Safety Data Sheet

Section 1: Identification

Product identifier

Product Name
• MOSS-B-WARE

Synonyms
• EPA Reg. No. 10699-1

Molecular Weight
• 179.46 g/mol

Relevant identified uses of the substance or mixture and uses advised against

Recommended use
• To kill or prevent moss growth. Avoid applying to hard working surfaces.

Details of the supplier of the safety data sheet

Manufacturer
• Retta Manufacturing, Inc.
P.O. Box 1820
North Bend, WA 98045
United States

Supplier
• Central Garden and Pet
1340 Treat Boulevard Suite 600
Walnut Creek, CA 94597
United States
www.central.com

Emergency telephone number

Manufacturer
• 1-800-265-0761

Manufacturer
• 1-800-858-7378 - National Pesticide Information Center (NPIC)

Supplier
• 1-800-424-9300 - CHEMTREC

Section 2: Hazard Identification

United States (US)
According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012
• Acute Toxicity Oral 4 - H302
  Serious Eye Damage 1 - H318

Label elements

OSHA HCS 2012

DANGER
Hazard statements • Causes serious eye damage - H318
    Harmful if swallowed - H302

Precautionary statements

Prevention • Wash thoroughly after handling. - P264
        Do not eat, drink or smoke when using this product. - P270
        Wear protective gloves/protective clothing/eye protection/face protection. - P280

Response • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
        IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell. - P301+P312
        Rinse mouth. - P330
        Immediately call a POISON CENTER or doctor/physician. - P310

Storage/Disposal • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

Other hazards


Section 3 - Composition/Information on Ingredients

Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc Sulfate Monohydrate</td>
<td>CAS:7446-19-7</td>
<td>&gt; 99%</td>
<td>NDA</td>
<td>OSHA HCS 2012: Acute tox. Cat. 4 (oral); Serious eye damage Cat. 1</td>
</tr>
</tbody>
</table>

Section 4: First-Aid Measures

Description of first aid measures

Inhalation • Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a physician if symptoms occur.

Skin • Wash the contaminated area of body with soap and fresh water. Remove clothing and wash thoroughly before use. If irritation develops and persists, get medical attention.

Eye • 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. Get medical attention immediately if symptoms occur.
Ingestion

- Call a physician or poison control center immediately. Rinse mouth. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- Probable mucosal damage may contraindicate the use of gastric lavage. If medical advice is needed, have product container or label at hand.

Antidotes

- There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

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**Section 5: Fire-Fighting Measures**

**Extinguishing media**

Suitable Extinguishing Media

- In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media

- None known.

Firefighting Procedures

- Keep unauthorized personnel away. Avoid breathing fumes.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products

- Hazardous decomposition may occur under fire conditions, generating fumes, producing sulphur oxides and zinc oxides.

Advice for firefighters

- Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

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**Section 6 - Accidental Release Measures**

**Personal precautions, protective equipment and emergency procedures**

Personal Precautions

- Ventilate enclosed areas. Wear a self-contained breathing apparatus and appropriate Personal Protective Equipment (PPE)

Emergency Procedures

- Stay upwind. Evacuate area. Keep unauthorized personnel away. Stop leak if you can do it without risk.

Environmental precautions

- Avoid generating dust. Do NOT wash away into sewer. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

Containment/Clean-up Measures

- Use appropriate Personal Protective Equipment (PPE)
  Carefully shovel or sweep up spilled material and place in suitable container.
  Do not use water to flush spill area.
  Prevent runoff from entering drains, sewers, and streams.
  This material and its container must be disposed of in a safe way.
Section 7 - Handling and Storage

Precautions for safe handling

Handling
- Avoid contact with skin and eyes. Use only in well ventilated areas. Do not breathe (dust, vapor or spray mist) Use good safety and industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Storage
- Keep container/package tightly closed and in a well-ventilated place. Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and pets. Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies.

Specific end use(s)
- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure controls

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Pictograms
-  

Respiratory
- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face
- Wear eye/face protection - safety glasses, - face shield.

