces must be clean, dry, and free of dust and other debris. Remove any loose substrate pieces (i.e. wood, peeling paint). When treating bare wood surfaces with the intent of fire protection, no priming is required.

Application

Brush, roller, or suitable heavy-duty airless sprayer. (Recommended tips are .20-.30 inches.)

Dry times at 21°C and 50% (+ or – 10) R.H.

To Touch: 45 minutes – 2 hours

To Handle: 3 – 5 hours

To Overcoat: 6 hours minimum

Additional Data

For optimum adhesion and application performance, ensure that the temperature and relative humidity are between 15 and 25°C and 40-60% respectively, at the time of application and for four hours afterward.

The information provided is accurate and true to the best of our knowledge. However, no guarantee or warranty of any kind, expressed or implied, is given when the product is not applied by certified BarrierTek Inc. installers.

ProTEKtor IID®

Safety Data Sheet



01

Identification

Product Name:	ProTEKtor IID®
Product Code:	-----
Product Use:	Fire Retardant
Manufacturer's Name:	Genics Inc. 561 Acheson Rd. 53016 Hwy 60 Acheson, AB, Canada T7X 5A7
BarrierTek Phone:	(780) 612- 7740
Emergency Phone:	In case of hazardous materials or dangerous goods incident, spill, leak, fire, exposure, or accident, call CHEMTREC 24 hours at 1-800-242-9300 or 1-703-527-3887.
SDS Preparation Date:	January 2021

02

Hazard Identification Toxicological Properties

Emergency Overview:

ProTEKtor IID® is a clear or dyed (blue, green or orange), odorless liquid that is not flammable, combustible, or explosive and has low acute oral and dermal toxicity.

Potential Ecological Effects:

Large amounts of ProTEKtor IID® can be harmful to plants and other species. Therefore, releases into the environment should be minimized.

Routes of Exposure

Inhalation:

Occasional mild irritation to nose and throat may occur from inhalation of ProTEKtor IID®. Avoid producing very fine mists.

Eye Contact:

ProTEKtor IID® is non-irritating to eyes in normal use.

Skin Contact:

ProTEKtor IID® does not cause irritation to intact skin. Dermal exposure is not a concern because ProTEKtor IID® is poorly absorbed through intact skin.

Ingestion:

Products containing ProTEKtor IID® are not intended for ingestion. ProTEKtor IID® has a low acute toxicity. Small amounts (e.g. a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than one teaspoon may cause gastrointestinal symptoms.

Cancer:

ProTEKtor IID® is not a known carcinogen.

**Signs and Symptoms
of Exposure:**

Symptoms of accidental overexposure to ProTEKtor IID® might include nausea, vomiting, and diarrhea, with delayed effects of skin redness and peeling. These symptoms have been associated with the accidental overexposure to the chemically-related substance boric acid by ingestion or absorption through large areas of damaged skin.

Refer to Section 11 for details on toxicological data.

03

**Composition / Information on
Ingredients**

Ingredients	CAS #	% Percent (by weight)	Hazard Classification
Disodium Octaborate Tetrahydrate	12290-03-4	8-12	-

04

First Aid

Eye Contact:	Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.
Skin Contact:	No treatment is necessary because product is non-irritating.
Inhalation:	If symptoms such as nose or throat irritation are observed, move to a well-ventilated area.
Ingestion:	Swallowing small quantities (one teaspoon) will not harm healthy adults. If larger amounts are swallowed, drink two glasses of water and seek medical attention. Note to physicians: Observation only is required for adult ingestion.
General Guidance:	Observation only is required for adult ingestion in the range of one teaspoon of ProTEKtor IID®. 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. Refer to Section 11 for details.

05

Fire-Fighting Measures

General Hazard:	None, because ProTEKtor IID® is not flammable
Flammability classification (29 CFR 1910.1200):	Not combustible or explosive. The product is itself a flame retardant.
Extinguishing Media :	Any fire extinguishing media may be used on nearby fires.

