Kills & Prevents Wood Decay Fungi, Termites, Carpenter Ants and Wood Boring Beetles

Active Ingredient:	
Disodium Octaborate Tetrahydrate ($Na_2B_8O_{13}•4H_2O$)	8.5%
Other Ingredients	91.5%
Total	100.0%

EPA Reg. No. 64405-5 EPA Est. 64405-TN-1
U.S. Patent No. 5.645,828

Keep Out of Reach of Children
CAUTION

Notice

Read and understand the entire label before using. Use only according to label directions. Before buying or using this product, read Warranty Disclaimer and Limitation of Remedies statements found elsewhere on this label. If terms are unacceptable, return unopened package to seller for full refund of purchase price. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer and Limitation of Remedies.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Safe Handling Procedures

Clean spills and over-spray with a damp cloth or absorb with appropriate materials. When applying this product in confined spaces, it is recommended that ventilation or an exhaust system be provided. If this is impractical, the use of a NIOSH-approved respirator designed for protection from organic vapors is recommended.

General Information

PenaShield is applied to wood and is particularly suited for use in situations where odor, chemical sensitivity and environmental contamination are of concern. PenaShield will both eliminate and prevent infestations of wood destroying insects, such as subterranean and drywood termites, wood boring beetles, carpenter ants and decay fungi. It may take several days for the infestation to be eliminated, however, any termites that start to ingest treated wood or that are directly sprayed will die. As a termiticide, this product is not intended as a substitute for mechanical alteration, soil treatment or foundation treatment; when active infestations exist, get a professional inspection.

Do not expose PenaShield-treated exterior wood to rain or snow for at least 24 hours after treatment. If necessary, cover freshly treated exterior wood with a tarp. When applying PenaShield to exterior surfaces cover nearby plants and grasses with plastic to avoid affecting normal plant growth.

Surface Preparation

Apply only to bare, dry wood. Remove any finishes or water repellents before applying PenaShield. Clean surfaces to be treated to ensure they are free of dirt and other contaminants. If the finished appearance is a primary concern, also remove mold and mildew prior to application of PenaShield. If detergents or cleaners are used to prepare the surface, thoroughly rinse and allow surface to dry prior to application of PenaShield.

Maintenance of Treated Surfaces

Apply PenaShield every 1 to 5 years to exterior unfinished bare wood surfaces. Interior surface treatments of existing wood are considered permanent and do not require reapplication or coating except in situations involving repeated moisture contact or high humidity, such as shower stalls, bathhouses, saunas, etc. Any additional installed wood must be treated. Protection may be extended by coating/painting treated wood with a water-resistant finish such as paint or exterior stain. Although a wide variety of paints and

stains have been successfully used over PenaShield-treated wood, it is always a good idea to coat a small section of treated wood with the finish to be used and check for compatibility prior to complete application. Allow PenaShield-treated wood to completely dry (at least 24 hours) before applying any protective finish and apply protective finish within 2 weeks of treatment.

Cleanup

Use soap and water to clean up tools.

Application Instructions

Apply PenaShield only to bare wood or to wood surfaces where an intact water-repellent barrier is not present. PenaShield is a ready-to-use product. Either brush-apply directly from the container or apply with a low-pressure garden-type sprayer. Small wooden items may also be treated by dipping. Return unused product to original container and seal tightly. Always clean and/or flush equipment and lines with water after use. When applying more than one coat, wait at least 20 minutes between applications. No immersion or dip soaking necessary.

