

# Safety Data Sheet OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS Rev 3.

Revision date: Initial version Date of issue: 10.10.2015

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**Product name:** Hi Cal Mix

# **SECTION 1: Identification**

Product identifier used on the label:

Product Name: Hi Cal Mix

Other means of identification:

**Synonyms:** None available

Product Code Number: 2HCAL0000K00, 2HCAL2500B50, 2HCAL2000T00

SDS number: CC020US

Recommended use of the chemical and restrictions on use:

**Recommended use:** Fertilizer Micronutrient Additive. **Recommended restrictions:** Not intended for human consumption.

Name, address, and telephone number of the chemical manufacturer, importer, or other

responsible party:

Company Name: Cameron Chemicals, Inc.

Company Address: 830 Old Dill Road,

Suffolk, VA 23434

**Company Telephone:** (757) 934-2142

8.00am to 5.00pm

Company Contact Name Mark Whitfield

Company Contact Email mwhitfield@cameronchemicals.com

**Emergency phone number:** Chemtrec USA: 800-424-9300 (24hrs)

# **SECTION 2: Hazard(s) identification**

# Classification of the chemical in accordance with paragraph (d) of §1910.1200:

#### Physical hazards

No physical hazards under GHS.

# Health hazards

Skin irritation, Category 2.

Serious eye damage, Category 1.

Specific target organ toxicity - Single exposure, Category 3, Respiratory system.

Specific target organ toxicity - Repeated exposure, Category 2.

#### **Environmental hazards**

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Not adopted under OSHA GHS

DANGER. **GHS Signal word:** 

**GHS** Hazard statement(s): H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H373 - May cause damage to organs < Central Nervous System> through prolonged or repeated exposure <<br/>by inhalation>>

# **GHS** Hazard symbol(s):



# **GHS** Precautionary statement(s):

#### **Prevention:**

- Do not breathe dust/fume/gas/mist/ vapors/spray.
- Wash skin thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.

#### **Response:**

- If on skin: Wash with plenty of water.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Specific treatment (see sections 4 to 8 on this SDS and any additional information on this label).
- If skin irritation occurs: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.

#### **Storage:**

- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.

#### **Disposal:**

Dispose of contents/container to a suitable treatment site in accordance with local/regional/international regulations.

**Hazard**(s) not otherwise

Classified (HNOC): None known.

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# Percentage of ingredient(s) of unknown acute toxicity:

27% of the mixture consists of ingredients of unknown acute toxicity (oral).

31% of the mixture consists of ingredients of unknown acute toxicity (dermal/inhalation).

# **SECTION 3: Composition/information on ingredients**

**Mixture:** Mixture of Borates, Oxides and Sulfates of Copper, Magnesium, Manganese, Zinc and Iron, and Calcium.

| Chemical name     | CAS#      | Concentration (weight %) |
|-------------------|-----------|--------------------------|
| Magnesium Sulfate | 7733-02-0 | 20 - 30%                 |
| Calcium Oxide     | 1305-78-8 | 5 - 10%                  |
| Manganese Oxide   | 1344-43-0 | 5 - 10%                  |
| Magnesium Oxide   | 1314-13-2 | 5 - 10%                  |
| Iron Oxide        | 1309-37-1 | 5 - 10%                  |
| Zinc Oxide        | 1314-13-2 | 5 - 10%                  |
| Manganese Sulfate | 7785-87-7 | 1 - 5%                   |
| Zinc Sulfate      | 7733-02-0 | 1 - 5%                   |
| Iron Sulfate      | 7720-78-7 | 1 - 3%                   |
| Copper Oxide      | 7758-99-8 | 1 - 3%                   |
| Copper Sulfate    | 1305-78-8 | 1 - 3%                   |

Note: The balance of the ingredients are not classified as hazardous or are below the concentration limit to be classified as hazardous, under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

# **SECTION 4: First-aid Measures**

# **Description of necessary measures:**

**Inhalation:** Remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain medical attention.

**Skin contact:** Wash with plenty of water. Seek medical attention if irritation persists.

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**Eye contact:** Wash the eyes with running water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

**Ingestion:** Rinse mouth and then drink plenty of water. Induce vomiting (lean victim forward to reduce risk of aspiration). Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Obtain medical attention.

