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

REVISION DATE: 05/26/2015
SUPERCEDES: 02/01/2011

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

MSDS Number: 000000024391
SYNONYMS: None
CHEMICAL FAMILY: None established
DESCRIPTION / USE: None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids: Not classified

This material is considered hazardous under the OSHA Hazard Communication Standard criteria, based on hazard(s) not otherwise classified.

Not a dangerous substance according to GHS.

GHS Label element
Not a dangerous substance according to GHS.

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>BLUE 1</td>
<td>3844-45-9</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Yellow No. 5</td>
<td>1934-21-0</td>
<td>0 - 2</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): Product is not known to be flammable, combustible, pyrophoric or explosive.

Flammable Properties

Fire / Explosion Hazards: Material will not ignite or burn.
Extinguishing Media: Water Carbon dioxide (CO2) 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.

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: completely miscible
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: 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: Store in a cool, dry and well ventilated place. Isolate from incompatible materials. Do not freeze.

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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Use local exhaust ventilation to maintain levels below exposure limits.

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 half-face air purifying respirator with organic vapor cartridge. 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

Eye Protection: Safety glasses with side-shields

Protective Clothing Type: Impervious
Components with workplace control parameters

no data available

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State:</td>
<td>liquid</td>
</tr>
<tr>
<td>Form</td>
<td>No data</td>
</tr>
<tr>
<td>Color</td>
<td>dark blue</td>
</tr>
<tr>
<td>Odor</td>
<td>none</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>None established</td>
</tr>
<tr>
<td>pH</td>
<td>4.2 - 4.7</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>212 °F (100 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Bulk Density:</td>
<td>()</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>no data available</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>no data available</td>
</tr>
<tr>
<td>Oxidizing:</td>
<td>None established</td>
</tr>
<tr>
<td>Volatiles, % by vol.:</td>
<td>no data available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>no data available</td>
</tr>
<tr>
<td>HAP Content</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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
Chemical Incompatibility: Oxidizing agents
Hazardous Decomposition Products: No hazardous decomposition products are known.
Decomposition Temperature: No data

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:
BLUE 1  LD50 > 2,000 mg/kg  Rat
Yellow No. 5  12,750.0 mg/kg
Component Animal Toxicology

Dermal LD50 value:
BLUE 1 LD50 no data available

Component Animal Toxicology

Inhalation LC50 value:
BLUE 1 Inhalation LC50 no data available

Product Animal Toxicity

Oral LD50 value: Believed to be > 5,000 mg/kg
Dermal LD50 value: Believed to be > 2,000 mg/kg
Inhalation LC50 No data.

Skin Irritation: Not expected to cause irritation.
Eye Irritation: Not expected to cause irritation.
Skin Sensitization: Not believed to be sensitising to skin.

BLUE 1 This material tested negative for skin sensitization in animals.

Yellow No. 5 May cause allergic skin sensitization in some individuals.
May cause allergic respiratory sensitization in some individuals.

Subchronic / Chronic Toxicity:

There are no known or reported effects from chronic exposure.

BLUE 1 Not known or reported to cause subchronic or chronic toxicity.

Reproductive and Developmental Toxicity:

Not known or reported to cause reproductive or developmental toxicity.

BLUE 1 This chemical has been tested in laboratory animals and there was no evidence of reproductive toxicity, teratogenicity, or developmental toxicity.

Mutagenicity:

Not known or reported to be mutagenic.

BLUE 1 This material has been shown to be non-mutagenic in the majority of a battery of assays. Not expected to be a mutagenic hazard.

Carcinogenicity:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

BLUE 1 The International Agency for Research on Cancer (IARC) has classified this product or a component of this product as a Group 3 substance, Unclassifiable as to its Carcinogenicity to Humans.
SECTION 12. ECOLOGICAL INFORMATION

Overview: No data for product. Individual constituents are as follows:

Ecological Toxicity Values for: BLUE 1

- **Fish** - 96 h LC50 > 220 and < 460 mg/l
- **Daphnia magna (Water flea)** - 48 h EC50 > 100 mg/l

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.

Potential US EPA Waste Codes: LONZA-N09.00602550

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.
                   Harmful if absorbed through skin.
                   Causes moderate eye irritation.

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

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

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.

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:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>0 %</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>0 %</td>
</tr>
</tbody>
</table>

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>0 %</td>
</tr>
</tbody>
</table>
Sodium hydroxide 1310-73-2 0 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

CI Food Blue 2 3844-45-9

Pennsylvania Right To Know

CI Food Blue 2 3844-45-9

New Jersey Right To Know

CI Food Blue 2 3844-45-9

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.

Inventories

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

SECTION 16. OTHER INFORMATION

SECTIONS REVISED: 15
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.