06

Accidental Release Measures

General:	ProTEKtor IID® is a clear or dyed (blue, green, or orange) liquid that may, at high concentrations, cause damage to trees or vegetation by root absorption. (Refer to Ecological information, Section 12, for specific information.)
Land Spill:	Absorb ProTEKtor IID® with hydrophilic absorbent and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during cleanup and disposal.

Spillage Into Water:

Where possible, remove any intact containers from the water. Advise local water authorities that none of the affected water should be used for irrigation or as potable water until natural dilution returns the boron value to its normal environmental background level. (Refer to Sections 12, 13, and 15 for additional information.)

Additional Notes:

ProTEKtor IID® 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, Section 15, for additional references.)



07

Handling and Storage Procedures

Work and Hygiene Practices:

If during use of this product, dusts or particulates are generated, avoid breathing, and avoid skin or eye contact. Use ventilation and other engineering controls to minimize creation and exposure to dusts generated by this product.

Storage and Handling Practices:

Store this product in properly labeled, closed containers in a cool, dry location away from sources of intense heat. Store away from incompatible materials. (See Stability and Reactivity).

Protective Practices Ensuring Maintenance of Contaminated Equipment:	Follow practices indicated in Accidental Release Measures. Make certain that application equipment is locked and tagged-out safely, as necessary.
---	---

General

Storage Temperature:	Dry, indoor storage between 5°C and 35°C is recommended. Ambient recommended. Keep containers tightly closed.
---------------------------------	---

Storage Pressure:	Atmospheric
------------------------------	-------------

08

Exposure Controls: Personal Protection

Engineering Control:	N/A
Control Factor:	N/A
Personal Respirators:	N/A
Skin Protection:	Wear protective gloves.
Eye Protection:	Wear safety glasses or goggles.

09

Physical and Chemical Properties

Colour:	Green or Blue
Odor:	N/A
Safety Data:	Flash Point: N/A Ignition temperature: N/A Self-ignition temperature: N/A Lower explosion limit: N/A Upper explosion limit: N/A
Solubility:	Water miscible
Specific Gravity:	1.1g/mL
Vapour Pressure:	Negligible at 20°C
pH @ 20°C:	7.6 (10.0% solution)

10

Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage.
Incompatibilities:	Organic solvent
Materials to Avoid:	Strong acid or alkali and oxidant
Hazardous Decomposition Products:	Boron compounds produced

Toxicological Information

Acute Toxicity:	Low acute oral toxicity; LD50 in rats is > 20,000 mg/kg of body weight.
Ingestion:	
Skin/Dermal:	Low acute dermal toxicity; LD50 in rabbits is greater than 20,000 mg/kg of body weight. ProTEKtor IID® is poorly absorbed through intact skin.
Skin irritation:	Non-irritant
Eye irritation:	Draize test in rabbits produced mild eye irritation effects. Years of occupational exposure to ProTEKtor IID® indicates no adverse effects on the human eye; therefore ProTEKtor IID® is not considered to be a human-eye irritant in normal industrial use.
Sensitization:	ProTEKtor IID® not a skin sensitizer.
Human Data:	Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dusts and sodium borate dusts. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.
Carcinogenicity:	Anhydrous Disodium Octaborate is not found in the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA, and therefore is NOT considered to be, or suspected to be, a cancer-causing agent by these agencies.

Irritancy of Product:	Dusts generated by this product may be mildly irritating to contaminated tissues.
Sensitization of Product:	The product is not reported to cause sensitization effects in humans after prolonged or repeated exposures.
Reproductive Toxicity Information:	<p>Listed below is information concerning the effects of this product and its components on the human reproductive systems.</p> <p>Mutagenicity: This product is not reported to produce mutagenic effects in humans.</p> <p>Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.</p> <p>Teratogenicity: This product is not reported to cause teratogenic effects in humans.</p> <p>Reproductive Effects: This product is not reported to cause reproductive effects in humans.</p>
ACGIH Biological Exposure Indices (Beis):	Currently, there are no ACGIH Biological Exposure Indices associated with the components of this product.
Medical Conditions Aggravated by Exposure:	Skin disorders may be aggravated by exposure to this product. Overexposures to dusts of this product may aggravate respiratory conditions.
Recommendations to Physicians:	Treat symptoms and eliminate overexposure.