# Most important symptoms/effects, acute and delayed:

Occasional mild irritation effects to the nose and throat may occur from inhalation. Skin and eye irritation may occur. Stomach upset may occur.

This product contains Manganese. Chronic exposure to heavy concentrations of manganese containing dust can cause central nervous system disorders.

Central Nervous System: Symptoms may appear after 1-2 years of elevated exposure. Stage 1 - subclinical, reversible. Indifference irritability, headache, anorexia, sleep disturbances, decreased libido, arthralgia, muscular spasm, diminished fine motor coordination, emotional and behavioral disorders called "manganic psychosis" are more frequently seen among miners at this stage. Higher incidence of respiratory infection and pneumonia is seen persons with a history of alcoholism, psychiatric, neurologic, or pulmonary diseases, liver dysfunction, or anemia.

**Indication of immediate medical attention and special treatment needed, if necessary:** If any symptoms are observed, contact a physician and give them this SDS sheet. Treat symptomatically.

# **SECTION 5: Fire-fighting measures**

**Suitable extinguishing media:** Product is not combustible. Use dry chemical, carbon dioxide, or water extinguishers.

Unsuitable extinguishing media: None known.

#### **Specific hazards arising from the chemical:**

Reacts with oxidizers such as H<sub>2</sub>O<sub>2</sub>, F<sub>2</sub>, Ca(OCL)<sub>2</sub> and organic peroxides.

**Special protective equipment and precautions for fire-fighters:** Wear self-contained breathing apparatus and protective clothing. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

#### **SECTION 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Ensure adequate ventilation. Evacuate personnel to safe areas. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

#### Methods and materials for containment and cleaning up:

Small Spills: Sweep up and try to keep dust to a minimum. Large Spills: Sweep up and try to keep dust to a minimum.

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Containment: Do not release into sewers or waterways. See Section 13 for information on appropriate disposal.

# **SECTION 7: Handling and Storage**

**Precautions for safe handling:** Use proper safety equipment at all times. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Wash hands before breaks and at the end of work. Clothing being used around chemicals should be cleaned daily.

# Conditions for safe storage, including any incompatibles:

Store materials in a cool dry place away from strong oxidizers. Store only in the original container. Keep container tightly closed.

# SECTION 8: Exposure controls/personal protection

OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available:

| US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):<br>Permissible Exposure Limits |                               |                   |  |
|---|-------------------------------|-------------------|--|
| Substance   | PEL-TWA (8 hour)              | PEL-STEL (15 min) |  |
| Magnesium Sulfate   | None known                    | None known        |  |
| Calcium Oxide   | 5 mg/m <sup>3</sup>           | None known        |  |
| Manganese Oxide   | 5 mg/m <sup>3</sup> (ceiling) | None known        |  |
| Magnesium Oxide   | 15 mg/m <sup>3</sup>          | None known        |  |
| Iron Oxide  | 5 mg/m <sup>3</sup>           | None known        |  |
| Zinc Oxide  | 5 mg/m <sup>3</sup>           | None known        |  |
| Manganese Sulfate   | 5 mg/m³ (ceiling)             | None known        |  |
| Zinc Sulfate (Zinc compounds)   | 5 mg/m <sup>3</sup>           | None known        |  |
| Iron Sulfate  | $1 \text{ mg/m}^3$            | None known        |  |
| Copper Oxide  | 1 mg/m3                       | None known        |  |
| Copper Sulfate  | 1 mg/m3                       | None known        |  |

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| US ACGIH Threshold Limit Values |  |            |   |  |
|---------------------------------|--|------------|---|--|
| Substance TLV-TWA               |  | TLV-STEL   | REMARKS   |  |
| Magnesium Sulfate               | None known   | None known | n/a   |  |
| Calcium Oxide                   | 2 mg/m <sup>3</sup>                                | None known | Upper Respiratory Tract irritation                    |  |
| Manganese Oxide                 | $0.2 \text{ mg/m}^3$                               | None known | Central Nervous System impairment                     |  |
| Magnesium Oxide                 | 10 mg/m <sup>3</sup>                               | None known | Upper Respiratory Tract irritation metal fume fever   |  |
| Iron Oxide                      | 5 mg/m <sup>3</sup> None known                     |            | Pneumoconiosis Not classifiable as a human carcinogen |  |
| Zinc Oxide                      | $2 \text{ mg/m}^3 \qquad \qquad 10 \text{ mg/m}^3$ |            | Metal fume fever                                      |  |
| Manganese Sulfate               | 0.2 mg/m <sup>3</sup>                              | None known | Central Nervous System impairment                     |  |
| Zinc Sulfate (Zinc compounds)   | 10 mg/m <sup>3</sup>                               | None known | n/a   |  |
| Iron Sulfate                    | 1 mg/m <sup>3</sup>                                | None known | Upper Respiratory Tract irritation Skin irritation    |  |
| Copper Oxide (as Cu dusts)      | 1 mg/m <sup>3</sup>                                | None known | n/a   |  |
| Copper Sulfate (as Cu dusts)    | 1 mg/m3  | None known | n/a   |  |

