



Issuing Date 23-Jun-2020

Revision Date 23-Jun-2020

Revision Number 2

# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product identifier

**Product Name** AAB1

### Other means of identification

**Product Description** 1000 µg/mL Boron

### Recommended use of the chemical and restrictions on use

**Recommended Use** Laboratory chemicals.

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

#### **Company**

Inorganic Ventures  
300 Technology Drive  
Christiansburg, VA 24073  
web: [www.inorganicventures.com](http://www.inorganicventures.com)

### Emergency telephone number

#### **Emergency Telephone Number**

Chemtrec 1-800-424-9300 (North America)  
Chemtrec +1 703-741-5970 (International)

## 2. HAZARDS IDENTIFICATION

### GHS

#### Classification

|                       |             |
|-----------------------|-------------|
| Carcinogenicity       | Category 1B |
| Reproductive toxicity | Category 1B |

#### Label Elements

#### **Danger**

#### **Hazard statements**

May cause cancer  
May damage fertility or the unborn child



**Appearance** clear / colorless

**Physical state** Liquid

**Odor** Odorless

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other Information**

No information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical name      | CAS No     | Weight-% |
|--------------------|------------|----------|
| Boric acid (H3BO3) | 10043-35-3 | 0.6      |
| Ammonium hydroxide | 1336-21-6  | 0.1      |

**4. FIRST AID MEASURES****Description of first aid measures**

|                     |                                                                                                                      |
|---------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| <b>Skin Contact</b> | Wash skin with soap and water.                                                                                       |
| <b>Inhalation</b>   | Remove to fresh air.                                                                                                 |
| <b>Ingestion</b>    | Clean mouth with water and drink afterwards plenty of water.                                                         |

**Most important symptoms and effects, both acute and delayed**

|                                            |                           |
|--------------------------------------------|---------------------------|
| <b>Most Important Symptoms and Effects</b> | No information available. |
|--------------------------------------------|---------------------------|

**Indication of any immediate medical attention and special treatment needed**

|                           |                       |
|---------------------------|-----------------------|
| <b>Notes to Physician</b> | Treat symptomatically |
|---------------------------|-----------------------|

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

**Special Exposure Hazards Arising from the Substance/Mixture**

Thermal decomposition can lead to release of irritating gases and vapors

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full

protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Ensure adequate ventilation.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

**Methods for Cleaning up** Dam up. Neutralise with lime milk; soda. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

| Chemical name                                              | ACGIH TLV                                                                                                                                                                             | OSHA PEL                                                                                                   | NIOSH IDLH                                                                                              |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Boric acid (H <sub>3</sub> BO <sub>3</sub> )<br>10043-35-3 | 6 mg/m <sup>3</sup> STEL (inhalable particulate matter, listed under Borate compounds, inorganic) 6 mg/m <sup>3</sup> STEL (inhalable particulate matter)<br>TWA: 2 mg/m <sup>3</sup> |                                                                                                            |                                                                                                         |
| Ammonium hydroxide<br>1336-21-6                            | 35 ppm STEL<br>TWA: 25 ppm                                                                                                                                                            | TWA: 50 ppm<br>TWA: 35 mg/m <sup>3</sup><br>(vacated) STEL: 35 ppm<br>(vacated) STEL: 27 mg/m <sup>3</sup> | IDLH: 300 ppm<br>TWA: 25 ppm<br>TWA: 18 mg/m <sup>3</sup><br>STEL: 35 ppm<br>STEL: 27 mg/m <sup>3</sup> |

### Appropriate engineering controls

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Individual protection measures, such as personal protective equipment

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** clear / colorless

**Odor**

Odorless

**Property**

pH - VALUE 1

Melting Point/Range

Boiling point / boiling range

Evaporation rate

Flammability (solid, gas)

Vapor pressure @20 °C (kPa)

Vapor density

Relative Density

Specific gravity - VALUE 1

Water solubility

Partition coefficient: n-octanol/water

Autoignition temperature

Decomposition temperature

Dynamic viscosity - VALUE 1

**Values**

No data available

No data available

100 °C

No data available

No data available

No data available

No data available

No data available

No data available

Miscible

No data available

No data available

No data available

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**Other information**

VOC Content (%)

No information available

**10. STABILITY AND REACTIVITY****Reactivity**

No data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to Avoid**

None known.

**Incompatible materials**

No information available

**Hazardous decomposition products**

No information available.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information**

Product does not present an acute toxicity hazard based on known information

**Inhalation**

No data available.

**Eye Contact**

No data available.

**Skin Contact**

No data available.

**Ingestion**

No data available.

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|-----------|-------------|-----------------|
|---------------|-----------|-------------|-----------------|

|                                 |                                           |                                                  |                                                               |
|---------------------------------|-------------------------------------------|--------------------------------------------------|---------------------------------------------------------------|
| Boric acid (H3BO3) - 10043-35-3 | = 2660 mg/kg ( Rat ) = 3765 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) >= 2000 mg/kg ( Rabbit ) | > 0.16 mg/L ( Rat ) 4 h >= 2120 mg/m <sup>3</sup> ( Rat ) 4 h |
| Ammonium hydroxide - 1336-21-6  | = 350 mg/kg ( Rat )                       | -                                                | = 2000 ppm ( Rat ) 4 h                                        |

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenic effects**

| Chemical name                    | ACGIH | IARC | NTP | OSHA |
|----------------------------------|-------|------|-----|------|
| Boric acid (H3BO3)<br>10043-35-3 |       |      |     | X    |

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (inhalation-dust/mist) 501 mg/l