Hands
- Wear protective gloves - nitrile rubber.

Skin/Body
- Wear full body suit. Protective equipment must be selected according to the concentration and amount of product.

Environmental Exposure Controls
- Avoid release to the environment. Refer to Section 13 - Disposal Considerations.
Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Appearance/Description</th>
<th>Odor</th>
<th>Particulate Type</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Form</td>
<td>Solid</td>
<td>White</td>
<td></td>
<td>Powder</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>Odor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taste</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particulate Type</td>
<td>Dust</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

General Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>500 °C(932 °F)</td>
</tr>
<tr>
<td>Melting Point</td>
<td>100 °C(212 °F)</td>
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<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Heat of Decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>3 to 5</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>3 g/mL @ 25 °C(77 °F)</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>No data available</td>
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<tr>
<td>Water Solubility</td>
<td>Soluble 1.01 g/mL @ 20 °C(68 °F)</td>
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<tr>
<td>Solvent Solubility</td>
<td>No data available</td>
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<tr>
<td>Viscosity</td>
<td>No data available</td>
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<tr>
<td>Explosive Properties</td>
<td>No data available</td>
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<tr>
<td>Octanol/Water Partition coefficient</td>
<td>No data available</td>
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<tr>
<td>Bioaccumulation Factor</td>
<td>No data available</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand BOD/BOD5</td>
<td>No data available</td>
</tr>
<tr>
<td>Persistence</td>
<td>No data available</td>
</tr>
<tr>
<td>Degradation</td>
<td>No data available</td>
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</tbody>
</table>

Environmental

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Half-Life</td>
<td>No data available</td>
</tr>
<tr>
<td>Octanol/Water Partition coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Bioaccumulation Factor</td>
<td>No data available</td>
</tr>
<tr>
<td>Biochemical Oxygen Demand BOD/BOD5</td>
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</tr>
<tr>
<td>Persistence</td>
<td>No data available</td>
</tr>
<tr>
<td>Degradation</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Section 10: Stability and Reactivity

Reactivity

- Substance does not burn.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Incompatible materials.

Incompatible materials

- Strong oxidizing agents.

Hazardous decomposition products

- Hazardous decomposition may occur under fire conditions, generating fumes, producing sulphur oxides and zinc oxides.
### Section 11 - Toxicological Information

#### Information on toxicological effects

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Dosage</th>
<th>Route</th>
<th>Species</th>
<th>Duration</th>
<th>Results</th>
<th>Test Class</th>
<th>Target Organs</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>2949 mg/kg</td>
<td>Ingestion/Oral</td>
<td>Rat</td>
<td>NDA</td>
<td>LD50</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
<tr>
<td>Acute Toxicity</td>
<td>57 mg/kg</td>
<td>Ingestion/Oral</td>
<td>Mouse</td>
<td>NDA</td>
<td>LD50</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
</tbody>
</table>

#### GHS Properties

- **Acute toxicity**: OSHA HCS 2012•Acute Toxicity 4 (Ingestion/Oral)
- **Aspiration Hazard**: OSHA HCS 2012•Classification criteria not met
- **Carcinogenicity**: OSHA HCS 2012•Classification criteria not met
- **Germ Cell Mutagenicity**: OSHA HCS 2012•Classification criteria not met
- **Skin corrosion/Irritation**: OSHA HCS 2012•Classification criteria not met
- **Skin sensitization**: OSHA HCS 2012•Classification criteria not met
- **STOT-RE**: OSHA HCS 2012•Classification criteria not met
- **STOT-SE**: OSHA HCS 2012•Classification criteria not met
- **Toxicity for Reproduction**: OSHA HCS 2012•Classification criteria not met
- **Respiratory sensitization**: OSHA HCS 2012•Classification criteria not met
- **Serious eye damage/Irritation**: OSHA HCS 2012•Serious Eye Damage 1

#### Target Organs

- Kidney, Pancreas, Liver, Lungs

#### Route(s) of entry/exposure

- Inhalation, ingestion, skin and eye contact.