| US NIOSH NIOSH Recommended Exposure Limits |   |                      |  |
|--|---|----------------------|--|
| Substance                                  | TLV-TWA   | TLV-STEL             |  |
| Magnesium Sulfate                          | None known  | None known           |  |
| Calcium Oxide                              | 2 mg/m <sup>3</sup>                               | None known           |  |
| Manganese Oxide                            | 1 mg/m <sup>3</sup>                               | 3 mg/m <sup>3</sup>  |  |
| Magnesium Oxide                            | None known  | None known           |  |
| Iron Oxide                                 | 5 mg/m <sup>3</sup>                               | None known           |  |
| Zinc Oxide                                 | 5 mg/m <sup>3</sup>                               | 10 mg/m <sup>3</sup> |  |
| Manganese Sulfate                          | $1 \text{ mg/m}^3 \qquad \qquad 3 \text{ mg/m}^3$ |                      |  |

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| Zinc Sulfate   | None known           | None known |
|----------------|----------------------|------------|
| Iron Sulfate   | $1 \text{ mg/m}^3$   | None known |
| Copper Oxide   | $0.1 \text{ mg/m}^3$ | None known |
| Copper Sulfate | 1 mg/m <sup>3</sup>  | None known |

**Appropriate engineering controls:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

#### Individual protection measures, such as personal protective equipment:

**Eye/face protection:** Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Skin and Hand protection:** Wear protective gloves, boots, and aprons to prevent prolonged or repeated skin contact.

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

#### Other:

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Consider periodic medical exams of exposed workers with emphasis on skin, respiratory, and blood screening.

**Thermal hazards:** None established.

# **SECTION 9: Physical and chemical properties**

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Appearance (physical state,

color, etc.):Granular solidColor:Black / GrayOdor:No odor.

Odor threshold:Not establishedpH:5 - 6 (1/100 dilution)Melting point/freezing point:No data availableInitial Boiling Point andNo data available

boiling range:

Flash point:

Evaporation rate:

No data available
No data available
No data available
Not flammable

Upper/lower flammability or explosive limits

Flammability limit – lower %):
Flammability limit – upper (%):
No data available

Relative density (water = 1): 1.1 - 1.5

Solubility(ies): Partially Soluble

**Partition coefficient** 

n-octanol/water: No data available
 Auto-ignition temperature: No data available
 Decomposition temperature: Not established
 Viscosity: No data available
 Density: 60 lbs Cubic Foot

# **SECTION 10: Stability and Reactivity**

**Reactivity:** Stable.

Chemical stability: This product is stable at room temperature in closed

containers under normal storage and handling conditions.

**Possibility of hazardous reactions:** Hazardous polymerization cannot occur.

**Conditions to avoid:** Avoid moisture.

**Incompatible materials:** Reacts with oxidizers such as H<sub>2</sub>O<sub>2</sub>, F<sub>2</sub>, Ca(OCL)<sub>2</sub> and

organic peroxides.

**Hazardous decomposition products:** None expected.

# **SECTION 11: Toxicological information**

**Information on likely routes of exposure:** 

**Inhalation:** Inhalation is the most significant route of exposure in

occupational and other settings.

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**Ingestion:** An expected route of entry. Ingestion may cause stomach

upset.

Skin: An expected route of entry. May cause skin irritation.

Eyes: Not a primary route of entry but may cause irritation.

**Target Organ(s):** Eyes, Skin, Respiratory system, Central nervous system.

# Symptoms related to the physical, chemical, and toxicological characteristics:

Occasional mild irritation effects to the nose and throat may occur from inhalation. Skin and eye irritation may occur. Stomach upset may occur.

