

# BORA-CARE<sup>®</sup>

## Opportunity knocks on wood.

SUSTAINABLE SOLUTION TO WOOD DESTROYING ORGANISMS.



Bora-Care is sprayed directly onto raw wood, concrete and foundation penetrations by pest management professionals. Its patented formula penetrates into the wood, providing long-term residual protection against subterranean, Formosan and drywood termites; wood destroying beetles, carpenter ants and decay fungi.



Bora-Care is used for new construction primary termite pretreatments, whole house treatments and remedial treatments and is backed by a 30-year limited warranty, the longest in the industry.

- Kills and prevents termites and other wood destroying organisms.
- Eliminates wood as a food source and creates a barrier termites cannot build shelter tubes across.
- Prevents termites from tubing across concrete.
- Delivers long-term residual benefit that protects wood for years.
- Has low mammalian toxicity – its active ingredient is a borate mineral salt.
- Emits no VOCs (volatile organic compounds).
- Has minimal risk of chemical run-off.
- Qualifies builders for LEED<sup>®</sup> for Homes points as well as points in many other green building programs.
- Has more than 12 years of proven product-specific efficacy testing and more than 25 years of successful field use.
- Bora-Care is backed by a 30-year damage repair limited warranty to pest control companies who register treated homes and inspect them annually.
- Is the only borate-based termiticide that is EPA-registered as a primary perimeter termite pretreatment for new construction with its own product-specific field efficacy studies.
- Is HUD-allowed, listed for use by the 2006 International Residential Code and meets the end-cut requirements of building codes and the American Wood Protection Association (AWPA).

Visit [www.nisuscorp.com](http://www.nisuscorp.com) for the complete line of pest products.

100 Nisus Drive ■ Rockford, TN 37853 ■ (800) 264-0870 ■ [www.nisuscorp.com](http://www.nisuscorp.com)



# BORA-CARE®

TERMITICIDE, INSECTICIDE AND FUNGICIDE

## Termiticide, Insecticide and Fungicide Concentrate

For the Prevention and Control of:

- Subterranean Termites • Formosan Termites • Drywood Termites • Carpenter Ants
- Listed Wood Destroying Beetles • Fungi (Rot) • Algae

For use in and around Residential, Institutional and Commercial Structures including Homes, Apartments, Garages, Museums, Public and Private Institutions, Schools, Hotels, Hospitals, Kennels, Stables, Farm Buildings, Trucks, Trailers, Warehouses and Non-Food Areas of Supermarkets, Restaurants and Food Processing Plants.

### Active Ingredient:

EPA Reg. No. 64405-1

EPA Est. 64405-TN-1

Disodium Octaborate Tetrahydrate (CAS No. 12280-03-4).. 40%

Other Ingredients..... 60%

Total..... 100%

U.S. Patent Nos. 5,645,828; 7,597,902

Keep Out of Reach of Children  
**CAUTION**

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans & Domestic Animals

**WEAR:** Long-sleeved shirt & long pants, socks, shoes and chemical-resistant gloves (such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride (PVC), Viton or others listed in category C on an EPA -chemical-resistance category selection chart).

#### Environmental Hazards

*(For product in containers less than 5 gallons)*

This pesticide is toxic to fish and wildlife. Do not apply directly to water, to intertidal areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

*(For product in containers 5 gallons or greater)*

This pesticide is toxic to fish and wildlife. Do not apply directly to water, to intertidal areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

### DIRECTIONS FOR USE

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

#### 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**.

#### Use Restrictions

Do not use in edible product areas of food processing plants or on countertops and other surfaces where food is prepared. Do not use in serving areas where food is exposed. Do not contaminate feed, water or food. Do not enter or allow others to enter or occupy treated areas until spray has been absorbed into the wood. Treated areas must not be occupied during application.

#### Phytotoxicity

This product may be phytotoxic to plants. When treating around the exterior of structures, cover and protect shrubbery and plants that may be potentially exposed to this product, when applied in accordance with the label directions.

### Personal Protective Equipment (PPE)

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

Applicators, mixers and other handlers must wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and protective eyewear. When applying Bora-Care solutions 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.

### User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet;
- Remove clothing immediately if pesticide gets inside, then wash thoroughly and put on clean clothing;
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### I. Mixing Instructions

Bora-Care is a concentrate that **must** be diluted with clean water before use. The use of warm or hot water, if available, and an impeller-type mixer that can be used with an electric drill aids the dilution process.

**A. Hand Sprayers:** Mix in a clean container and stir the solution until completely uniform. Always mix in a separate container then add the solution to a spray tank. Mixing Bora-Care directly in a spray tank can block hoses and nozzles.

**B. Hand Volume Pumping Systems:** Add all of the dilution water to tank, start recirculator and slowly add Bora-Care concentrate. Mix until uniform.

Use 1:1, 2:1 and 3:1 Bora-Care solutions within 24 hours after mixing; 5:1 solutions will remain stable for up to 30 days. Do not leave unused solution under pressure or in tank overnight. Clean and/or flush equipment and lines with water after use.

Bora-Care solutions can be mixed with pyrethrins at 0.3% for carpenter ants and other listed insects in accordance with the most restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

For tracking purposes (to make it easier to see where Bora-Care solutions have been applied) an appropriate marker dye or pigment may be added as part of the diluent to the Bora-Care solution. Refer to the dye or pigment product label for the recommended amount to add to the Bora-Care solution. Bora-Care concentrate may also be diluted with approved water-based water repellants or coatings at dilution ratios listed on the repellant/coating label provided the ratios are greater than 1 part water to 1 part Bora-Care.

Use soap and water to clean up tools.

## II. Dilution Ratios by Volume

**Table A**

Target Pests	Mixing Ratios Water plus Bora-Care	Application Notes
Subterranean and Formosan Termites	1:1 or 2:1	For remedial and preventative treatments apply a 1:1 dilution ratio for all treatments by spray, injection, brush or roller. The 2:1 dilution ratio may be used for foaming or, for application into inaccessible wall voids, may be used in a misting machine.
Drywood Termites	1:1, 2:1 or 5:1	For remedial treatment apply the 1:1 or 2:1 by foam or by misting using a misting machine. Use the 5:1 dilution ratio for prevention.
Anobiid and Lyctid Powderpost Beetles	1:1, 2:1 or 5:1	For all remedial treatments use a 1:1 dilution ratio. Logs > 4" require a 1:1 dilution ratio for prevention. Use a 2:1 dilution ratio for treating hardwood floors. Use the 5:1 dilution ratio for prevention.
Old House Borers, Longhorn Beetles and Ambrosia Beetles	1:1 or 5:1	Use the 1:1 dilution ratio for remedial and preventative treatment in wood > 4" thick. Use the 5:1 dilution ratio for prevention in wood less than 4" thick.
Carpenter Ants	1:1, 2:1 or 5:1	Use the 1:1 dilution ratio for all remedial treatments. Use the 2:1 dilution ratio for remedial treatments applied by foam or with a misting machine (or applicator). Use the 5:1 dilution ratio for prevention.
Fungi (Rot) and Algae	1:1, 3:1 or 5:1	For remedial control use a 1:1 dilution ratio on wood members 4" thick or greater. Use a 3:1 dilution ratio for wood less than 4" in thickness. For prevention use a 5:1 dilution ratio.