#### Potential Health Effects

##### Inhalation

- **Acute (Immediate)**: May be harmful. May cause respiratory irritation.
- **Chronic (Delayed)**: Repeated or prolonged exposure to corrosive fumes may cause bronchial irritation with chronic cough. Exposure to high levels of dust can cause metallic taste thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills.

##### Skin

- **Acute (Immediate)**: May be harmful. Causes skin irritation.
- **Chronic (Delayed)**: Repeated or prolonged exposure to corrosive materials will cause dermatitis. (oxide pox)

##### Eye

- **Acute (Immediate)**: Causes eye irritation.
- **Chronic (Delayed)**: No data available

##### Ingestion

- **Acute (Immediate)**: May be harmful if swallowed.
- **Chronic (Delayed)**: No data available

##### Carcinogenic Effects

- The active ingredient(s) is not listed as a carcinogen by OSHA, IARC, or NTP.
Section 12 - Ecological Information

Toxicity

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Species</th>
<th>Duration</th>
<th>Results</th>
<th>Exposure Conditions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 4.6 ppm</td>
<td>Fish: Salmon gairdneri (rainbow trout)</td>
<td>0 to 95 Hour(s)</td>
<td>LC50</td>
<td>fresh water</td>
<td>NDA</td>
</tr>
</tbody>
</table>

Persistence and degradability
- No data available

Bioaccumulative potential
- No data available

Mobility in Soil
- No data available

Results of PBT and vPvB assessment
- PBT and vPvB assessment has not been carried out.

Other adverse effects
- This pesticide is toxic to fish.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste
- Do not empty into drains; dispose of this material and its container in a safe way.

Packaging waste
- Nonrefillable container. Send to a licensed recycler, reclaimer or incinerator.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>3077</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (zinc sulphate monohydrate)</td>
<td>9</td>
<td>III</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>3077</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc sulphate monohydrate)</td>
<td>9</td>
<td>III</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>3077</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc sulphate monohydrate)</td>
<td>9</td>
<td>III</td>
</tr>
</tbody>
</table>

Special precautions for user
- No data available

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

Other information

DOT
- Not regulated in containers under 1,000 lbs.
**Section 15 - Regulatory Information**

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • SARA Title III Section 313

FIFRA – Pesticide Labeling

**DANGER**

Precautionary • Statements

**Hazards to Humans and Domestic Animals**

HAZARD TO HUMANS AND DOMESTIC ANIMALS: Corrosive. Causes irreversible eye damage. Harmful if swallowed, absorbed through skin or inhaled. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing dust or spray mist. Wear goggles or face shield. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse. Do not allow persons or pets in treated areas until dusts have settled or sprays have dried.

First Aid • IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice. IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. IF INHALED: Mover person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. HOTLINE NUMBER: Have product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center (NPIC) at 1-800-858-7378. NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

**Environmental Hazards**

This product is toxic to fish and aquatic invertebrates. Do not apply directly to water. Do not contaminate water when disposing of equipment wash water. Apply this product as specified on label. PESTICIDE STORAGE: Store in a dry, locked location, in original container and not accessible to children or pets. Avoid contamination or feed and food stuffs. PESTICIDE DISPOSAL: if partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain. CONTAINER DISPOSAL: if empty: Nonrefillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available.

<table>
<thead>
<tr>
<th>State Right To Know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Component</strong></td>
</tr>
<tr>
<td>Zinc Sulfate Monohydrate</td>
</tr>
</tbody>
</table>
United States - California

Environment
- U.S. - California - Proposition 65 - Carcinogens List
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - California - Proposition 65 - Developmental Toxicity
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Female
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Male
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed

United States - Pennsylvania

Labor
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed
- U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
  - Zinc Sulfate Monohydrate 7446-19-7 Not Listed

Section 16 - Other Information

Last Revision Date: 31/July/2013
Preparation Date: 05/July/2013
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