12

Ecological Information

Ecotoxicity Data

General:

Boron (B) is the element in disodium octaborate tetrahydrate (ProTEKtor IID®) which is used by convention to report borate product ecological effects. It occurs naturally in seawater at an average concentration of 5 mg B/L and generally occurs in freshwater at concentrations up to 1 mg B/L. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert disodium octaborate tetrahydrate into the equivalent boron (B) content, multiply by 0.2096.

Phytotoxicity:

Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants (e.g. grass and ornamentals) in high quantities. Care should be taken to minimize the amount of ProTEKtor IID® accidentally spilled and released into the environment.

Algal Toxicity:

Green algae, *Scenedesmus subspicatus* 96-hr EC10 = 24 mg B/L^t

Invertebrate Toxicity⁸:

Daphnids, *Daphnia magna* straus
24-hr EC50 = 242 mg B/L^t

Test substance based on:

^tsodium tetraborate (not diluted)

Fish Toxicity:

Seawater⁹:

Dab, *Limanda limanda*

96-hr LC50 = 74mg B/L^t

Freshwater¹⁰:

Rainbow trout, *S. gairdneri* (embryo-larval stage)

24-day, LC50 = 88mg B/L^t

32-day, LC50 = 54mg B/L^t

Goldfish, *Carassius auratus* (embryo-larval stage)

7-day, LC50 = 65mg B/L^t

3-day, LC50 = 71mg B/L^t

Environmental Fate Data**Persistence/
Degradation:**

Boron is naturally occurring and ubiquitous in the environment. ProTEKtor IID[®] decomposes in the environment to natural borate.

**Octanol/Water
Partition Coefficient:**

No value. In aqueous solution disodium octaborate tetrahydrate is converted substantially into undissociated boric acid.

Soil Mobility:

ProTEKtor IID[®] is a water soluble liquid and is leachable through normal soil.

13

Disposal Considerations

Preparing Wastes for Disposal:

Waste disposal must be in accordance with appropriate U.S. Federal, State and local regulations, or those of Canada and its Provinces. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

U.S. EPA Waste Number:

U.S. Epa Waste Number: Not applicable to wastes consisting only of this product.

Pesticide Disposal:

Pesticide wastes are considered to be acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use, according to the label instruction, contact the appropriate U.S. States Pesticide or Environment Control Agency, the Hazardous Waste Representative at the nearest EPA Regional Office, or the offices of Environment Canada for guidance.

Container Disposal:

If necessary, triple rinse (or equivalent), then offer the container for recycling or reconditioning. Alternatively, puncture the container and dispose of in a procedure approved by local authorities.

Disposal Guidance:	Small quantities of ProTEKtor IID® can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product are not recommended to be sent to landfills. Such products should, if possible, be used for an appropriate application.
RCRA (40 CFR 261):	ProTEKtor IID® is not listed under any sections of the Federal Resource Conservation and Recovery Act (RCRA).
NPRI (Canada):	ProTEKtor IID® is not listed on the Canadian National Pollutant Release Inventory.

Refer to Section 15 for additional regulatory information.

14

Transportation Information

**DOT Hazardous
Classification:**

Disodium octaborate tetrahydrate (ProTEKtor IID®) is not regulated by the U.S. Department of Transportation (DOT) and is therefore not considered a hazardous material/substance.

**TDG Canadian
Transportation:**

Disodium octaborate tetrahydrate (ProTEKtor IID®) is not regulated under Transportation of Dangerous Goods (TDG).

**WHMIS
Classification:**

Disodium octaborate tetrahydrate (ProTEKtor IID®) is classified as Class D – Division 2A under Canadian WHMIS guidelines.

