

**1. IDENTIFICATION**

Product name: **BORRADA (EPA Reg. No. 66222-191)**  
 Chemical name of active ingredient(s): Abamectin: Mixture of avermectins comprising mainly Avermectin B1a  
 Manufacturer: Makhteshim Agan of North America, Inc.  
 3120 Highwoods Blvd., Suite 100  
 Raleigh, NC 27604  
 Phone: 919-256-9300  
 For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-800-535-5053  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Abamectin	71751-41-2	1.9	NA	NA	0.2 mg/m <sup>3</sup> (TWA)	NA
BHT (Butylated hydroxytoluene)	128-37-0	0.5	10 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	-	IARC Group 3*
n-Methyl pyrrolidone	872-50-4	<25	NA	NA	10 ppm (TWA)	NA

\*IARC Group 3 - The agent (mixture, or exposure circumstance) is unclassifiable as to carcinogenicity to humans.

NA=not available

**3. HAZARDS IDENTIFICATIONS****PHYSICAL PROPERTIES**

Appearance: Yellow, Gardner 4, Liquid

Odor: Pungent

**EMERGENCY OVERVIEW: WARNING.** Hazards to Humans and Domestic Animals: May be fatal if swallowed. Causes moderate eye injury. Harmful if inhaled or absorbed through skin. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition products may include, but are not limited to, carbon monoxide, carbon dioxide, low molecular weight hydrocarbons, and/or alcohols. This product is a NFPA class IIIB Liquid.

**PRIMARY ROUTES OF EXPOSURE:** Inhalation, skin, eye contact, and ingestion.

**SYMPTOMS OF EXPOSURE:** May irritate upper respiratory tract if inhaled. Causes moderate eye injury. May be fatal if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. Prolonged or repeated exposure may cause skin irritation in some individuals.

**PHYSICAL OR CHEMICAL HAZARDS:** Do not use or store near heat or open flame.

**4. FIRST AID MEASURES**

FIRST AID	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> </ul>

	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of soap and water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<p><b>Note to physician:</b> Early signs of intoxication include mydriasis (dilate pupils), ataxia (unsteadiness), and muscle tremors. Toxicity following accidental ingestion of BORRADA can be minimized by promptly administering activated charcoal. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and respiratory functionality) as indicated by clinical signs, symptoms, and measurements. In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.</p>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.</p>	

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 206° F (96.7° C)

**FLAMMABLE LIMITS:**

LFL/UFL: Not applicable

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub>, dry chemical.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition products may include, but are not limited to, carbon monoxide, carbon dioxide, low molecular weight hydrocarbons, and/or alcohols.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product is a NFPA class IIIB Liquid.

**FIRE-FIGHTING PROCEDURES:** Use positive-pressure, self-contained breathing apparatus and full protective clothing. Evacuate non-essential personnel from area to prevent human exposure to fire, smoke, fumes or products of combustion.

## 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO TAKE FOR SPILLS/LEAKS:** Clean up small spills immediately, use proper personal protection. Absorb spill with absorbent material such as pet litter. After removal, flush contaminated area thoroughly with water containing a strong detergent. Sweep up and place in a chemical container. Seal the container and handle in an approved manner. Keep spills out of streams and domestic water supplies. Dike to prevent contamination of local water sources. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Dispose of all waste and rinsate in the appropriate manner.

## 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Keep container closed when not in use. Handle and open container in a manner as to prevent spillage. Do not contaminate water, food or feed by storage, disposal or by cleaning equipment. Do not reuse empty container. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated in Section 13.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of reach of children, preferably in a locked storage area. Do not store above 100°F for extended periods of time. Storage below 20°F can result in formation of crystals. If product crystallizes, store at 50°F to 70°F and agitate to redissolve crystals.

**STORAGE TEMPERATURE (MIN/MAX):** Normal ambient temperatures.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.**

**FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.**

**EYE PROTECTION:** Protective eyewear (e.g., goggles or full-face shield).

**SKIN PROTECTION:** Long-sleeved shirt and long pants; Socks and shoes.

**HAND PROTECTION:** Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, Viton, or other selection category E material.