# Delayed and immediate effects and chronic effects from short or long-term exposure:

Central Nervous System: Symptoms may appear after 1-2 years of elevated exposure. Stage 1 – subclinical reversible. Indifference irritability, headache, anorexia, sleep disturbances, decreased libido, arthralgia, muscular spasm, diminished fine motor coordination, emotional and behavioral disorders called "manganic psychosis" are more frequently seen among miners at this stage. Higher incidence of respiratory infection and pneumonia is seen in persons with a history of alcoholism, psychiatric, neurologic, or pulmonary diseases, liver dysfunction, or anemia.

# **Numerical measures of toxicity:**

#### **Acute toxicity estimates:**

# **Ingredient Information:**

| Substance         | Test Type (species)                   | Value                  |  |
|-------------------|---------------------------------------|------------------------|--|
|                   | LD <sub>50</sub> Oral                 | No known data          |  |
| Manganese Sulfate | LD <sub>50</sub> Dermal               | No known data          |  |
|                   | LC <sub>50</sub> Inhalation           | No known data          |  |
|                   | LD <sub>50</sub> Oral                 | No known data          |  |
| Calcium Oxide     | LD <sub>50</sub> Dermal               | No known data          |  |
|                   | LC <sub>50</sub> Inhalation           | No known data          |  |
|                   | LD <sub>50</sub> Oral (Rat)           | > 2000 mg/kg           |  |
| Manganese Oxide   | LD <sub>50</sub> Dermal               | No known data          |  |
|                   | LC <sub>50</sub> Inhalation (Rat)     | > 5.35 mg/l            |  |
|                   | LD <sub>50</sub> Oral (Mouse)         | No known data          |  |
| Magnesium Oxide   | LD <sub>50</sub> Dermal (Rat)         | No known data          |  |
|                   | LC <sub>50</sub> Inhalation (Mouse)   | No known data          |  |
|                   | LD <sub>50</sub> Oral (Rat)           | No known data          |  |
| Iron Oxide        | LD <sub>50</sub> Dermal (Rat)         | No known data          |  |
|                   | LC <sub>50</sub> Inhalation (Rat)     | No known data          |  |
|                   | LD <sub>50</sub> Oral (Mouse)         | 7950 mg/kg             |  |
| Zinc Oxide        | LD <sub>50</sub> Dermal (Rat)         | No known data          |  |
|                   | LC <sub>50</sub> Inhalation (Mouse)   | 2500 mg/m <sup>3</sup> |  |
|                   | LD <sub>50</sub> Oral (Rat)           | > 2000 mg/kg           |  |
| Magnesium Sulfate | LD <sub>50</sub> Dermal (Rabbit)      | > 2000 mg/kg           |  |
|                   | LD <sub>50</sub> Intraperitoneal(Rat) | 1029 mg/kg             |  |

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|                | LD <sub>50</sub> Oral (Rat)            | No known data |
|----------------|--|---------------|
| Zinc Sulfate   | LD <sub>50</sub> Dermal (Rat)          | No known data |
|                | LC <sub>50</sub> Inhalation (Rat)      | No known data |
|                | LD <sub>50</sub> Oral (Mouse)          | 1520 mg/kg    |
| Iron Sulfate   | LD <sub>50</sub> Intraperitoneal       | 245 mg/kg     |
| Iron Sunate    | (Mouse)                                |               |
|                | LD <sub>50</sub> Intravenous (Mouse)   | 51 mg/kg      |
|                | LD <sub>50</sub> Oral (Rat)            | > 2500 mg/kg  |
| Copper Oxide   | LD <sub>50</sub> Dermal (Rat)          | > 2000 mg/kg  |
|                | LC <sub>50</sub> Inhalation (Rat)      | No known data |
| Copper Sulfate | LD <sub>50</sub> Oral (Rat)            | 482 mg/kg     |
|                | LD <sub>50</sub> Intraperitoneal (Rat) | 20 mg/kg      |
|                | LD <sub>50</sub> Subcutaneous (Rat)    | 43 mg/kg      |
|                | LD <sub>50</sub> Intravenous (Rat)     | 48.9 mg/kg    |

**Skin corrosion/irritation:** May cause skin irritation.

**Serious eye damage/eye irritation:** May cause eye irritation.

**Respiratory sensitization:** No information available on the mixture, however none of

the components have been classified as a respiratory sensitizer (or are below the concentration threshold for

classification).