**International
Transportation:**

Disodium octaborate tetrahydrate (ProTEKtor IID®) has no UN Number, and is not regulated under international rail, road, water or air transport regulations.

Regulatory Information

FIFRA:	ProTEKtor IID® is registered with the EPA (EPA Reg. No. 1624-39), in accordance with Section 3 of the Federal Professional, Fungicide and Rodenticide Act (FIFRA), as a pesticide product. Refer to EPA approved product label for additional product hazard and precautionary information.
Canadian PCP:	ProTEKtor IID® is registered with Health Canada's Pest Management Regulatory Agency (PMRA) under the Pest Control Products Act (PCP) (PCP Reg. No. 24091).
Chemical Inventory Listing:	Disodium octaborate tetrahydrate (ProTEKtor IID®), 12280-03-4, appears on several chemical inventory lists (including the EPA TSCA inventory, Canadian DSL, European EINECS and Korean lists) under the CAS No. representing the anhydrous form of this inorganic salt. South Korea 9312-3213
RCRA:	Disodium octaborate tetrahydrate is not listed as a hazardous waste under any sections of the Resource Conservation and Recovery Act (RCRA) or regulations (40 CFR 261 et seq).

California Proposition 65:	Disodium octaborate tetrahydrate (ProTEKtor IID®) is not listed on the Proposition 65 list of carcinogens or reproductive toxicants.
Superfund:	CERCLA/SARA. Disodium octaborate tetrahydrate is not listed under CERCLA or its 1986 amendments, SARA, 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 (SDWA):	Disodium octaborate tetrahydrate 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 compounds.
Clean Water Act (CWA) (Federal Water Pollution Control Act):	<p>a) Disodium octaborate tetrahydrate (ProTEKtor IID®) is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314.</p> <p>b) It is not on the Section 307 List of Priority Pollutants, 33 USC 1317, 40 CFR 129.</p> <p>c) It is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.</p>
Canadian Drinking Water Guideline:	An “Interim Maximum Acceptable Concentration” (IMAC) for boron is currently set at 5 mg B/L

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

NTP Biennial Report on Carcinogens: Disodium octaborate tetrahydrate is not listed.

OSHA Carcinogen: Disodium octaborate tetrahydrate is not listed.

Clean Air Act (Montreal Protocol): ProTEKtor IID® was not manufactured with and does not contain any Class I or Class II ozone-depleting substances.

16

Other Information

References:

1. 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. 4: 427-458 (1986).
2. Weir R J, Fisher R S, Toxicol. Appl. Pharmacol. 23: 351-364 (1972).
3. Fail et al., Fund. Appl. Toxicol. 17: 225-239 (1991).
4. Price et al., J. Am. Coll. Toxicol. 14: (2), 173 (Abst. P-17) (1995).
5. Murray F J, Regul. Toxicol. Pharmacol. (Dec. 1995).
6. National Toxicology Program (NTP)—Toxicology and carcinogenesis studies of boric acid in B6C3F1 mice, Tech. Report Ser. No. 324, U.S. Dept. of Health and Human Services. NIH Publ. No. 88-2580 (1987).
7. Whorton et al., Occup. Environ. Med. 51: 761-767 (1994).
8. Schoberl et al., Tenside Surfactants Detergents 25: 99-107 (1988).
9. Hugman S J, Mance G, Water Research Centre Report 616-M (1983).
10. Butterwick L, de Oude N, Raymond K, Ecotoxicol. Environ. Safety 17: 339-371 (1989).

For general information on the toxicology of inorganic borates, see Patty's Industrial Hygiene and Toxicology, 4th Ed. Vol. II, (1994), Chap. 42, Boron; ECETOC Tech. Report No. 63 (1995).

Date of Issue: January 21, 2021 (Revision 002)

June 18, 2018

Information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is furnished free of charge and is based on data believed to be reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Since actual use is beyond our control, no guarantee, expressed or implied, and no liability is assumed by BarrierTek Inc., in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents.