FOR ANY EMERGENCY, 24 HOURS / 7 DAYS, CALL: 1-800-654-6911 (OUTSIDE USA: 1-423-780-2970)
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®: 1-800-424-9300 (OUTSIDE USA: 1-703-527-3887)
FOR ALL SDS QUESTIONS & REQUESTS, CALL: 1-800-511-MSDS (OUTSIDE USA: 1-423-780-2347)

PRODUCT NAME: AB HARPOON AQUATIC HERBICIDE

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Supplier
Applied Biochemists (WI)
W175 N11163 Stonewood Drive, Suite 234
Germantown, WI, 53022
USA

Telephone: +12622554449
Telefax: +12622554449
Web: www.appliedbiochemists.com

Manufacturer
Advantis Technologies
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America

REVISION DATE: 05/26/2015
SUPERCEDES: 04/19/2011
MSDS Number: 000000024492
SYNONYMS: None
CHEMICAL FAMILY: None established
DESCRIPTION / USE: None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral) : Category 4
Eye irritation : Category 2B
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS Label element
Hazard pictograms : 

Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H320 Causes eye irritation.
H335 May cause respiratory irritation.

Precautionary statements : Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS OR CHEMICAL NAME</th>
<th>CAS #</th>
<th>% RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper ethylenediamine complex</td>
<td>13426-91-0</td>
<td>20 - 26</td>
</tr>
<tr>
<td>Sulfate</td>
<td>14808-79-8</td>
<td>10 - 15</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

Inhalation: 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.

Skin Contact: IF ON SKIN OR CLOTHING: 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.

Eye Contact: 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 a poison control center or doctor for treatment advice.

Ingestion: 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 a poison control center or doctor. Do not give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): Combustible above 93 deg. C / 200 deg. F.

Flammable Properties
Flash Point: 100 °C closed cup

Fire / Explosion Hazards: May be ignited by open flame.

Extinguishing Media: Water Carbon dioxide (CO2) Dry powder Foam

Fire Fighting Instructions: Use water spray to cool unopened containers. In case of fire, use normal fire-fighting equipment and the personal protective equipment recommended in Section 8 to include a NIOSH approved self-contained breathing apparatus.

Hazardous Combustion Products: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Protection for Emergency Situations: Use the personal protective equipment recommended in Section 8 and a NIOSH approved self-contained breathing apparatus.

Spill Mitigation Procedures
Air Release: Not applicable

Water Release: soluble if the product contaminates rivers and lakes or drains inform respective authorities.

Land Release: Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not contaminate ponds, waterways or ditches with chemical or used container.
Additional Spill Information: Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas.

SECTION 7. HANDLING AND STORAGE

Handling: Do not take internally. Avoid contact with skin, eyes and clothing. If in eyes or on skin, rinse well with water. Avoid breathing vapours, mist or gas.

Storage: Keep container tightly closed in a dry and well-ventilated place. Do not store near feed, food, or within the reach of children.

Shelf Life Limitations: Maximum storage temperature:

Incompatible Materials for Storage: Refer to Section 10, “Incompatible Materials.”

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Protective Equipment for Routine Use of Product

Respiratory Protection: Wear a NIOSH approved respirator if levels above the exposure limits are possible. A NIOSH approved air purifying respirator with organic vapor cartridge and P100 filter. Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin Protection: Impervious gloves Butyl rubber Neoprene

Eye Protection: Use chemical goggles.

Protective Clothing Type: Impervious, Butyl rubber, Neoprene

General Protective Measures: Emergency eyewash should be provided in the immediate work area.

Components with workplace control parameters

no data available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>No data.</td>
</tr>
<tr>
<td>Color:</td>
<td>purple</td>
</tr>
<tr>
<td>Odor:</td>
<td>Amine</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>None established</td>
</tr>
<tr>
<td>pH:</td>
<td>10.0 - 10.5</td>
</tr>
</tbody>
</table>

Boiling Point: 215.1 °F (101.7 °C)
Melting point/freezing point: no data available
Density: Not applicable

Vapor Pressure: no data available
Vapor Density: no data available
Viscosity: 3.268 mPa.s at 20 °C

Solubility in Water: soluble
Partition coefficient n-octanol/water: No data
Evaporation Rate: no data available
Oxidizing: None established
Vapor Density: no data available

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC’s (40 CFR 60.489). This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

SECTION 10. STABILITY AND REACTIVITY

Stability and Reactivity Summary: Stable under normal conditions.
Conditions to Avoid: Heat, flames and sparks.
Chemical Incompatibility: Oxidizing agents
Hazardous Decomposition Products: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Decomposition Temperature: >200 °C

SECTION 11. TOXICOLOGICAL INFORMATION

Product Animal Toxicity
Oral LD50 value: 550 mg/kg Rat
Dermal LD50 value: > 5,000 mg/kg Rat
Inhalation LC50 value: No data.

Skin Irritation: Slight Skin Irritant
Eye Irritation: Mild eye irritation
Skin Sensitization: Not a Skin Sensitizer

Subchronic / Chronic Toxicity: There are no known or reported effects to humans from repeated exposure to this product.
Reproductive and Developmental Toxicity: Not known or reported to cause reproductive or developmental toxicity.
Mutagenicity: Not known or reported to be mutagenic.
Carcinogenicity: This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

SECTION 12. ECOLOGICAL INFORMATION

Overview: There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THE MATERIAL. THE USER OF THE MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

Waste Disposal Summary: If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D. As a nonhazardous liquid waste, it should be disposed of in accordance with local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

DOT
Not dangerous goods

TDG
Not dangerous goods

IATA
Not dangerous goods

IMDG-CODE
Not dangerous goods

SECTION 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.

Signal word: CAUTION!
Hazard statements:
- Harmful if swallowed.
- Causes moderate eye irritation.
- This pesticide is toxic to fish.
- This pesticide is toxic to aquatic invertebrates.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylenediamine</td>
<td>107-15-3</td>
<td>5000</td>
<td></td>
</tr>
</tbody>
</table>

SARA 302
The following components are subject to reporting levels established by SARA Title III, Section 302:

- Ethylenediamine 107-15-3

SARA 313
The following components are subject to reporting levels established by SARA Title III, Section 313:

- Cupriethylenediamine solution 13426-91-0

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC’s (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

- Ethylenediamine 107-15-3 0.7 %
The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Chemical: Ethylenediamine  
CAS No.: 107-15-3  
Concentration: 0.7 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307:

Chemical: Cupriethylenediamine solution  
CAS No.: 13426-91-0  
Concentration: 23.3 %

**US State Regulations**

**Massachusetts Right To Know**
No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**
- Cupriethylenediamine solution 13426-91-0
- Sulfate 14808-79-8

**New Jersey Right To Know**
- Cupriethylenediamine solution 13426-91-0
- Sulfate 14808-79-8

**California Prop 65**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

**TSCA**: This is an EPA registered pesticide.
- Copper Sulfate pentahydrate
- Carbonic acid, magnesium salt (1:1), mixt. with magnesium hydroxide (Mg(OH)2), hydrate

**Inventories**
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

SECTIONS REVISED: 3
Major References: Available upon request.
THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. THIS INFORMATION HAS BEEN PREPARED FOR THE GUIDANCE OF PLANT ENGINEERING, OPERATIONS AND MANAGEMENT AND FOR PERSONS WORKING WITH OR HANDLING THIS PRODUCT. ARCH CHEMICALS BELIEVES THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF THE DATE OF PUBLICATION BUT, MAKES NO WARRANTY THAT IT IS. ADDITIONALLY, IF THIS MSDS IS MORE THAN THREE YEARS OLD, YOU SHOULD CONTACT ARCH CHEMICALS MSDS CONTROL AT THE PHONE NUMBER ON THE FRONT PAGE TO MAKE CERTAIN THAT THIS DOCUMENT IS CURRENT.