**Table B**

Materials to Be Treated	Mixing Ratios Water plus Bora-Care	Application Notes
Logs, Large Beams, Timber and Dimensional Lumber > 4"	See target pests in Table A	All spray applications for insects and fungi (rot).
Decking, Fences and Plywood	See target pests in Table A	Use on wood members 2" or less in thickness.
Logs, Large Beams and Dimensional Lumber	See target pests in Table A	Use the 5:1 dilution ratio only for dip treatment for insect prevention. May be used in conjunction with other fungicides for fungi (rot) control.
Cellulosic Drywall and Insulation	1:1, 3:1 or 5:1	Use the 3:1 dilution ratio for active remedial treatment of dry rot. Use the 5:1 dilution ratio for prevention of dry rot. May be used in conjunction with other fungicides.

**Table C**

Parts Water	Part Bora-Care	% Disodium Octaborate Tetrahydrate
1	to 1	23%
2	to 1	16%
3	to 1	13%
5	to 1	9%

## III. General Information

Bora-Care is not intended for application to soil; it is not a soil termiticide. **Do not use to directly treat soil. When active infestations exist, get a professional inspection. Prior to using this product, consult with your state regulatory agency to see if additional qualifications are required to apply this product.**

Bora-Care contains an inorganic borate salt, soluble in water, with insecticidal and fungicidal properties effective

against wood destroying organisms, including the target pests listed below. This product may be used as a remedial treatment of infested wood and as a long-term protective or preventive treatment (before signs of infestations are observed) of wood in existing or new construction. Bora-Care solution is recommended for protection of all interior and exterior wood (including wood-foam composite structural components). Treatment is long lasting provided the treated material is not exposed to rain,

continuous water or in direct contact with the ground. The active ingredient in Bora-Care is an inorganic salt and once in place will not decompose or volatilize out of the wood.

Subterranean Termites: *Reticulitermes*, *Heterotermes*

Formosan Termites: *Coptotermes*

Drywood Termites: *Kaloterms*, *Incisitermes*

Dampwood Termites: *Zootermopsis*, *Neotermes*

Powderpost Beetles: *Lyctidae*, *Bostrichidae*

Anobiid Beetles: *Anobiidae*

Old House Borers, Longhorn Beetles: *Cerambycidae*,  
*Hylotrupes*

Ambrosia Beetles: *Platypodidae*, *Scolytidae*

Carpenter Ants: *Camponotus*

Brown Rot (including dry rot), White Rot, Wood Decay

Bora-Care solutions may be used on all non-food contact surface cellulosic materials including wood, plywood, particleboard, paper, oriented strand board (OSB), cardboard (non-food packaging material), wood composite structural components, concrete, block, brick, metals, PVC plumbing pipes and other non-cellulosic materials found in structures. Apply Bora-Care solutions only to bare wood, plywood, particleboard and other cellulosic materials where an intact water-repellent barrier, such as paint, stain or sealer, is not present.

When spraying overhead interior areas of homes, apartment buildings, etc., cover or protect all surfaces below the areas being sprayed with plastic sheeting or other material and dispose if contamination from dripping occurs. Do not apply in food serving areas while food is exposed. Cover all food contact and preparation surfaces prior to treatment. After treatment, thoroughly clean all food contact surfaces with a water/detergent solution followed with a potable water rinse. Remove all pets; turn off fish aquarium pumps and cover.

In new construction applications for the prevention of subterranean termites, structural wood is defined as: only wood needed for the basic building structure as found in the "dried-in" stage of construction, including wood in direct contact with foundations, interior and exterior wall sill plates, wood studs, wood or cellulosic sheathing, floor joists and sub-flooring.

In structures where a soil treatment/barrier termiticide has been applied and/or termite bait system installed, apply Bora-Care solution as an additional treatment to protect wood from subterranean termites that may have penetrated the chemical gaps occurring within the termiticide-treated soil or have bypassed the bait/monitor systems.

As a remedial treatment, Bora-Care solution will both eliminate and prevent infestations of Formosan, native subterranean termites, wood boring beetles, carpenter ants and decay fungi. It may also be used as a supplement or alternative to fumigation to provide long-term residual control.

Older wood boring beetle larvae and especially pupae (particularly Old House Borers) already present in the wood at the time of treatment may occasionally emerge

sometime after treatment. This is because they are no longer feeding on the wood. This will not occur frequently enough to cause structural damage to any wooden member and reinfestation is prevented.

#### **IV. Remedial Wooden Structure Treatment for the Control of Subterranean, Formosan, Drywood and Dampwood Termites, Carpenter Ants, Old House Borers, Powderpost and Listed Wood Boring Beetles and Fungi (Rot)**

**A. Infested wood:** Spray and/or inject Bora-Care solution into beetle holes, termite and carpenter ant galleries and decay pockets. Apply 1 coat of Bora-Care solution to the point of surface saturation to all infested and -susceptible wood, paying particular attention to infested areas. Apply 2 coats of Bora-Care solution to those wood members with only 1 or 2 exposed sides. For quicker control, apply an additional coat to heavily infested areas. Allow first application to dry by waiting at least 20 minutes between applications. For specific pests to be controlled refer to **Table A** for applicable mixing instructions.

In cases where the infestation is not accessible from the surface, drill small holes into the wood to gain access to the infested area. Inject enough solution to completely flood galleries or voids. Adjacent intact wood may be treated by pressure injecting Bora-Care solution into holes drilled into the wood at 8- to 10-inch intervals. Inject at 40 psi for 4 to 6 seconds per hole.

For treating infested wall voids, refer to Sections IV.E. and F.

