PRODUCT NAME: Citra Bright

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

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

REVISION DATE: 05/26/2015
SUPERCEDES: 10/20/2011
MSDS Number: 000000024469
SYNONYMS: None
CHEMICAL FAMILY: None
DESCRIPTION / USE: None established
FORMULA: None established

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
- Flammable liquids: Category 3
- Skin sensitisation: Category 1
- Eye irritation: Category 2B
- Specific target organ toxicity - repeated exposure (Oral): Category 2 (Kidney)
- Specific target organ toxicity - repeated exposure (Oral): Category 2 (Blood)

GHS Label element
- Hazard pictograms:
  - Flammable liquid
  - Eye irritation
  - Skin irritation
- Signal word: Warning
H320 Causes eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe vapours.
P261 Avoid breathing vapours.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing.

Response:
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see supplemental first aid instructions on this label).
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.

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>Citrus, ext.</td>
<td>94266-47-4</td>
<td>5 - 15</td>
</tr>
<tr>
<td>Butoxydiglycol</td>
<td>112-34-5</td>
<td>4 - 14</td>
</tr>
<tr>
<td>Cocamide DEA</td>
<td>61791-31-9</td>
<td>7.92 - 9.24</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>1.98 - 3.96</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>111-42-2</td>
<td>1.32 - 1.98</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

Inhalation: IF INHALED: Remove individual to fresh air. Seek medical attention if breathing becomes difficult or if respiratory irritation develops.

Skin Contact: IF ON SKIN: Flush skin with water for 15 minutes. Take off all contaminated clothing. Seek medical attention if irritation develops.

Eye Contact: IF IN EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.

Ingestion: IF SWALLOWED: Immediately drink water to dilute. Seek medical attention if symptoms develop. Never give anything by mouth to an unconscious person.

SECTION 5. FIREFIGHTING MEASURES

Flammability Summary (OSHA): Combustible.

Flammable Properties
Flash Point: 50.00 °C

Fire / Explosion Hazards: Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back.

Extinguishing Media: Carbon dioxide (CO2) Foam Dry chemical

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.
Upper Flammable / Explosive Limit, % in air: No data
Lower Flammable / Explosive Limit, % in air: No data

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: Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog.
Water Release: Notify all downstream users of possible contamination. Divert water flow around spill if possible and safe to do so.
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). After removal, flush contaminated area thoroughly with water. Avoid runoff into storm sewers and ditches which lead to waterways.
Additional Spill Information: Prevent further leakage or spillage if safe to do so. Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition.

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: 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 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: Chemical resistant goggles must be worn.
Protective Clothing Type: Impervious clothing
General Protective Measures: Ensure that eyewash stations and safety showers are close to the workstation location.

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components (CAS-No.)</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis (Update)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butoxydiglycol (112-34-5)</td>
<td>TWA</td>
<td>10 ppm</td>
<td>ACGIH (02 2014)</td>
</tr>
<tr>
<td>Diethanolamine (111-42-2)</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>ACGIH (02 2014)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal absorption</td>
<td>ACGIH (02 2014)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>possible</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
Form: No data.
Color: No data.
Odor: No data.
Molecular Weight: None established
pH: 9.7 - 9.9
Boiling Point: No Data
Melting point/freezing point: Not applicable
Density: Not applicable
Vapor Pressure: No data
Vapor Density: No data
Viscosity: no data available
Solubility in Water: No data
Partition coefficient n-octanol/water: No data.
Evaporation Rate: no data available
Oxidizing: None established
Volatile, % by vol.: no data available
VOC Content: 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., Product will not undergo hazardous polymerization.

Conditions to Avoid: Heat, flames and sparks., Avoid freezing.

Chemical Incompatibility: Oxidizing agents, Acids

Hazardous Decomposition Products: Carbon oxides, Smoke

Decomposition Temperature: No data

SECTION 11. TOXICOLOGICAL INFORMATION

Component Animal Toxicology
Oral LD50 value:
Citrus, ext. LD50 > 5,000 mg/kg Rabbit
Butoxydiglycol LD50 > 5,000 mg/kg Rat
Cocamide DEA LD50 = 1,000 - 2,000 mg/kg Rat
Unknown LD50 Believed to be approximately 5,461 mg/kg Rat
Diethanolamine LD50 = 680 mg/kg Rat

Component Animal Toxicology
Dermal LD50 value:
Citrus, ext. LD50 > 5,000 mg/kg Rabbit
Butoxydiglycol LD50 > 2,000 mg/kg Rabbit
Cocamide DEA no data available
Unknown no data available
Diethanolamine LD50 > 8,300 mg/kg Rabbit