Treatment	Application Notes
Exterior and interior wood preservation	Apply one coat of this product to all exposed sides of wood at the rate of 1 gallon to 150 to 250 square feet of wood surface area. Actual coverage will vary depending upon the surface texture and porosity of the wood being treated. Apply a second coat to wood thicker than one 1 inch.
Exterior wood treatment to control active infestations	In cases of very active infestation or where there is a risk of structural failure, consult a professional pest control operator to ensure full and proper application. Apply this product to the point of runoff to all infested wood. Always apply 2 coats to all surfaces. In areas where access is limited to 1 or 2 sides of a wood member, apply multiple coats of this product to the exposed surfaces. Treat infested wood by spraying all surfaces and/or injecting this product into beetle holes, termite and carpenter ant galleries and decay pockets. Apply 2 coats to all surfaces. In cases where the infestation is not accessible from the surface, drill small holes into the wood to gain access to insect galleries or infested areas. Inject enough solution to completely flood the infested area.
Interior wood treatment to control active infestations	Treat infested basements and crawl spaces by applying 2 coats of this product to all wood surfaces including sill plates, piers, girders, subfloors, floor joists and any wood exposed to vertical access from the soil. Apply multiple coats of this product to wood where access is limited to 1 or 2 sides of wood members such as sills and plates on foundation walls. Apply at a rate of approximately 1 gallon of this product per 100 square feet of crawl space or basement floor area (approximately 200 sq. ft. of wood surface area). Treat infested studs and headers in wall voids by spraying or misting this product into voids and channels in infested wood and/or through small holes drilled into baseboard areas or adjacent to the wood to be treated. Space holes no more than 16” apart. Drill at least 1 hole between each wall stud when treating base plates. Use sufficient amount of material to cover all areas to the point of runoff. Note: If insulation is present in the wall void, it must be removed prior to treatment. If necessary, first remove dry wall or paneling and then the insulation. Spray studs and headers with this product, allow to dry, then replace insulation and wall. Apply 2 coats to all surfaces. Treat infested attics by spraying all accessible wood surfaces including roof sheathing, ceiling joists, rafters and top plates to the point of runoff. Apply 2 coats to all surfaces. Apply at the rate of 1 gallon of this product per 200 square feet of wood surface area.
Preventative treatment against listed insects for protection of new wood	Treat wood paneling, lumber, plywood and other wood surfaces/structures either as received from the lumberyard, during the construction process, or upon completion of construction. Apply while the wood surface is most accessible. Liberally apply 1 coat of this product to all exposed sides of lumber or plywood. For lumber thicker than 1 inch, apply a second coat after the first has been absorbed. Do not use as a preventative treatment for new construction in Florida.

Note: When spraying attics or overhead interior areas, cover all surfaces below the area being sprayed with plastic sheeting to prevent damage to ceiling boards, insulation or other materials. Do not apply in food serving areas while food is exposed.

Storage and Disposal

Do not contaminate water, food or feed by storage and disposal.

Pesticide Storage: Store in a dry place. Do not store where children or animals may gain access. Protect from freezing. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approvedwaste disposal facility. **Container Management:** Non-refillable container; do not reuse or refill this container. Offer for recycling, if available, or reconditioning, if appropriate; otherwise, call your local solid waste agency for disposal instructions. Promptly triple rinse (or equivalent) container after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed or absorbed through the skin. Causes eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

First Aid	
If Swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on Skin or Clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in Eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact (800) 424-9300 for emergency medical treatment information.	

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

Warranty Disclaimer

Manufacturer warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent not prohibited by applicable law, **MANUFACTURER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Lack of performance or other unintended consequences may result because of such factors as use of the product contrary to label instructions, abnormal conditions, the presence of other materials, climatic conditions, the manner of application or other factors, all of which are beyond the control of the Manufacturer. The buyer/user assumes all such risks.

Limitation of Remedies

To the extent not prohibited by applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability or other legal theories) shall be limited to, at Manufacturer's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent not prohibited by applicable law: a) Manufacturer shall not be liable for losses or damages resulting from handling or use of this product unless Manufacturer is promptly notified of such loss or damage in writing; and b) **IN NO CASE SHALL MANUFACTURER BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OR LOSSES, INCLUDING WITHOUT LIMIT, HEALTH RELATED DAMAGES OR INJURIES.** The terms of this **Warranty Disclaimer** and **Limitation of Remedies** cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Manufacturer or the seller is authorized to vary or exceed the terms of this -Warranty Disclaimer or Limitation of Remedies in any manner.

Nisus® CORPORATION

Made in the U.S.A.