**B. Basements and crawl spaces:** Apply 1 coat of diluted Bora-Care solution to the point of surface saturation to all accessible surfaces including sill plates, piers, girders, subfloors, floor joists and any wood exposed to vertical access above ground. On wood where access is limited to 1 or 2 sides of wood members, such as sills and plates on foundation walls, apply 2 coats of Bora-Care solution. Allow first application to dry by waiting at least 20 minutes between applications. One gallon of solution will treat 200 square feet of floor area (subfloor, floor joists, header and sill plates) or 50 linear feet of 8 foot high walls.

**C. Buildings on concrete slabs:** Apply Bora-Care solution into wall voids by foaming or Apply Bora-Care solution into wall voids by foaming (See Section IV.F.) or misting. Locate each stud and drill a small hole through the wall covering to gain access to the infested area. Drill holes every 18-24 inches adjacent to the side of each stud and inject at least 1/3 fluid ounce of Bora-Care solution per hole. Drill at least one hole per stud bay near the floor to treat the base plate in each void. Treat entire wall area as opposed to single stud bays to completely include the infested area within the treatment zone. Cover at least 6 inches of concrete slab surface area out from the penetration site.

**D. Wood flooring:** Treat by spray, brush or roller application. Prior to application, remove any existing finish by complete coarse sanding or stripping. Apply a 2:1 Bora-Care solution at a rate of approximately 1 gallon of

solution per 500 square feet of floor surface. For treating infestations of subterranean or Formosan termites, 2 coats may be required, waiting at least 1 hour between applications. Allow floor to completely dry (typically 48 to 72 hours). Moisture content must be 16% or less before applying final finish. Bora-Care solution applications may raise the grain of the wood and an additional **light** sanding may be necessary before applying a new finish. The Bora-Care solution is compatible with most floor coatings; always test a small section of treated floor with the new finish and check for appropriate adhesion prior to coating the entire floor.

**Note:** If surface is tacky or residue is evident after 72 hours of drying time, wash affected area with clean water and a mop, cloth or sponge, rinsing frequently. Allow surface to dry prior to final **light** sanding and application of finish coat.

**E. Inaccessible wall voids, wall studs and wood members:** Apply by foaming (See Section IV.F.) or misting into voids and channels of damaged or suspected infested wood and/or through small holes drilled into walls and baseboard areas. Space holes no more than 24" apart along each member to be treated and at least 1 hole must be drilled between each wall stud when treating base plates. Use sufficient amount of solution to cover all areas to the point of surface saturation.

**Note:** Existing insulation may interfere with distribution of the Bora-Care solution. If necessary, move or displace insulation during or prior to treatment.

**F. Foam application:** Apply Bora-Care solution to bare wood surfaces and void areas as a foam by mixing 2 parts water with 1 part Bora-Care (2:1) and adding 3 to 8 ounces of foaming agent per gallon of mixed solution. Foam will take approximately 1 hour to return to liquid state and soak into bare wood. Apply foamed Bora-Care solution to void spaces at a 1:20 to 1:30 foam ratio (1 gallon of mixed solution expanded with foaming agent to produce 20 to 30 gallons of foam). Apply enough foam to fill void and contact all wood surfaces in the void space.

**G. Foam insulation:** Apply by injecting a 1:1 Bora-Care solution into the infested area and/or by low pressure surface spraying at a rate of 1 gallon per 300 to 400 square feet. Bora-Care solution may also be mixed with approved topically-applied insulation products. To protect insulation from infestation, pre-mix the appropriate amount of Bora-Care solution with foaming materials during or prior to installation that will achieve a 0.5-1.5% by weight retention.

**Note:** Some types of foam insulation, such as polyisocyanurate and extruded polystyrene, have closed cell structures that do not allow significant penetration from surface application. Inject and surface spray these types of insulation.

**H. For remedial treatments:** Apply a supplemental treatment of Bora-Care solution to concrete, block or brick on the interior of crawlspace and basement foundations to prevent shelter tubing by subterranean termites. Apply a 1:1 Bora-Care solution at the rate of 1 gallon to 400 square

feet of surface area. In crawlspaces, apply solution 2 feet (24 inches) up from the ground on interior wall surfaces. In unfinished basements with bare concrete slabs, apply the 1:1 Bora-Care solution 2 feet up from the concrete slab on interior foundation walls. In -addition to the wall treatment, extend application up to 6 inches away from foundation walls onto the horizontal surface of the bare concrete slab. Treat bath trap areas in concrete slab construction, after obtaining access to the area, by evenly applying 8 ounces of the 1:1 Bora-Care solution into the traps out at least 1 foot (12 inches) in all directions from the edge of the trap area. Treat other termite access areas (such as plumbing penetrations, expansion joints and abutting slabs) by applying the 1:1 Bora-Care solution into the penetration, out at least 1 foot in all directions from the edge of the penetration area. Also treat protruding utilities and adjacent wood to a height of 2 feet.

## **V. Preventative Treatment of Wooden Structures for Formosan, Drywood and Dampwood Termites, Carpenter Ants, Old House Borers, Powderpost and other Wood Boring Beetles, and Fungi (Rot)**

**Note:** Bora-Care is not intended for application to soil.

Bora-Care solution provides only limited and temporary protection of wood in contact with the ground (see specific instructions) and is not a substitute for products registered for protection of wood in contact with the ground. Bora-Care solution may be applied as a treatment to protect wood from Formosan, drywood and dampwood termites, carpenter ants, old house borers, powderpost and listed wood boring beetles and wood decay fungi.

Apply when access to wooden structural components is optimized such as at the "dried-in" stage when sheathing and roofing are in place, yet before installation of insulation, wiring, plumbing and other mechanical components.

For framed wood surfaces above ground, apply to the point of surface saturation 1 coat of a 1:1 Bora-Care solution for subterranean termites and Formosan termites as described in Section VI. For treatment of new log structures see Section IX. Treat remainder of structural wood with a 5:1 Bora-Care solution. Concentrate application in areas susceptible to attack, to include all sills, plates, floor joists, piers, girders and subfloors. Treat structural wood in all plumbing, electrical and ductwork areas where they penetrate walls and/or floors. Treat all structural wood base plates and studs on interior and exterior walls, especially those surrounding any high moisture areas such as bathrooms, kitchens and laundry rooms. For buildings built on concrete slabs, treat all structural wood in contact with the concrete slab, all interior and exterior wall studs and wall sheathing material. In attics, treat all structural wood including ceiling joists, trusses, top plates, rafters and roof decking. Treat all structural wood sill plates and structural wood contacting garages and porches.

