**Section 1 - Chemical Product and Company Identification**

Product Identifier:
Copper Count N Solution

Product Use:
Pesticide

Chemical Name:
Copper Ammonium Complex

Manufacturer Information:
Mineral Research and Development
5910 Pharr Mill Road
Harrisburg, NC 28075

Phone: 800-454-4805
Fax: 704-455-6507
Emergency # 1-800-424-9300

General Comments
NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

**Section 2 - Hazards Identification**

Classification in accordance with 29 CFR 1910.1200
- Skin Irritant, Category 2
- Eye Irritant, Category 2
- Skin Sensitizer, Category 1

GHS LABEL ELEMENTS
Symbol(s)

Signal Word
WARNING!

Hazard Statement(s)
Causes eye irritation
Causes skin irritation
May cause an allergic skin reaction

Precautionary Statement(s)
Prevention
Avoid breathing fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and continue
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rinsing. If eye irritation persists, get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before re-use. If skin irritation or rash occurs, get medical advice/attention. Contaminated clothing should not be allowed out of the workplace.

Disposal
Dispose of contents/containers in accordance with applicable federal, state and local regulations.

*** Section 3 - Composition / Information on Ingredients ***

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>70 - 80</td>
</tr>
<tr>
<td>13822-80-5</td>
<td>Copper diammonia diacetate complex [Bis-(acetate-O) Diaminecopper]</td>
<td>20 - 30</td>
</tr>
</tbody>
</table>

Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Copper compounds, n.o.s.

Component Information/Information on Non-Hazardous Components
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication). This product is considered hazardous under the criteria specified in the Canadian Workplace Hazardous Materials Information System (WHMIS).

*** Section 4 - First Aid Measures ***

Eye Contact:
Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. If eye irritation persists, get medical advice/attention.

Skin Contact:
For skin contact, wash immediately with soap and water. In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water. If irritation persists get medical attention.

Ingestion:
If material is ingested, immediately contact a physician or poison control center. Give one to two glasses of water or milk. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:
If inhaled, immediately remove the affected person to fresh air. If the affected person is not breathing, apply artificial respiration. If irritation persists get medical attention.

Note to Physician:
Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards
This product is an aqueous mixture, which will not burn.

Hazardous Combustion Products
Oxides of carbon, oxides of nitrogen and other organic substances may be formed. Copper oxides and copper metal. Ammonia.

Extinguishing Media
Use media appropriate to surrounding fire.

Unsuitable Extinguishing Media
None known.

Specific Hazards Arising From the Chemical
None known.
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Fire Fighting Equipment/Instructions
   Firefighters should wear full protective clothing including self-contained breathing apparatus and impervious clothing.

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0
   Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Personal Precautions
   Wear appropriate protective equipment and clothing during clean-up. Isolate area. Keep unnecessary personnel away.

Methods and Materials for Containment Clean-up
   Stop the flow of material, if this is without risk. Contain the discharged material and dike the spilled material where possible. Prevent entry into sewers, drains, underground or confined spaces, water intakes and waterways. Absorb spill with inert material such as: lime, polypads, or other suitable absorbent material. Shovel the absorbed material into appropriate container for disposal. Follow all Local, State, Federal and Provincial regulations for disposal.

*** Section 7 - Handling and Storage ***

Precautions for Safe Handling
   Open container carefully, as needed to relieve any build up of pressure. Do not get this material in your eyes, on your skin, or on your clothing. Do not inhale vapors or mists of this product. Use this product with adequate ventilation. Wash thoroughly after handling.

Conditions for Safe Storage
   Store in a cool, dry area. Do not freeze. Store away from direct sunlight and any sources of heat. Empty product containers may contain product residue. Do not reuse empty containers. Do not store this material in open or unlabeled containers.