PenaShield available from www.PRGinc.com 800-774-7891

MATERIAL SAFETY DATA SHEET

PenaShield®

Health Emergencies: CALL (800) 424-9300 OR YOUR LOCAL POISON CONTROL CENTER

Issue Date: 12/10/92 • Rev. 3/31/11

SECTION I - PRODUCT & COMPANY IDENTIFICATION

Manufacturer: Nisus Corporation
100 Nisus Drive
Rockford, TN 37853
(800) 266-0870

Product Trade Name: **PenaShield**
EPA Registration No. 64405-5
Chemical Family: PolyGlycol Aqueous Borate Solution
Formula: Proprietary Mixture
CAS No.: N/A

SECTION II – COMPOSITION

8.5% Disodium Octaborate Tetrahydrate
mixed glycols & water

SECTION III - HAZARDS

Hazard Rating: NFPA			
	Health	1	Slight hazard
	Flammability	0	
	Reactivity	0	

Material or Component: Manufactured using Ethylene Glycol
CAS No. 107-21-1
TLV 50.00 ppm ACGIH Type CEIL
(>10 % monoethylene glycol.)

EYE CONTACT: Causes moderate eye irritation. Direct contact may cause burning, tearing and redness in sensitive individuals.
SKIN CONTACT: This material is essentially non-irritating. Prolonged or repeated exposure to this material may cause softening of the skin or irritation. Persons with preexisting skin disorders may be more susceptible to the effects of this material. Harmful if absorbed through skin.
INGESTION: Ingestion of large amounts may cause nausea, mental sluggishness followed by difficulty in breathing and heart failure, kidney and brain damage, possibly death.
INHALATION: Harmful if inhaled. Breathing high concentrations of vapors may cause nausea, dizziness or drowsiness, and irritation of the nose and throat. Preexisting lung disorders may be aggravated by exposure to this material.

SECTION IV - EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
SKIN CONTACT: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes.
EYE CONTACT: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
INGESTION: SEEK EMERGENCY MEDICAL ATTENTION If the victim is drowsy or unconscious, place on the left side with the head down. Do not give anything by mouth. If victim is conscious and alert, vomiting should be induced for ingestion of more than 1 – 2 tablespoons for an adult, preferably with syrup of ipecac under direction from a physician or poison center. If syrup of ipecac is not available, vomiting can be induced by gently placing two fingers in back of throat. If large amounts are ingested, treat for glycol and borate toxicity. If possible, do not leave victim unattended.
NOTE TO PHYSICIAN: Treat for exposure to glycols. Contains borates. Monitor electrolytes.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT N/A
FLAMMABLE LIMITS: N/A
EXTINGUISHING MEDIA: CO_2, dry powder or universal type foam.
FIRE AND EXPLOSION HAZARDS: This material will not readily ignite.
FIRE FIGHTING PROCEDURES: Avoid inhaling smoke. The use of a SCBA is recommended for fire fighters. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame.

SECTION VI - SPILL OR LEAK PROCEDURES

PRECAUTIONS IN CASE OF RELEASE OR SPILL: Absorb with liquid absorbent. Do not let large volumes or washwaters enter sewers or waterways. Where large release has occurred see ecological section.

SECTION VI - HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: Store between 40°F and 90°F. Do not store in direct sunlight. Keep containers tightly closed.
Store in areas not accessible to children and pets.
Do not store with strong oxidizers.
Locked storage is required for EPA registered materials.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Good ventilation. When applying PenaShield in confined spaces, provide ventilation or an exhaust system or use of a NIOSH-approved dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) with a prefilter approved for pesticides (MSHA/NIOSH approval prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval prefix TC-14G) or a NIOSH-approved respirator with any N, R, P or HE prefilter is recommended.

VENTILATION: Exhaust to ventilate.

PenaShield is easily washed form eyes and skin.

US EPA requires the following personal protective equipment when applying registered materials:

PROTECTIVE GLOVES: Some materials that are chemical-resistant to this product are barrier laminate; butyl, nitrile, neoprene and natural rubbers ≥14 mils; polyethylene; polyvinyl chloride; and viton ≥14 mils. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.

EYE PROTECTION: Use safety glasses, goggles or face shield.
OTHER PROTECTIVE EQUIPMENT: Applicators, mixers and other handlers must wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and protective eyewear. It is recommended that a source of clean water be available in the work area for flushing eyes and washing skin.