In areas where access is limited to 1 or 2 sides of a wood member, including exterior wall base plates and any

married studs, apply 2 coats of Bora-Care solution to the exposed surfaces. Allow first application to dry by waiting at least 20 minutes between applications.

Treat all exterior wood including siding, facias, soffits, eaves, roofing, porches, decks and railings.

## **VI. Preventative Treatments and Pretreatments for Subterranean Termites (Crawl Space, Basement and Slab)**

**Note:** This treatment serves as a primary treatment for the control of subterranean termites. This product must be applied with a 1:1 Bora-Care solution.

In new construction applications for the prevention of subterranean termites, structural wood is defined as only wood needed for the basic building structure as found in the “dried-in” stage of construction, including wood in direct contact with foundations, interior and exterior wall sill plates, wood studs, wood or cellulosic sheathing, floor joists and sub-flooring.

Apply when access to wooden structural components is optimized and when no further framing modifications will be made, such as after final framing inspection. If treatment is carried out prior to framing inspection, a second visit is required to ensure full treatment is still intact.

In areas where access is limited to 1 or 2 sides of a wood member, including exterior wall base plates and any married studs, apply 2 coats of Bora-Care solution to the exposed surfaces. Allow first application to dry by waiting at least 20 minutes between applications. s

**A. Buildings on Crawl Spaces and Basements:** Apply 1 coat of a 1:1 Bora-Care solution in a 2-foot-wide uninterrupted band to the point of surface saturation to all structural wood surfaces in crawl spaces and basements, to include all sills, plates, floor joists, piers, girders and subfloors as well as structural wood exposed to direct vertical access from the soil. To prevent termite shelter tubes on crawlspace walls, apply a 1:1 Bora-Care solution to crawlspace concrete or block walls in a 2-foot band up from the ground on interior wall surfaces. Apply at the rate of 1 gallon to 400 square feet of surface area. Treat a 2-foot band around construction materials and structural wood adjacent to plumbing, electrical conduit and ducts where they penetrate subfloors, if they provide a direct vertical access from the soil. Treat all structural wood, including wall studs and sills, in finished-out basements where structural wood framing is immediately adjacent to the exterior foundation walls. Spray the concrete slab surface a minimum of 2 up to a maximum of 8 inches. To prevent termite shelter tubes on basement walls, spray all interior concrete or block foundation walls with a 2-foot band up from the concrete slab area. Apply the 1:1 Bora-Care solution at the rate of 1 gallon per 400 square feet of concrete foundation wall area.

**On structural wood where access is limited to 1 or 2 sides of wood members such as sill plates and headers on foundation walls, married studs or wrapped sheathing, apply 2 coats of Bora-Care**

**solution.** Allow first application to dry by waiting at least 20 minutes between applications. If accessible, treat the exterior of structural wood sill areas around the entire perimeter of the structure with a 2-foot-wide band of a 1:1 Bora-Care solution beginning with the sill area and extending upwards onto the sheathing material. On multiple story structures, treat only the first story above the masonry foundation level. Coated or painted structural wood may be treated by pressure injecting Bora-Care solution into holes drilled into the wood at 8- to 10-inch intervals. Inject at 40 psi for 4 to 6 seconds per hole.

**B. Buildings on concrete slabs:** Apply 1 coat of a 1:1 Bora-Care solution to all wood, metal and/or non-cellulosic base plates and the bottom 2 feet of all wood, metal and/or non-cellulosic studs on all exterior and interior walls in contact with the concrete slab. Treat at the rate of 1 gallon of solution to 200 linear feet of stud walls. Treat all wood in plumbing walls, bath traps and any wood adjacent to plumbing, electrical conduit and duct penetrations to provide a minimum 2-foot-wide barrier of treatment between the bottom of the penetration site and the balance of the structure. **In areas where access is limited to 1 or 2 sides of a structural wood member, such as sills and plates on foundation walls, married studs or wrapped sheathing, apply 2 coats of Bora-Care solution to the exposed surfaces.** Allow first application to dry by waiting at least 20 minutes between applications. When spraying base plates, also treat the concrete slab a minimum of 2 inches to a maximum of 8 inches out from plates. Treat the concrete slab where any visible cracks may be occurring, extending treatment 8 to 12 inches out on each side of the concrete slab crack. Treat all penetrations (such as plumbing, expansion joints and abutting concrete slabs) by spraying the 1:1 Bora-Care solution 2 feet high and extending application to cover at least 6 inches of concrete slab out from penetration site. Evenly treat bath traps with a minimum of 8 ounces of the 1:1 Bora-Care solution to a maximum of 16 ounces per square foot of trap. Treat all concrete slabs at least 1 foot out from all bath trap penetrations. Concrete, cinder block or non-cellulosic exterior walls must be treated with a 1:1 Bora-Care solution 2 feet on the interior side of wall surface up from the concrete slab. This treatment must be applied as a continuous 2-foot barrier to all interior surfaces of all exterior walls. Treat at the rate of 1 gallon of a 1:1 Bora-Care solution to 400 square feet of surface area. Do not use for new construction treatments if the total linear footage of the cellulosic base plates is less than 60% of the total linear footage of all base plates in the structure to include exterior and interior walls. In new construction with 60% or more lineal footage of base plates, but without continuous wood on every exterior wall, the Bora-Care treatment must be installed to all other exterior structural construction materials, including brick or block, to a height of 2 feet and extended out onto the slab a minimum of 2 to a maximum of 8 inches.

**C. Foam insulation:** Treat with low-pressure surface spraying or injecting a 1:1 Bora-Care solution to the infested area at the rate of one 1 gallon per 300 to 400 square feet.



**Note:** Some types of foam insulation, such as polyisocyanurate and extruded polystyrene, have closed cell structures that do not allow significant penetration from surface application. Inject and surface spray these types of insulation.

## **VII. Preventative Treatment for Drywood Termites and Powderpost Beetles**

Apply 1 coat of a 5:1 Bora-Care solution to the point of surface saturation to all structural wood surfaces using a brush, spray or mist. Apply 2 coats of Bora-Care solution to those surfaces where access is limited to 1 or 2 sides of structural wood members. Allow first application to dry by waiting at least 20 minutes between applications.