*** Section 8 - Exposure Controls / Personal Protection ***

Component Exposure Limits
   Copper Ammonium Complex (23087-46-9)
      NIOSH: 1 mg/m3 TWA (as Cu, except Copper fume) (related to Copper compounds)

Appropriate Engineering Controls
   Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face Protection
   Wear chemical goggles and face shield.

Skin Protection
   Wear impervious (neoprene) gloves, impervious apron.

Respiratory Protection
   If ventilation is not sufficient to effectively prevent buildup of vapors or mists, appropriate approved NIOSH respiratory protection must be provided. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage must be implemented.
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General Protection
Eye wash fountain and emergency showers are recommended. An emergency spill response will necessitate the use of more stringent personal protective equipment.

PPE Pictograms:

*** Section 9 - Physical & Chemical Properties ***

Appearance: Dark Blue
Physical State: Liquid
Vapor Pressure: Not Applicable
Boiling Point: >212°F (>100°C)
Solubility (H2O): Completely
Flash Point: Not flammable
Auto Ignition: Not flammable
UFL: Not applicable
Evaporation Rate: Similar to water
VOC Content: Not Available
Odor: None
pH: @ 59°F (15°C): 3.0 - 8.0
Vapor Density: Not Applicable
Melting Point: Not Determined
Specific Gravity: @ 59°F (15°C): 1.16
Flash Point Method: Not applicable
LFL: Not applicable
Viscosity: Not Available
Octanol/H2O Coeff.: Not Available

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Conditions to Avoid
Avoid contact with extreme heat and incompatible materials.

Incompatibility
This product is incompatible with flammable and combustible materials, strong reducing agents and finely powdered metals.

Hazardous Decomposition
Upon decomposition, product may yield copper compounds, ammonia, and nitrogen oxides.

Possibility of Hazardous Reactions
Will not occur.

*** Section 11 – Toxicological Information ***

Acute Toxicity
This product is irritating to the eyes, respiratory system and skin. May cause allergic skin sensitization reactions.

Product Toxicity Analysis – (Manufacturer Information)
Dermal:
Based on Dermal Sensitization Study in Guinea Pigs (Buehler Method), this product is not considered to be a contact sensitizer.
Based on Primary Skin Irritation Study in Rabbits, this product is slightly irritating to the skin.

Eye:
Based on Primary Eye Irritation Study in Rabbits, this product is classified as moderately irritating to eyes.
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Product LD50/LC50 - (Manufacturer Information)
Oral LD50 (Acute) Rat: 3,200 mg/kg
Dermal LD50 (Acute) Rat: >2,000 mg/kg
Inhalation LD50 (Acute) Rat: >2.02 mg/L

Component Analysis - LD50/LC50
Water (7732-18-5)
Oral LD50 Rat: >90 mL/kg

Epidemiology
No epidemiological data is available for this product.

Information on Likely Routes of Exposure

Eyes Contact
Contact with the eyes can cause moderate irritation. Symptoms may include discomfort or pain and redness.

Skin Contact
This product is irritating to the skin. Depending on the duration of contact, symptoms will include reddening, discomfort, irritation, and possible tissue damage. Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Ingestion
Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

Inhalation
This product may cause irritation to the respiratory system. Overexposure to processing fumes may cause metal fume fever which is an influenza like illness. Symptoms include headache, metallic taste in the mouth, cough, thirst, throat irritation, shortness of breath, fever, sweating and pain in the limbs. This illness is not permanent and recovery usually occurs within 24-48 hours after onset.

Chronic Effect
Liver and kidney disorders and adverse effects on the lungs, may also occur as a result of chronic exposure.

Carcinogenicity
No carcinogenicity data available for this product. None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Mutagenicity
No data available for this product.

Teratogenicity
No data available for this product.

Neurological Effects
No data available for this product.

Other Toxicological Information
No additional information available.

Medical Conditions Aggravated by Exposure
Pre-existing skin and eye conditions.