**Skin sensitization:** No information available on the mixture, however none of

the components have been classified as a skin sensitizer (or are below the concentration threshold for classification).

**Germ cell mutagenicity:** No information available on the mixture, however none of

the components have been classified as causing germ cell mutagenicity (or are below the concentration threshold for

classification).

**Carcinogenicity:** No information available on the mixture, however none of

the components are listed in the National Toxicology

Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest

edition), or by OSHA.

**Reproductive toxicity:** No information available on the mixture, however none of

the components have been classified as causing reproductive

toxicity (or are below the concentration threshold for

classification).

Specific target organ toxicity-

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**Single exposure:** No information available on the mixture, however Iron oxide

and Calcium oxide are known to cause respiratory irritation.

Specific target organ toxicity-

**Repeat exposure:** No information available on the mixture, however

Manganese Sulfate is known to cause Central nervous

system effects after repeated exposure.

**Aspiration hazard:** No information available on the mixture, however none of

the components have been classified as causing an aspiration

hazard (or are below the concentration threshold for

classification).

# **SECTION 12: Ecological information**

# **Ecotoxicity (aquatic and terrestrial, where available):**

# **Ingredient Information:**

| Substance         | Test<br>Type     | Species  | Value              |
|-------------------|------------------|--|--------------------|
|                   | LC50             | Fish - Pimephales promelas (fathead minnow)      | 2820 mg/l - 96 h   |
| Magnesium Sulfate | EC <sub>50</sub> | Invertebrate - Daphnia<br>magna (Water flea)     | 343.56 mg/l - 48 h |
|                   | EC50             | Algae - Desmodesmus<br>subspicatus (green algae) | 2700 mg/l - 72 h   |
|                   | LC <sub>50</sub> | Fish - Cyprinus carpio (Carp)                    | 1070 mg/l - 96 h   |
| Calcium Oxide     | EC50             | Invertebrate                                     | No data available  |
|                   | EC50             | Algae  | No data available  |
| Manganese Oxide   | LC <sub>50</sub> | Fish - Oncorhynchus mykiss (rainbow trout)       | > 1.2 mg/l – 96h   |
|                   | EC <sub>50</sub> | Invertebrate - Daphnia<br>magna (Water flea)     | > 4 mg/l – 48h     |
|                   | EC <sub>50</sub> | Algae - Desmodesmus subspicatus (green algae)    | > 1.3 mg/l - 72h   |
|                   | LC <sub>50</sub> | Fish   | No data available  |
| Magnesium Oxide   | EC50             | Invertebrate                                     | No data available  |
|                   | EC <sub>50</sub> | Algae  | No data available  |
| Iron Oxide        | LC <sub>50</sub> | Fish   | No data available  |
|                   | EC <sub>50</sub> | Invertebrate                                     | No data available  |
|                   | EC <sub>50</sub> | Algae  | No data available  |
| Zinc Oxide        | LC50             | Fish - Oncorhynchus mykiss (rainbow trout)       | > 1.2 mg/l – 96h   |

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|                   | EC50             | Invertebrate - Daphnia<br>magna (Water flea)  | > 4 mg/l – 48h           |
|-------------------|------------------|---|--------------------------|
|                   | EC <sub>50</sub> | Algae - Desmodesmus subspicatus (green algae) | > 1.3 mg/l - 72h         |
|                   | LC <sub>50</sub> | Fish  | No data available        |
| Manganese Sulfate | EC <sub>50</sub> | Invertebrate                                  | No data available        |
|                   | EC <sub>50</sub> | Algae   | No data available        |
|                   | LC <sub>50</sub> | Fish  | No data available        |
| Zinc Sulfate      | EC <sub>50</sub> | Invertebrate                                  | No data available        |
|                   | EC <sub>50</sub> | Algae   | No data available        |
|                   | LC <sub>50</sub> | Fish  | No data available        |
| Iron Sulfate      | EC <sub>50</sub> | Invertebrate                                  | No data available        |
|                   | EC <sub>50</sub> | Algae   | No data available        |
|                   | LC <sub>50</sub> | Fish - Oncorhynchus mykiss (rainbow trout)    | 0.19 - 0.21 mg/l - 96h   |
| Copper Oxide      | EC50             | Invertebrate - Daphnia<br>magna (Water flea)  | 0.011 - 0.039 mg/l - 48h |
|                   | NOEC             | Algae Phaeodactylum tricornutum               | 0.0057 mg/l - 72h        |
| Copper Sulfate    | LC <sub>50</sub> | Fish – Other fish                             | 1 - 2.5 mg/l - 96h       |
|                   | EC50             | Invertebrate - Daphnia<br>magna (Water flea)  | 0.024 mg/l - 48h         |
|                   | EC <sub>50</sub> | Algae   | No data available        |