## **VIII. Treatment of Exterior Wood Surfaces Less Than Two Inches Thick such as Decks, Sheds and Fences**

Apply only to bare wood or to wood surfaces where an intact water repellent or finish is not present. Remove paint or finish prior to application. Apply 1 coat of Bora-Care solution to the point of surface saturation to all wood surfaces. Apply 2 coats of Bora-Care solution to heavily infested areas and to those surfaces where access is limited to 1 or 2 sides of wood members. Allow first application to dry by waiting at least 20 minutes between applications. Do not apply in rain or snow. Do not expose treated exterior wood surfaces to rain or snow for at least 48 hours after treatment. If inclement weather is expected, protect exterior treated surfaces with a plastic tarp.

For wood in contact with the ground or soil, see Section XI.

**A. Finishing and Maintaining Treated Surfaces:** For longer performance, exterior wood surfaces that have been treated with Bora-Care solution will require a topcoating with a water-resistant finish such as paint or exterior stain. Apply the finish or topcoat within 6 weeks of treatment. It is important to allow Bora-Care-treated wood to completely dry (at least 48 hours) before applying any protective topcoat. Coat a small section of treated wood with the finish to be used and check for compatibility prior to complete application.

## **IX. Treatment of Log Structures, Timbers, Beams, Pilings and Exterior Wood Members Two or More Inches Thick**

Apply only to bare wood or to wood surfaces where an intact water repellent or other finish is not present. Remove paint or finish prior to application. Prior to treatment, clean interior, unfinished surfaces that have accumulated dirt or cooking oils with a strong detergent. Apply a 1:1 Bora-Care solution to the point of surface saturation to all interior and exterior wood surfaces. Apply 2 coats of Bora-Care solution to log ends, notches, corners and sill logs. Wait at least 1 hour before reapplication.

Actual number of coats necessary to meet minimum requirements will depend upon actual wood size, surface porosity and number of sides accessible for treatment. Refer to application chart for the minimum amount of Bora-Care solution needed to treat various sized logs or beams. Typically, 2 coats of solution are required to treat

round logs 10" or greater in diameter and rectangular logs larger than 6" x 12". Wait at least 1 hour before re-application. Do not apply in rain or snow. Do not expose treated exterior wood surfaces to rain or snow for at least 48 hours after treatment. If inclement weather is expected, protect exterior treated surfaces with a plastic tarp.

**A. Finishing and Maintaining Treated Surfaces:** For long-term protection, exterior wood surfaces that have been treated with Bora-Care solution will require a topcoating with a water-resistant finish, paint or exterior stain. Apply the finish or topcoat within 6 weeks of treatment. It is important to allow Bora-Care-treated wood to completely dry (at least 48 hours) before applying any protective topcoat. Coat a small section of treated wood with the finish to be used and check for compatibility prior to complete application.

## **X. Dip Treating Logs and Lumber**

Prepare a 5:1 Bora-Care dip treating solution. This will result in a stable solution containing 9% active ingredient. Sticker bundled wood to ensure the solution covers all wood surfaces. Submerge logs and/or lumber in the solution for at least 1 minute or until all entrapped air has escaped. Protect treated wood from rain or snow for at least 24 hours after treatment.

## **XI. Treatment of Wood In Contact With the Ground**

A Bora-Care solution treatment to wood in contact with the ground or soil has a limited lifespan and will require periodic reapplication. Protection may be extended with the use of a 40% disodium octaborate tetrahydrate (or borate) gel product.

## **XII. Prevention and Remedial Control of Algae for Cellulosic Building Components**

Apply Bora-Care solution for the prevention and remedial control of algae to cellulosic building components (drywall, insulation) in new construction and existing structures and where an intact water repellent barrier such as paint, stain or sealer is not present. Apply Bora-Care solution at the rate of 1 gallon of solution per 400 square feet of surface area. Apply only to the back paper side of drywall and to cellulose insulation. In areas where drywall has been installed and insulation is enclosed, apply Bora-Care solution using a misting machine (or applicator) applying sufficient solution to cover surfaces at the rate of 1 gallon per 400 square feet. Refer to **Tables A and B** for mixing ratios for preventative and remedial algae treatments.

The Bora-Care solution can also be applied to exterior stone and concrete walkways and walls for the prevention and control of algae growth. Apply a 5:1 Bora-Care solution at the rate of 1 gallon of solution per 400 square feet of walkway or wall surface area. Do not spray abutting grass or plantings.

## **XIII. General Pest Control Applications**

The application of Bora-Care solution to the surface of wood in new construction or to wood surfaces inside wall void areas in existing structures helps to prevent the establishment of cockroach, ant (except Fire, Harvester

and Pharaoh ants), silverfish, earwig, boxelder bug, millipede and cricket infestations that come in direct contact with these treated areas. Apply 1 gallon of Bora-Care solution per 400 square feet of surface area or refer to **Tables A and B** when applying as a surface application.

#### **XIV. Bora-Care Total Wood Preservative**

Bora-Care is a wood preservative for protection and treatment of wood against brown rot, white rot, fungi (rot) and wood destroying insects including beetles, termites and carpenter ants. Treatment is permanent provided the treated material is not exposed to rain, moisture or ground contact.

**A. General Information:** Bora-Care is a concentrated mixture of sodium borate with additives that facilitate rapid penetration of wood, regardless of moisture content. It is designed for preventative and/or remedial treatment of wood in both new and existing structures against fungi (rot) and wood boring insects including:

- Subterranean Termites (*Reticulitermes*, *Heterotermes*, *Coptotermes*)
- Dampwood Termites (*Zootermopsis*)
- Drywood Termites (*Kaloterms*, *Incisitermes*)
- Powderpost Beetles (*Lyctidae*, *Bostrichidae*)
- Anobiid Beetles (*Anobiidae*)
- Old House Borers, Longhorn Beetles (*Cerambycidae*)
- Carpenter Ants (*Camponotus*)

**B. Surface Preparation:** Apply only to bare wood or to wood surfaces where an intact water repellent or other finish is not present. Remove any previous finishes or water repellents before application of the Bora-Care solution. Surfaces must be free of dirt and other contaminants. Prior to treatment, clean with a strong detergent all interior, unfinished surfaces that are to be treated and that have accumulated dirt or cooking oils. If finished appearance is a concern, prior to application of Bora-Care solution, remove any mold or mildew with an appropriate wood cleaner followed by thorough surface rinsing.

**C. Application Instructions:** Do not apply in rain or snow. Do not expose exterior wood surfaces to rain or snow for at least 48 hours after treatment. If inclement weather is expected, protect exterior treated surfaces with a plastic tarp.