HMIS Ratings: Health: 2 Fire: 0 Physical Hazard: 0 Pers. Prot.: Safety glasses, impervious gloves, protective clothing
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  * = Chronic hazard

*** Section 12 - Ecological Information ***

Ecotoxicity
In high concentrations, this product may be harmful to both terrestrial and aquatic plant or animal life.

Component Analysis - Ecotoxicity - Aquatic Toxicity
No ecotoxicity data are available for this product's components.
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Environmental Fate
No data available for this product.

*** Section 13 - Disposal Considerations ***

Disposal Instructions
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes.

Component Waste Numbers
No EPA Waste Numbers are applicable for this product's components.

*** Section 14 - Transportation Information ***

US DOT Information
Shipping Name: This product is not regulated as a hazardous material for transportation.

Canada Transportation of Dangerous Goods Information
Shipping Name: This product is not regulated as a hazardous material for transportation.

IMDG Information
Shipping Name: This product is not regulated as a hazardous material for transportation.

*** Section 15 - Regulatory Information ***

US Federal Regulations
No additional information available. All components are on the U.S. EPA TSCA Inventory List.

Component Analysis
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4):

Copper diammonia diacetate complex [Bis-(acetate-O) Diaminecopper] (13822-80-5)
SARA 313: 1.0 % de minimis concentration (does not include copper phthalocyanine compounds substituted only with hydrogen and/or bromine and/or chlorine, Chemical Category N100) (related to Copper compounds)

SARA 311/312: Acute Health Yes : Chronic Health Yes : Fire No : Pressure No : Reactive No

State Regulations
Other state regulations may apply. Check individual state requirements.

Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
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<td>Copper diammonia diacetate complex [Bis-(acetate-O) Diaminecopper] (related to Copper compounds)</td>
<td>13822-80-5</td>
<td>Yes¹</td>
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<td>Yes¹</td>
<td>Yes¹</td>
<td>No</td>
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</table>
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Canadian WHMIS Classification
D2: Subdivision B: Toxic Materials

Symbol

Canadian WHMIS Ingredient Disclosure List (IDL)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Minimum Concentration</th>
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<td>Copper diammonia diacetate complex [Bis-(acetate-O) Diaminecopper]</td>
<td>13822-80-5</td>
<td>1 % (related to Copper compounds, n.o.s.)</td>
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Component Analysis - Inventory

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<th>Component</th>
<th>CAS #</th>
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<th>DSL</th>
<th>NDSSL</th>
<th>EINECS</th>
<th>AUST</th>
<th>MITI</th>
<th>PHIL</th>
<th>KOREA</th>
<th>ELINCS</th>
<th>CHINA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<td>No</td>
<td>No</td>
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<td>No</td>
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</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

SDS History
New SDS: March 10, 2013
Updated Product Toxicity Data and Key/Legend: October 21, 2013

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; AU = Australia; BOD = Biochemical Oxygen Demand; C = Celsius; CA = Canada; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CN = China; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EPA = Environmental Protection Agency; EU = European Union; F = Fahrenheit; HEPA = High Efficiency Particulate Air; HMIS = Hazardous Material Information System; HPV = High Production Volume Chemical (EU); IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; ICL = In Commerce List (Canada); IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; JP = Japan; KR = Korea; LEL - Lower Explosive Limit; MITI = Japan Ministry of International Trade and Industry; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m³ = milligrams per Cubic Meter; MSHA = Mine Safety and Health Administration; NA = Not Applicable or Not Available; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NJSR = New Jersey Trade Secret Registry; NDSL = Non-Domestic Substances Inventory; NTP = National Toxicology Program; NZ = New Zealand; OSHA = Occupational Safety and Health Administration; PH = Philippines; RCRA = Resource Conversation & Recovery Act; RQ = Reportable Quantity; SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit; TDG = Transport Dangerous Goods; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; UEL = Upper Explosive Limit; US = United States; WHMIS = Workplace Hazardous Materials Information System.
Other Information

Disclaimer: Supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Safety Data Sheet before handling product.

End of Sheet MRD-187