Persistence and Degradability: Not determined

**Bioaccumulative Potential:** This material is not expected to bioconcentrate in fish.

**Mobility in Soil:** On soil this mix may leach into the groundwater. Because it

is slightly soluble, removal by rain, snow or other

precipitation is possible.

Other adverse effects (such as

**hazardous to the ozone layer):**No additional information available.

# **SECTION 13: Disposal considerations**

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

**Product** - Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations. This product has been evaluated for RCRA characteristics and should not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting materials hazardous.

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**Contaminated packaging** - Contaminated packaging may contain residues of product. Dispose of in the same manner as product. Comply with applicable local, state or international regulations concerning solid or hazardous waste disposal and/or container disposal.

# SECTION 14: Transport Information

**Land transport DOT** 

UN number UN 3077

UN proper shipping name Environmentally hazardous substance, solid, N.O.S. (Manganese

Sulfate, Zinc oxide, Zinc sulfate, Copper oxide, Copper sulfate)

Transport hazard class(es) 9
Packing group, if necessary III

**Maritime transport IMDG** 

UN number UN 3077

UN proper shipping name Environmentally hazardous substance, solid, N.O.S. (Manganese

Sulfate, Zinc oxide, Zinc sulfate, Copper oxide, Copper sulfate)

Transport hazard class(es) 9 Packing group, if necessary III

Air transport ICAO-TI and IATA-DGR

UN number UN 3077

UN proper shipping name Environmentally hazardous substance, solid, N.O.S. (Manganese

Sulfate, Zinc oxide, Zinc sulfate, Copper oxide, Copper sulfate)

Transport hazard class(es) 9
Packing group, if necessary III

**Environmental hazards** 

Marine pollutant: Yes.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

None.

# **SECTION 15: Regulatory Information**

Safety, health and environmental regulations specific for the product in question.

#### USA:

**United States Federal Regulations:** This SDS complies with the OSHA, 29 CFR 1910.1200. This product is hazardous under OSHA.

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**Toxic Substances Control Act (TSCA)** – This substance is listed, as required, on the TSCA inventory.

#### **SARA Title III**

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None

Section 311/312 (40 CFR 370): Acute Health Hazard: Yes Chronic Health Hazard: Yes

Fire Hazard: No Pressure Hazard: No Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372): Copper sulfate, Copper oxide, Manganese oxide, Manganese sulfate, Zinc oxide and Zinc Sulfate are listed.

#### **STATE REGULATIONS:**

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

# California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986:

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

Massachusetts Right to Know: Zinc oxide, Zinc Sulfate, Iron Sulfate, Iron Oxide (as Diiron trioxide), Magnesium oxide, Copper sulfate and Calcium oxide are listed on the Massachusetts Right to Know List.

**New Jersey Right to Know:** Manganese oxide, Manganese sulfate, Zinc oxide, Zinc Sulfate, Magnesium oxide, Copper sulfate, Copper oxide, Iron Sulfate, Iron Oxide (as Diiron trioxide) and Calcium oxide are listed on the New Jersey Right to Know list.

**Pennsylvania Right to Know:** Manganese oxide, Manganese sulfate, Zinc oxide, Zinc Sulfate, Iron Sulfate, Iron Oxide (as Diiron trioxide), Copper sulfate, Copper oxide, Magnesium oxide and Calcium oxide are listed on the Pennsylvania Right to Know List.

# SECTION 16: Other information, including date of preparation or last revision

Revision Date: Oct 10, 2015

#### NFPA Rating

Health hazard: 1 Fire Hazard: 0 Reactivity Hazard: 0

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