##### **1. Treatment of Dimensional Lumber, Plywood and Exterior Wood Surfaces (Decks, Sheds, Siding, etc.):**

To all wood surfaces apply to the point of surface saturation 1 coat of: a 1:1 Bora-Care solution for remedial control of wood-infesting insects; a 2:1 Bora-Care solution foam or mist; a 3:1 Bora-Care solution for remedial control of fungi (rot); or a 5:1 Bora-Care solution for insect and fungi (rot) prevention. Apply 2 coats of Bora-Care solution to heavily infested areas and to those surfaces where access is limited to 1 or 2 sides of wood members. Allow first application to dry by waiting at least 20 minutes between applications.

##### **2. Treatment of Logs, Timbers and Large Beams:**

Apply to the point of runoff by spray or brush a 1:1

Bora-Care solution to all interior and exterior wood surfaces. Refer to application chart for minimum amount of Bora-Care solution to treat various sized logs or beams. Typically, 2 coats of solution will be required to treat round logs 10" or greater in diameter and rectangular logs larger than 6" x 12". Wait at least 1 hour between applications. Also apply 2 coats of Bora-Care solution to log ends, notches, corners and sill logs. Actual number of coats necessary to meet the minimum requirements will depend upon actual wood size, surface porosity and number of sides accessible for treatment.

**3. Dip Treating Logs and Lumber:** Prepare a 5:1 Bora-Care dip treating solution. This will result in a stable solution containing 9% active ingredient. Sticker bundled wood to ensure the solution covers all wood surfaces. Submerge logs and/or lumber in the solution for at least 1 minute or until all entrapped air has escaped.

##### **D. Finishing and Maintaining Exterior-Treated Surfaces:**

For long-term protection, exterior wood surfaces that have been treated with Bora-Care solution require a topcoating with a water-resistant finish such as paint or exterior stain. Apply the finish or topcoat within 6 weeks of treatment. It is important to allow Bora-Care-treated wood to completely dry (at least 48 hours) before applying any protective topcoat. Coat a small section of treated wood with the finish to be used and check for compatibility prior to complete application. Interior surfaces do not require topcoating except in situations involving repeated moisture contact or high humidity (shower stalls, bath houses, saunas, etc.).

**E. Retention Rates:** One gallon of Bora-Care concentrate (2 gallons of Bora-Care solution as applied) will treat 800 board feet of wood to a minimum retention level of 0.084 pounds per cubic foot boric acid equivalent (BAE). Since the active ingredient penetrates throughout the wood being treated, calculate the amount of Bora-Care solution needed on the volume of wood being treated, not just the surface area. Use the following formulas to calculate the required amount of Bora-Care solution:

##### **For Dimensional Lumber (2 x 4, 2 x 6, 2 x 12, etc.)**

Material thickness (inches) x material width (inches)  
x material length (feet) divided by 12 = Board Feet

##### **For Log Homes**

Log height (inches) x log thickness (inches)  
x perimeter (feet)  
x number of courses divided by 12 = Board Feet  
(For round logs use the average diameter for both height and thickness measurements)

##### **For Siding and Paneling**

One gallon of Bora-Care concentrate (2 gallons of solution) will treat 800 sq. ft. of 1" thick wood by spraying only one side. If siding or paneling is 1/2" thick, 1 gallon of Bora-Care concentrate (2 gallons solution) treats 1,600 sq. ft.

## XV. Application Rates

**Table A – Dimensional Lumber**

Lumber Size (Inches)	1 Gallon of Diluted Bora-Care Will Treat Up To	Minimum Amount of Diluted Bora-Care To Treat 1000 Lineal Feet
1 x 4	1,200 Lineal Feet	0.8 Gal.
1 x 12	400	2.6
2 x 4	600	1.6
2 x 6	400	2.6
2 x 8	308	3.2
2 x 10	240	4.2
2 x 12	200	5.0
4 x 4	300	3.4
4 x 6	200	5.0
4 x 8	150	6.8
4 x 12	100	10.0
6 x 6	133	7.6
6 x 8	100	10.0
6 x 10	80	12.6
6 x 12	68	15.0

**Table B – Panels, Siding and Plywood**  
(1:1 or 2:1 mixing ratio)

Thickness (Inches)	1 Gallon of Diluted Bora-Care Will Treat Up To	Minimum Amount of Diluted Bora-Care To Treat 1000 Square Feet
1/4	1,600 sq. ft.	0.6 Gal.
3/8	1,067	1.0
1/2	800	1.2
3/4	533	1.8
1	400	2.6

**Table C – Round Logs**  
(only the 1:1 mixing ratio)

Diameter (Inches)	1 Gallon of Diluted Bora-Care Will Treat Up To	Minimum Amount of Diluted Bora-Care To Treat 1000 Lineal Feet
6	167 Lineal Feet	6.0 Gal.
8	96	10.4
10	61	16.4
12	43	23.4

**Note:** The numbers listed above are based on an application rate of one gallon of Bora-Care solution to 400 board feet of wood.

## XVI. Bora-Care Solution to Control Annosus Root Disease (*Heterobasidion annosum* (Fr.) Bref.) to Treat the Top of Freshly Cut Stumps

Dilute Bora-Care to a 5% solution by thoroughly mixing 1 gallon of Bora-Care with 9 gallons of water. Using a mechanical harvester, backpack sprayer or hand-held sprayer, apply solution to the point of wetness to the surfaces of freshly cut stumps immediately after or within 3 days of felling. One gallon of solution will treat 200 square feet of stump surface area (approximately 200 to 1,000 stumps, depending on stump size). Marker dye may be added to the solution as a visual aid.

### Storage and Disposal

(For product packaged in rigid, nonrefillable containers less than or equal to 5 gallons)

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

**Pesticide Storage:** Store in original container in a preferably locked storage area inaccessible to children and pets. Do not freeze. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Management:** Nonrefillable container; do not reuse or refill this container. Triple rinse (or equivalent) container promptly 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 ¼ 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, then offer for recycling, if available; or reconditioning, if appropriate; or puncture and dispose of in a sanitary landfill; or by incineration.

### Storage and Disposal

(For product packaged in rigid, nonrefillable containers greater than 5 gallons)

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

**Pesticide Storage:** Store in a cool, dry (preferably locked) storage area inaccessible to children and pets. Do not freeze. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Management:** Nonrefillable container; do not reuse or refill this container. Triple rinse (or equivalent) container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times, then offer for recycling, if available; or reconditioning, if appropriate; or puncture and dispose of in a sanitary landfill; or by incineration.