Component Animal Toxicology
Inhalation LC50 value:
Citrus, ext. no data available
Butoxydiglycol Inhalation LC50 7 h Believed to be > 18 ppm Rat
Cocamide DEA no data available
Unknown no data available
Diethanolamine no data available

Product Animal Toxicity
Oral LD50 value: LD50 Believed to be approximately 5,600 mg/kg Rat
Dermal LD50 value: LD50 Believed to be > 5,000 mg/kg Rabbit
Inhalation LC50 value: no data available
Skin Irritation: May cause mild skin irritation.
Eye Irritation: Moderate eye irritant
Skin Sensitization: May cause allergic skin sensitization in some individuals.
Acute Toxicity: May cause mild skin irritation and moderate eye irritation. Inhalation of mist/vapors may cause mucous membrane irritation (includes upper respiratory tract). Ingestion may cause gastrointestinal discomfort.
Subchronic / Chronic Toxicity: Exposure to large quantities may result in red blood cell hemolysis and possible kidney damage.

Reproductive and Developmental Toxicity:

Butoxydiglycol: This product has been tested and was shown not to produce any adverse effects on reproductive function or fetal development when administered to laboratory animals.

Mutagenicity: Not known or reported to be mutagenic.
Butoxydiglycol: This chemical has been shown to be non-mutagenic based on a battery of assays.
Diethanolamine: Not known or reported to be mutagenic.

Carcinogenicity: This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.
Butoxydiglycol: This chemical is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.
Diethanolamine: 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: Moderately toxic to fish and other aquatic organisms.

Ecological Toxicity Values - Product:
- LC50 Believed to be approximately 2.6 mg/l (calculated)

Ecological Toxicity Values for: Butoxydiglycol
Bluegill - 96 h LC50 1,300 mg/l
Ecological Toxicity Values for: Cocamide DEA

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Duration</th>
<th>EC50 or LC50 Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>96 h</td>
<td>0.28 mg/l</td>
</tr>
<tr>
<td>Daphnia magna (Water flea)</td>
<td>48 h</td>
<td>0.84 mg/l</td>
</tr>
</tbody>
</table>

Ecological Toxicity Values for: Diethanolamine

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Duration</th>
<th>EC50 or LC50 Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lepomis macrochirus (Bluegill sunfish)</td>
<td>(static) 96 h</td>
<td>1,850 mg/l</td>
</tr>
<tr>
<td>Pimephales promelas (fathead minnow)</td>
<td>96 h</td>
<td>837 mg/l</td>
</tr>
<tr>
<td>Daphnia magna</td>
<td>48 h</td>
<td>122 mg/l</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>UN number</td>
<td>1993</td>
</tr>
<tr>
<td>Description of the goods</td>
<td>Combustible liquid, n.o.s. (Citrus, ext.)</td>
</tr>
<tr>
<td>Class</td>
<td>CBL</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Emergency Response</td>
<td>128</td>
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TDG

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>UN number</td>
<td>1993</td>
</tr>
<tr>
<td>Description of the goods</td>
<td>FLAMMABLE LIQUID, N.O.S. (Citrus, ext.)</td>
</tr>
</tbody>
</table>
Class : 3
Packing group : III
Labels : 3

IATA
UN number : 1993
Description of the goods : Flammable liquid, n.o.s.
(Citrus, ext.)
Class : 3
Packing group : III
Labels : 3
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Packing instruction (passenger aircraft) : Y344

IMDG-CODE
UN number : 1993
Description of the goods : FLAMMABLE LIQUID, N.O.S.
(Citrus, ext.)
Class : 3
Packing group : III
Labels : 3
EmS Number 1 : F-E
EmS Number 2 : S-E

SECTION 15. REGULATORY INFORMATION

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>2,2'-Iminodiethanol</td>
<td>111-42-2</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-(Butoxyethoxy)ethanol</td>
<td>112-34-5</td>
</tr>
</tbody>
</table>
Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

- 2-(2-Butoxyethoxy)ethanol  112-34-5  9.95 %
- 2,2'-Iminodiethanol  111-42-2  1.98 %

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

This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.

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

- 2,2'-Iminodiethanol  111-42-2

Pennsylvania Right To Know

- Citrus, ext.  94266-47-4
- 2-(2-Butoxyethoxy)ethanol  112-34-5
- 2,2'-Iminodiethanol  111-42-2

New Jersey Right To Know

- Citrus, ext.  94266-47-4
- 2-(2-Butoxyethoxy)ethanol  112-34-5
- 2,2'-Iminodiethanol  111-42-2

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

- 2,2'-Iminodiethanol  111-42-2
The components of this product are reported in the following inventories:

TSCA: The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

- dye Pylaklor Fst Orange LX -6215
- Citrus, ext.
- amine soap confidential

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.