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Ecotoxicity effects**

Contains 0 % of components with unknown hazards to the aquatic environment

| Chemical name                    | Algae/aquatic plants | Fish                                                                                                                                                                                                                                                                                                                                                                     | Toxicity to microorganisms | Crustacea                                                                                                      |
|----------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------|
| Boric acid (H3BO3)<br>10043-35-3 |                      | 1020: 72 h Carassius auratus mg/L LC50 flow-through                                                                                                                                                                                                                                                                                                                      |                            | EC50 48 h 115 - 153 mg/L (Daphnia magna)                                                                       |
| Ammonium hydroxide<br>1336-21-6  |                      | 8.2: 96 h Pimephales promelas mg/L LC50 0.26 - 4.6: 96 h Lepomis macrochirus mg/L LC50 1.5: 96 h Poecilia reticulata mg/L LC50 1.19: 96 h Poecilia reticulata mg/L LC50 static 0.73 - 2.35: 96 h Pimephales promelas mg/L LC50 5.9: 96 h Pimephales promelas mg/L LC50 static 0.44: 96 h Cyprinus carpio mg/L LC50 1.17: 96 h Lepomis macrochirus mg/L LC50 flow-through |                            | EC50 48 h = 0.66 mg/L (water flea) EC50 48 h = 0.66 mg/L (Daphnia pulex) LC50 48 h = 25.4 mg/L (Daphnia magna) |

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

| Chemical name                    | Partition coefficient |
|----------------------------------|-----------------------|
| Boric acid (H3BO3)<br>10043-35-3 | -0.757                |
| Ammonium hydroxide<br>1336-21-6  | -1.14                 |

Other Adverse Effects**13. DISPOSAL CONSIDERATIONS**Waste treatment methods

**Waste from Residues/Unused Products** Dispose of in accordance with federal, state and local regulations

**Contaminated Packaging** Do not reuse empty containers.

| Chemical name                    | California Hazardous Waste Status |
|----------------------------------|-----------------------------------|
| Boric acid (H3BO3)<br>10043-35-3 | Toxic                             |
| Ammonium hydroxide<br>1336-21-6  | Toxic<br>Corrosive                |

**14. TRANSPORT INFORMATION**IMDG

**14.1. UN-No** Not regulated

**14.2. Proper shipping name** Not regulated

**14.3. Transport hazard class(es)** Not regulated

**14.4. Packing Group** Not regulated

**Description** Not applicable

**14.5. Marine Pollutant** None

**14.6. Special Provisions** None

**No information available Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available

RID

**14.1. UN-No** Not regulated

**14.2. Proper shipping name** Not regulated

**14.3. Hazard Class** Not regulated

**14.4. Packing Group** Not regulated

**Description** Not applicable

**14.5. Environmental hazard** None

**14.6. Special Provisions** None

ADR

**14.1. UN-No** Not regulated

**14.2. Proper shipping name** Not regulated

**14.3. Hazard Class** Not regulated

**14.4. Packing Group** Not regulated

**Description** Not applicable

**14.5. Environmental hazard** None

**14.6. Special Provisions** None

ICAO

**14.1. UN-No** Not regulated

**14.2. Proper Shipping Name** Not regulated

**14.3. Hazard Class** Not regulated

**14.4. Packing Group** Not regulated

**Description** Not applicable

**14.5. Environmental hazard** None

**14.6. Special Provisions** None

IATA-DGR

|                                  |                |
|----------------------------------|----------------|
| 14.1. UN-No                      | Not regulated  |
| 14.2. Proper shipping name       | Not regulated  |
| 14.3. Transport hazard class(es) | Not regulated  |
| 14.4. Packing Group              | Not regulated  |
| Description                      | Not applicable |
| 14.5. Environmental hazard       | None           |
| 14.6. Special Provisions         | None           |

## 15. REGULATORY INFORMATION

### International Inventories

|               |          |
|---------------|----------|
| TSCA          | Complies |
| DSL/NDL       | Complies |
| EINECS/ELINCS | Complies |
| ENCS          | Complies |
| IECSC         | Complies |
| KECL          | Complies |
| PICCS         | Complies |
| AICS          | Complies |

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical name                  | CAS No    | Weight-% | SARA 313 - Threshold Values % |
|--------------------------------|-----------|----------|-------------------------------|
| Ammonium hydroxide - 1336-21-6 | 1336-21-6 | 0.1      | 1.0                           |

#### SARA 311/312 Hazard Categories

|                                   |                |
|-----------------------------------|----------------|
| Acute health hazard               | Not classified |
| Chronic Health Hazard             | Not classified |
| Fire hazard                       | Not classified |
| Sudden Release of Pressure Hazard | No             |
| Reactive Hazard                   | Not classified |

#### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name                   | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Ammonium hydroxide<br>1336-21-6 | 1000 lb                     |                        |                           | X                          |

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name                   | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ                                                                                  |
|---------------------------------|--------------------------|------------------------------------|-------------------------------------------------------------------------------------|
| Ammonium hydroxide<br>1336-21-6 | 1000 lb 100 lb           | 100 lb                             | RQ 1000 lb final RQ<br>RQ 454 kg final RQ RQ 100 lb final RQ<br>RQ 45.4 kg final RQ |

**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**

| Chemical name                    | New Jersey | Massachusetts | Pennsylvania |
|----------------------------------|------------|---------------|--------------|
| Boric acid (H3BO3)<br>10043-35-3 | X          |               |              |
| Ammonium hydroxide<br>1336-21-6  | X          | X             | X            |

**U.S. EPA Label Information****16. OTHER INFORMATION**

Revision Date 23-Jun-2020

**Revision Note**

No information available

**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**