## Storage and Disposal

*(For product packaged in rigid, refillable containers)*

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

**Pesticide Storage:** Store in original container in a preferably locked storage area inaccessible to children and pets. Do not freeze. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Management:** Refillable container; refill this container only with Bora-Care. Do not reuse this container for any other purpose. Cleaning the container before refilling is the responsibility of the refiller; cleaning before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water, then vigorously agitate or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure 2 more times, then offer for recycling, if available; or reconditioning, if appropriate; or puncture and dispose of in a sanitary landfill; or by incineration..

## XVII. 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, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

## Inherent Risks of Use

The directions for use of this product are believed to be adequate and must be carefully followed. 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 or the manner of use/application, 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.

It is not intended that this product be used to practice any applicable patent, whether mentioned or not, without procurement of a license, if necessary, from the owner, following investigation by the user.



Nisus Corporation  
100 Nisus Drive • Rockford, TN 37853 USA  
(800) 264-0870

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BC-SL-0813-SAL062010

## SAFETY DATA SHEET

# BORA-CARE<sup>®</sup>

**TERMITICIDE, INSECTICIDE AND FUNGICIDE**

**Health Emergencies: CHEMTREC<sup>®</sup> (800) 424-9300**

### 1. PRODUCT AND COMPANY INFORMATION

**Product Identity:** Bora-Care<sup>®</sup>

**Recommended use of the chemical and restrictions on use:**  
Termiticide, Insecticide, and Fungicide Concentrate. Read and understand the entire label before using. Use only according to label directions. It is a violation of Federal law to use this product in a manner inconsistent to label directions.

**Manufacturer:** Nisus Corporation  
100 Nisus Drive  
Rockford, TN 37853

**Telephone:** Phone: (800) 264-0870  
Fax: (865) 577-5825

**Emergency Phone:** 800-424-9300 (CHEMTREC)

**SDS Date of Preparation:** 4/28/15

### 2. HAZARDS IDENTIFICATION

**GHS Classification:**

Physical	Health	Environment
Not Hazardous	Acute Toxicity Oral Category 4 Specific Target Organ Toxicity – Repeat Exposure Category 2 Reproductive Toxicity Category 2	Aquatic Acute Toxicity Category 3

**GHS Label Elements:**



**Statements of Hazard**

H302 Harmful if swallowed.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to kidneys by prolonged or repeated exposure by ingestion.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary Statements**

P260 Do not breathe mist or vapors.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P273 Avoid release to the environment.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
P330 Rinse mouth.  
P501 Dispose of contents and container in accordance with local and national regulations.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Ethylene Glycol	107-21-1	40-60%
Disodium Octaborate Tetrahydrate	12280-03-4	40%
Non-Hazardous Ingredient	Proprietary	0-20%

**The exact formulation is being withheld as a trade secret.**

### 4. FIRST AID MEASURES

**Eye:** Flush victim's eyes with large quantities of water, while holding the eyelids apart. Get medical attention if irritation develops or persists.

**Skin:** Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Remove and launder clothing before re-use.

**Ingestion:** Do not induce vomiting unless directed to do so by a medical professional. Get immediate medical attention for large ingestions or if symptoms develop or if you feel unwell.

**Inhalation:** Remove victim to fresh air. If breathing is difficult or irritation persists, get medical attention.

**Most important Symptoms:** May cause eye and skin irritation. Inhalation of mists may cause mild mucous membrane and respiratory irritation. Harmful if swallowed. Repeated ingestion may cause kidney damage.

**Indication of immediate medical attention/special treatment:** Immediate medical attention is required for large ingestions.

### 5. FIRE FIGHTING MEASURES

**Suitable (and Unsuitable) Extinguishing Media:** Use media appropriate for surrounding fire. Cool fire exposed containers and structures with water.

**Specific hazards arising from the chemical:** A solid stream of water or foam directed into hot, burning liquids can cause frothing. Burning may produce carbon monoxide, carbon dioxide, and ethylene oxide.

**Special Protective Equipment and Precautions for Fire-Fighting Instructions:** Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing. Contain all runoff.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Evacuate spill area and keep unprotected personnel away. Wear appropriate protective clothing as described in Section 8. Avoid releases to the environment.

**Methods and Materials for Containment and Cleaning Up:** Dike and collect liquid or absorb with an inert absorbent and place in appropriate containers for disposal. Prevent spill from entering sewers and watercourses. Report releases as required by local, state and federal authorities.

### 7. HANDLING AND STORAGE

**Precautions for Safe Handling:** Avoid contact with the eyes, skin and clothing. Avoid breathing mists or aerosols. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Remove contaminated clothing immediately and wash before reuse. Remove PPE immediately after handling. Wash thoroughly after using and change into clean clothing. Keep containers closed when not in use.

Nonrefillable container. Do not reuse containers. Product residues in empty containers can be hazardous. Follow all SDS precautions when handling empty containers.

**Conditions for Safe Storage, Including Any Incompatibilities:** Store in a cool, dry, well-ventilated area away from incompatible materials. Keep out of reach of children. Do not freeze. Protect from physical damage.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines:**

Ethylene Glycol	100 mg/m <sup>3</sup> Ceiling ACGIH TLV
Disodium Octaborate Tetrahydrate	2 mg/m <sup>3</sup> TWA ACGIH TLV (Inhalable) 6 mg/m <sup>3</sup> STEL ACGIH TLV (Inhalable)

**Engineering Controls:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Respiratory Protection:** In operations where exposure levels are exceeded, a NIOSH approved respirator with dust/mist cartridges with approved pesticide prefilter or supplied air respirator appropriate for the form and concentration of the contaminants should be used. Selection and use of respiratory equipment must be in accordance with OSHA 1910.134 and good industrial hygiene practice. Refer to the product label for additional information.

**Skin Protection:** Wear impervious gloves such as butyl rubber, nitrile, neoprene, polyethylene, polyvinyl chloride, or Viton. Follow instructions for Category C on an EPA resistance category selection chart for more options.

**Eye Protection:** Wear safety goggles or glasses where splashing is possible.

**Other:** Wear long-sleeve shirts, long pants, socks and shoes when using this product. Suitable washing facilities should be available in the work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance And Odor:** Clear viscous gel with no odor.

