1. PRODUCT IDENTIFICATION

1.1. Product Identifiers

Product name : **BorActin™ Insecticide Powder**

1.2. Other Means of Identification

Product synonyms : none

1.3. Recommended Uses/Restrictions to Use

Uses : 99% boric acid dust for control of various pest species per label

Restrictions : see product label for details

1.4. Supplier Details

Company : Rockwell Labs Ltd
1257 Bedford Avenue
North Kansas City, MO 64116-4308
USA

Telephone : 1 816-283-3167

1.5. Emergency Contact

Outside normal business hours

Emergency Phone # : 1 800-424-9300 (USA & Canada)
1 703-527-3887 (Outside USA & Canada)

2. HAZARDS IDENTIFICATION

2.1. Classification of Substance or Mixture

none

2.2. GHS label elements, including precautionary statements

Pictogram(s) none

Signal word none

Hazard statement(s)

none

Precautionary statement(s)

none

2.3. Other hazards which do not result in classification

In animal feeding tests, boric acid has been shown to impair fertility at very high doses. However, decades of occupational exposure in humans have shown no adverse effects associated with this material.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Hazardous component(s) or components of note:

Chemical Identity	Contains (% w/w)	CAS-No.	Hazard Classification
Orthoboric Acid (boric acid)	99	10043-35-3	none

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice

Consult a physician or poison control center. Provide this safety data sheet to medical personnel. Move out of hazardous areas.

If inhaled

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. Call a poison control center or doctor for further treatment advice.

In case of skin contact

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.

In case of eye contact

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If swallowed

Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Boric acid may cause gastrointestinal discomfort with ingestion of more than an incidental amount.

4.3. Indication of any immediate medical attention and special treatment needed, if necessary

None known

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Specific hazards arising from the chemical

Borane/boron oxides

5.3. Special protective equipment and precautions for fire fighters

Wear self contained breathing apparatus for firefighting if deemed necessary.

Additional information: none

5.4. Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with spilled product and contaminated surfaces. Evacuate personnel to safe areas during emergencies. For safe handling instructions see section 7. For proper PPE see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow release directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark.

6.3. Methods and materials for containment and cleaning up

Sweep up any spilled material and dispose of according to instructions in section 13. Vacuuming or wet sweeping may be used to avoid dust dispersal. Wash contaminated surfaces with soap and water.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene practices. Wash hands thoroughly with soap and water after use and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse. For additional precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Store product tightly sealed in original container. Store in dry location as product may clump or aggregate if left in areas with excessive moisture or high humidity. Do not store where children or animals may gain access.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace parameters

Component	CAS-No.	Value	Control parameters	Basis
none	-----	-----	-----	-----

8.2. Appropriate engineering controls

Ensure relevant engineering controls are employed to prevent exceeding threshold values for the listed control parameters in section 8.1.

8.3. Individual protection measures, such as personal protective equipment

In normal use and handling conditions refer to the product label for required PPE. In all other cases the following recommendations would apply.

Eye/face protection

Safety glasses or other similar eye protection conforming to ANSI Z87.1 standards recommended when handling product.

Skin protection

Chemical resistant nitrile rubber or similarly compatible gloves recommended when handling product. Dispose of contaminated gloves after use in accordance with applicable local and state regulations. Wash exposed skin with soap and water immediately. Wash all contaminated clothing prior to reuse.

Respiratory protection

Not required under normal use conditions. Particulate respirator recommended when risk assessment shows need for air-purifying respirators, such as when working in enclosed spaces.

Thermal hazards

None known

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance;	Opaque white solid powder, blue tint
Odor;	Odorless
Odor threshold;	No data available
pH;	5.1 @ 1% in water (22.0 ºC)
Melting point/freezing point;	No data available
Initial boiling point and boiling range;	No data available
Flash point;	No data available
Evaporation rate;	No data available
Flammability (solid, gas);	No data available
Upper/lower flammability or explosive limits;	No data available
Vapor pressure;	None
Vapor density;	None
Relative density;	0.71 g/ml
Solubility;	Soluble in water
Partition coefficient: n-octanol/water;	No data available
Auto-ignition temperature;	No data available
Decomposition temperature;	No data available
Viscosity;	No data available

9.2. Additional Information

No data available

10. STABILITY AND REACTIVITY

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

Exposure to moisture.

10.5. Incompatible materials

Potassium, acid anhydrides, substances sensitive to protic materials

10.6. Hazardous decomposition products

Other decomposition products – no data available

In the event of a fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

LD50 Oral – Rat – 3450 mg/kg

LD50 Dermal – Rat – > 2000 mg/kg

LD50 Inhalation – 2.12 mg/l

Skin corrosion/irritation

Skin – Rabbit

Results: slight skin irritation

(OECD Test Guideline 404)

Serious eye damage/irritation

Eye – Rabbit

Results: moderate eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

Not a known sensitizer

Germ cell mutagenicity

Not a known mutagen

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive toxicity

In animal feeding tests, boric acid has been shown to impair fertility at very high doses. However, decades of occupational exposure in humans have shown no adverse effects associated with this material.

Specific target organ toxicity – single exposure

No data available

Specific target organ toxicity – repeated exposure

No data available

Aspiration hazard

No data available

11.2. Other information

No data available

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (Rainbow trout) - > 1,100 mg/l – 96 h LC50 - Lepomis macrochirus (Bluegill) - > 1,021 mg/l – 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 – Daphnia magna (Water flea) – 133 to 226 mg/l – 48 h

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1. Disposal Methods.

The best disposal method is to use the entire quantity per label directions. If it is necessary to dispose of unused material then follow the label instructions and relevant local, state and federal waste disposal guidelines.

Product Disposal:

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

Packaging Disposal:

If empty: Place in trash or offer for recycling if available. If partly filled: Call your local solid waste agency or 1-800-CLEANUP which is managed as a public-private partnership.

See section 8 for proper PPE and precautionary handling measures.

14. TRANSPORT INFORMATION

DOT

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

KEEP OUT OF THE REACH OF CHILDREN
CAUTION
Harmful if swallowed or inhaled.
Causes moderate eye irritation.
Avoid contact with eyes or clothing.
Avoid breathing dust.
Wash hands thoroughly with soap and water after use and before eating, drinking, chewing gum, using tobacco or using the toilet.
Remove contaminated clothing and wash before reuse.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

None

California Proposition 65 Components

This product does not contain any chemicals known to the state of California to cause cancer, birth defects, or reproductive harm.

TSCA

All components of this product are listed, exempted, or excluded from listing on the U.S. Toxic Substances Control Act chemical substance inventory.

16. OTHER INFORMATION

Acronyms and abbreviations used

LD50	Lethal Dose, 50%
OECD	Organization for Economic Cooperation and Development
IARC	International Agency for Research on Cancer
ACGIH	American Conference of Industrial Hygienists
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
DOT	Department of Transportation
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
SARA	Superfund Amendments and Reauthorization Act
TSCA	Toxic Substances Control Act
CAS-No.	Chemical Abstract Services - Number
PPE	Personal Protective Equipment
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association
PPM	Parts Per Million

Hazard Rating System Crossover

HMIS Rating		NFPA Rating	
Health Hazard:	1	Health Hazard:	1
Flammability:	0	Flammability:	0
Reactivity:	0	Reactivity:	0

Preparation information

Prepared by:	Rockwell Labs Ltd
Version:	1.0
Revision Date:	May 15, 2015
Reason for revision:	none

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