SECTION IX - PHYSICAL DATA

Appearance: Clear liquid
Specific Gravity: 1.1 g/ml
Vapor Pressure: 1
Solubility in Water: 100%
% Volatile: 89% by weight
Boiling Point: Above 212 °F
pH: 6.8 - 7.
Odor: Clean/Detergent

SECTION X - REACTIVITY DATA

STABILITY: Stable
CONDITIONS TO AVOID: Exposure to strong oxidizing agents.
INCOMPATIBILITY (MATERIALS TO AVOID). This material is incompatible with strong oxidizing agents. This product may corrode aluminum.
HAZARDOUS POLYMERIZATION: Will not occur
HAZARDOUS DECOMPOSITION PRODUCTS: Ethylene oxide, carbon monoxide, carbon dioxide.

SECTION XI - TOXICOLOGICAL INFORMATION

PenaShield is of very low acute mammalian toxicity.

Acute oral LD_{50} – greater than 5000 mg/kg body weight (Sprague-Dawley male and female rats). Estimated by calculation to be >30,000 mg/kg.

Acute dermal LD_{50} – greater than 2000 mg/kg body weight (New Zealand Albino male and female rabbits).

Acute inhalation LC_{50} – Greater than 5.06 mg/L for 4 hours (Sprague-Dawley male and female rats).

Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

None of the major constituents of this material have been identified as carcinogens or probable carcinogens by IARC or OSHA.

The RfD for ethylene glycol is 2.0 mg/kg/day based on kidney toxicity in rats. US EPA has a high confidence in the study on which the RfD was based. The RfD is protective of animal demonstrated chronic and reproductive effects. Preexisting kidney disorders may be aggravated by exposure to this material.

Borates have been shown to have some chronic toxicity in animals fed high doses, similar to that of alcohol, but this has not been found in humans.

SECTION XII – ECOLOGICAL INFORMATION

General: Boron (B) is the element in disodium octaborate tetrahydrate (the active ingredient in PenaShield), which is used by convention to report borate product ecological effects. To convert disodium octaborate tetrahydrate into the equivalent boron (B) content, multiply by 0.2096. PenaShield contains 1.8% B by weight.

Phytotoxicity: Boron is an essential micronutrient required for the healthy growth of plants; however, it can be harmful to boron sensitive plants (e.g., grass and ornamentals) in high quantities.

Algal Toxicity: Green algae, *Scenedesmus subspicatus*
96-hr EC_{10} = 24 mg B/L

Invertebrate Toxicity: Daphnids, *Daphnia magna straus*
24-hr EC_{50}=242 mg B/L
Test substance: sodium tetraborate

Fish Toxicity:
Seawater:
Dab, *Limanda limanda*
96-hr LC_{50} 74 MG B/LL
Freshwater:
Rainbow trout, *S. gairdneri* (embryo-larval stage)
24-day LC_{50} = 88 mg B/L
32-day LC_{50}) = 54 mg B/L
Goldfish, *Carassius auratus* (embryo-larval stage)
7-day LC_{50} = 65 mg B/L
3-day LC_{50} = 71 mg B/L

The LC_{50} of ethylene glycol = 9500 to 51,000 mg/l depending on organism, so is of no relevance. See above boron ecological information.

In the event of accidental environmental release, dilute with water.

PenaShield is rapidly diluted to natural background micronutrient levels of boron, and the organic glycol components are biodegraded by microorganisms with a half-life of between 1 and 10 days (90% in one day using OECD 302B Test).

SECTION XIII – DISPOSAL CONSIDERATIONS

Excess solution can be used in treatment or saved for future applications.

WASTE DISPOSAL METHOD: Unopened containers may be returned to Nisus Corporation for reprocessing. Contact your State Pesticide, Environmental Control Agency or local authorities for proper disposal guidelines. Most sewage facilities will allow discharge to sewage of small volumes. Very large volume can retard sewage processing.

SECTION XIV – TRANSPORTATION INFORMATION

DOT Hazard Classification: Not Regulated

SECTION XV – REGULATORY INFORMATION

EPA Registration No. 64405-5
Chemical Family: PolyGlycol borate solution

Hazard Rating: NFPA	Health	1	Slight hazard
	Flammability	0	
	Reactivity	0	

SECTION XVI – OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This information and product are furnished on the condition that the persons receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use thereof.