**Physical State:** Viscous gel      **Odor Threshold:** Not established

**Vapor Density:** Not determined

**Initial Boiling Point/Range:** >212°F (>100°C)

**Solubility In Water:** Soluble      **Vapor Pressure:** Negligible

**Relative Density:** 1.38      **Evaporation Rate:** Not determined

**Melting/Freezing Point:** Not determined

**pH:** 6.9-7.1 (50% solution in water)

**Percent Volatile:** 36% by weight as water

**Octanol/Water Coefficient:** Not determined

**Solubility:** Soluble in water

**Decomposition Temperature:** Not determined

**Viscosity:** 8000-11,000 centipoise at room temperature

**Flammability (solid, gas):** N/A

**Flashpoint:** >220°F (104°C) TOC      **Autoignition Temperature:** None

**Flammable Limits: LEL:** Not determined      **UEL:** Not determined

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not normally reactive

**Chemical Stability:** Stable under normal storage and handling conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** None known.

**Incompatible Materials:** Avoid strong oxidizing agents and aluminum.

**Hazardous Decomposition Products:** When heated to decomposition emits carbon monoxide, carbon dioxide, and ethylene oxide.

## 11. TOXICOLOGICAL INFORMATION

### HEALTH HAZARDS:

**Ingestion:** Harmful if swallowed. Repeated or high levels of ingestion may cause potentially fatal kidney damage.

**Inhalation:** Inhalation of mists may cause irritation of the nose, throat and upper respiratory tract.

**Eye:** May cause slight irritation with redness, pain and tearing. Product was not irritating in a study with rabbits.

**Skin:** May cause irritation on prolonged or repeated contact. Product was not irritating in a study with rabbits. Negative in a guinea pig sensitization study.

**Chronic:** Ethylene glycol causes kidney damage through repeated ingestion.

**Sensitization:** This material is not known to cause sensitization.

**Carcinogenicity:** None of the components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

**Germ Cell Mutagenicity:** No data available

**Reproductive Toxicity:** Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined.

### Numerical Measures of Toxicity:

#### Product Toxicity Data:

Oral rat LD<sub>50</sub>: >5000 mg/kg; Dermal rabbit LC<sub>50</sub>: >5050 mg/kg;

Inhalation rat LC<sub>50</sub>: >5.06 mg/L (no mortality was observed in any test)

#### Component Toxicity Data:

Ethylene Glycol: Oral rat LD<sub>50</sub>: 4700 mg/kg; Dermal rabbit LC<sub>50</sub>: 9530 mg/kg

Disodium Octaborate Tetrahydrate: Oral rat LD<sub>50</sub>: 3500-4100 mg/kg;

Dermal rabbit LD<sub>50</sub>: >2000 mg/kg; Inhalation rat LC<sub>50</sub>: >2.0 mg/L

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Ethylene Glycol: LC<sub>50</sub> Fathead Minnow: <10,000 mg/L/96 hr.; EC<sub>50</sub> *Daphnia Magna*: 100,000 mg/L/48 hr; Bacterial (*Pseudomonas putida*): 10,000 mg/l; Protozoa (*Entosiphon sulcatum* and *Uronema parduczi*; Chatton-Lwoff): >10,000 mg/l; Algae (*Microcystis aeruginosa*): 2,000 mg/l; Green Algae (*Scenedesmus quadricauda*): >10,000 mg/l  
Disodium Octaborate Tetrahydrate: EC<sub>10</sub> Green Algae: 24 mg B/L/96 hr; LC<sub>50</sub> *Daphnia Magna*: 133 mg B/L/48 hr; NOEC-LOEC *Daphnia Magna*: 6-13 mg B/L/21-day; LC<sub>50</sub> *Limanda limanda*: 74 mg B/L/96 hr; LC<sub>50</sub> Rainbow Trout: 150 mg B/L/24-day, 100 mg B/L/32-day; LC<sub>50</sub> Goldfish: 46 mg B/L/7-day, 178 mg B/L/3-day

This product is classified as harmful to the aquatic environment. Releases to the environment should be avoided.

**Persistence and Degradability:** Ethylene glycol is readily biodegradable (97-100% in 2-12 days). Boron is naturally occurring and ubiquitous in the environment. Disodium Octaborate Tetrahydrate degrades to boron.

**Bioaccumulative Potential:** Ethylene glycol: A BF of 10 reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bio concentration in aquatic organisms is low. Disodium Octaborate Tetrahydrate: Log K<sub>ow</sub>: -0.7570 at 25°C.

**Mobility in Soil:** Disodium Octaborate Tetrahydrate is soluble in water and is leachable through normal soil.

**Other Adverse Effects:** Some plants are sensitive to boron. Avoid releases into the environment. This product is designed to be used for certain types of wood destroying insects. Use product only as directed on the label. Avoid all unintended releases and releases to ground water. Do not apply to water or to intertidal areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. See product label for full instructions and restrictions on use.

## 13. DISPOSAL CONSIDERATION

Dispose in accordance with local, state and federal environmental regulations. Do not contaminate water when disposing of washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, ocean, or other water unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your state water board or regional office of the EPA.

## 14. TRANSPORTATION INFORMATION

**DOT Hazardous Materials Description:** Not Regulated (unless package contains a reportable quantity)

Note: If a shipment of a reportable quantity (10,000 lbs/870 gal) in a single package is involved, the following information applies:

Proper Shipping Name: RQ, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)

UN Number: UN3082

Hazard Class/Packing Group: 9, III

Labels Required: Class 9

## 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

### FIFRA Labeling:

**Bora-Care**  
**EPA Reg. No. 64405-1**  
**Keep Out of Reach of Children**  
**CAUTION**  
**PRECAUTIONARY STATEMENTS**  
**Hazards to Humans & Domestic Animals**

### PRECAUTIONARY STATEMENTS

Wear long sleeved shirt & long pants, socks, shoes and chemical resistant gloves (such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride (PVC), Viton or others listed in Category C on an EPA chemical resistance category selection chart).

**CERCLA:** This product has a reportable quantity (RQ) of 10,000 lbs based on the RQ for ethylene glycol of 5,000 lbs present at 40-50%. Some states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.

**SARA Hazard Category (311/312):** Acute Health, Chronic Health

**SARA 313:** This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Ethylene Glycol 107-21-1 40-50%

**EPA TSCA Inventory:** This product is regulated under FIFRA, thus exempt.

### 16. OTHER INFORMATION

**NFPA Rating:**

Health = 2      Flammability = 1      Instability = 0

**HMIS Rating:**

Health = 2      Flammability = 1      Physical Hazard = 0

**SDS Revision History:** 11/01/03: New SDS  
04/28/15: Revised

### WARRANTY DISCLAIMER

The information, data and recommendations contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof. With respect to this publication and the product related thereto, unless otherwise expressly provided by Manufacturer in writing, **MANUFACTURER MAKES NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

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

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