**RESPIRATOR REQUIREMENTS:** In areas with inadequate ventilation a NIOSH-approved chemical cartridge respirator with organic vapor cartridges and pesticide pre-cartridges or a self-contained breathing apparatus may be required when working with this product.

**ADDITIONAL PROTECTIVE MEASURES:** Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Use adequate ventilation to minimize airborne concentration of this material.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

**APPEARANCE:** Yellow, Gardner 4, liquid

**ODOR:** Pungent

**FLASH POINT:** 206° F (96.7° C)

**pH:** 4.26

**DENSITY:** 0.946 g/cc at 23° C and 0.942 g/cc at 40° C

**VISCOSITY:** 42.5 centipoise at 23° C and 21.5 centipoise at 40° C

## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal use and storage conditions.

**MATERIALS TO AVOID:** None known.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**INSTABILITY CONDITIONS:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition products may include, but are not limited to, carbon monoxide, carbon dioxide, low molecular weight hydrocarbons, and/or alcohols.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD50 (Rat):	310.2 mg/kg (females)
Acute Dermal LD50 (Rat):	>2,000 mg/kg
Acute Inhalation LC50 (Rat):	>2.01 mg/L

Eye Irritation (Rabbit): Mildly irritating  
Dermal Irritation (Rabbit): Moderately irritating  
Dermal Sensitization (Guinea Pig): A contact skin sensitizer

## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and wildlife. 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 apply when weather conditions favor drift from target areas. Do not contaminate water when disposing of equipment wash water or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Use of this product may pose a risk to threatened and endangered species of fish, amphibians, crustaceans (including fresh water shrimp), and insects. All use of this product in the State of California must comply with the directions of the California Endangered Species Project. Before using this product in California, consult with your county agriculture commissioner to determine use limitations that apply in your area.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several weeks to months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of abamectin from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

### ECOLOGICAL EFFECTS (Abamectin):

Rainbow Trout 96-hour LC<sub>50</sub>: 4.3 µg/L  
*Daphnia magna* 48-hour LC<sub>50</sub>: 0.47 µg/L

## 13. DISPOSAL CONSIDERATIONS

### END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

**PRODUCT DISPOSAL:** Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. 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 label instructions, contact your State Pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

## 14. TRANSPORT INFORMATION

**DOT CLASSIFICATION:** Not regulated

### INTERNATIONAL TRANSPORTATION

**IMO (vessel):** UN3082, Environmental hazardous substance, liquid, N.O.S. (abamectin), 9, PG III, Marine pollutant

**IATA (air):** UN3082, Environmental hazardous substance, liquid, N.O.S. (abamectin), 9, PG III

## 15. REGULATORY INFORMATION

### SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.  
Section 311/312: Acute health hazard (immediate)  
Delayed health hazard (chronic)  
Section 313: Abamectin (1.9%) CAS#: 71751-41-2  
n-Methylpyrrolidone (<25%) CAS#: 872-50-4

**CA PROPOSITION 65:** n-Methylpyrrolidone (Code D)

**CERCLA RQ:** Not applicable

**RCRA CLASSIFICATION:** Under RCRA, it is the responsibility of the product user to determine at the time

MATERIAL SAFETY DATA SHEET

**BORRADA**

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of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**TSCA STATUS:** The ingredients of this product are listed on the TSCA inventory or are exempt.

**16. OTHER INFORMATION**

<b>HAZARD RATINGS</b>	<b>NFPA</b>	<b>HMIS</b>	
<b>HEALTH:</b>	2	2	0 MINIMAL
<b>FLAMMABILITY:</b>	1	1	1 SLIGHT
<b>REACTIVITY:</b>	0	0	2 MODERATE
			3 HIGH
			4 SEVERE

**MSDS DATE** 8-19-13.

The information herein is given in good faith, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.