

**1. Identification**

|   |  |                |
|---|--|----------------|
| <b>Product identifier</b>                                     | <b>Brandt Agra Sol Micro Mix</b>   |                |
| <b>Other means of identification</b>                          |  |                |
| <b>Product code</b>   | 23014  |                |
| <b>Recommended use</b>  | Agricultural/ Horticultural Use- Micronutrient Fertilizer- Refer to product label.   |                |
| <b>Recommended restrictions</b>                               | Refer to product label.  |                |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |  |                |
| <b>Manufacturer</b>   |  |                |
| <b>Company name</b>   | Brandt Consolidated, Inc.  |                |
| <b>Address</b>  | 2935 South Koke Mill Road<br>Springfield, IL 62711<br>United States  |                |
| <b>Telephone</b>  | Corporate Office   | 1-217-547-5800 |
| <b>Website</b>  | www.brandt.co  |                |
| <b>E-mail</b>   | msds@brandt.co   |                |
| <b>Contact person</b>   | EH&S / Regulatory Department   |                |
| <b>Emergency phone number</b>                                 | CHEMTREC (24 hours):<br>USA, Canada, Puerto Rico 1-800-424-9300<br>Virgin Islands 1-800-424-9300<br>International Maritime +1 (703) 527-3887 |                |

**2. Hazard(s) identification**

|                              |  |             |
|------------------------------|--|-------------|
| <b>Physical hazards</b>      | Not classified.  |             |
| <b>Health hazards</b>        | Skin corrosion/irritation                              | Category 2  |
|                              | Serious eye damage/eye irritation                      | Category 1  |
|                              | Carcinogenicity  | Category 1A |
|                              | Reproductive toxicity                                  | Category 2  |
|                              | Specific target organ toxicity, repeated exposure      | Category 2  |
| <b>Environmental hazards</b> | Hazardous to the aquatic environment, acute hazard     | Category 2  |
|                              | Hazardous to the aquatic environment, long-term hazard | Category 3  |
| <b>OSHA defined hazards</b>  | Not classified.  |             |
| <b>Label elements</b>        |  |             |



|                                |  |
|--------------------------------|--|
| <b>Signal word</b>             | Danger   |
| <b>Hazard statement</b>        | Causes skin irritation. Causes serious eye damage. May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.   |
| <b>Precautionary statement</b> |  |
| <b>Prevention</b>              | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. |

|  |   |
|--|---|
| <b>Response</b>                                  | If on skin: Wash with plenty of water. 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. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. |
| <b>Storage</b>                                   | Store locked up.  |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.   |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.   |
| <b>Supplemental information</b>                  | None.   |

### 3. Composition/information on ingredients

#### Mixtures

| Chemical name                            | Common name and synonyms | CAS number | %          |
|--|--------------------------|------------|------------|
| FERROUS SULFATE                          |                          | 7782-63-0  | 10 - < 20* |
| Manganese Sulfate, monohydrate           |                          | 10034-96-5 | 10 - < 20* |
| Aluminium Silicate, Hydrated (kaolin)    |                          | 1332-58-7  | 5 - < 10*  |
| Zinc Sulfate                             |                          | 7733-02-0  | 5 - < 10*  |
| Copper Sulfate                           |                          | 1344-73-6  | 3 - < 5*   |
| Disodium Octaborate Tetrahydrate         |                          | 12008-41-2 | 3 - < 5*   |
| Quartz, Dust, Respirable Fraction        |                          | 14808-60-7 | < 1*       |
| Sodium hydroxide, (Na(OH))               |                          | 1310-73-2  | < 0.1*     |
| Other components below reportable levels |                          |            | 40 - < 50  |

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.   |
| <b>Skin contact</b>   | Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.   |
| <b>Eye contact</b>  | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.   |
| <b>Ingestion</b>  | Rinse mouth. Get medical attention if symptoms occur.   |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.   |
| <b>Indication of immediate medical attention and special treatment needed</b> | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.  |
| <b>General information</b>  | IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. |

### 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).                                   |
| <b>Unsuitable extinguishing media</b>                                | Do not use water jet as an extinguisher, as this will spread the fire.                        |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed.   |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| <b>Fire fighting equipment/instructions</b>                          | Use water spray to cool unopened containers.  |
| <b>Specific methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.    |
| <b>General fire hazards</b>  | No unusual fire or explosion hazards noted.   |

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

### Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components  | Type    | Value                | Form                 |
|---|---------|----------------------|----------------------|
| Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7) | PEL     | 5 mg/m <sup>3</sup>  | Respirable fraction. |
|   |         | 15 mg/m <sup>3</sup> | Total dust.          |
| Manganese Sulfate, monohydrate (CAS 10034-96-5)       | Ceiling | 5 mg/m <sup>3</sup>  |                      |
| Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)            | PEL     | 2 mg/m <sup>3</sup>  |                      |

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

| Components   | Type | Value                 | Form        |
|--|------|-----------------------|-------------|
| Quartz, Dust, Respirable Fraction (CAS 14808-60-7) | TWA  | 0.3 mg/m <sup>3</sup> | Total dust. |
|  |      | 0.1 mg/m <sup>3</sup> | Respirable. |
|  |      | 2.4 mppcf             | Respirable. |

#### US. ACGIH Threshold Limit Values

| Components  | Type | Value                 | Form                 |
|---|------|-----------------------|----------------------|
| Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7) | TWA  | 2 mg/m <sup>3</sup>   | Respirable fraction. |
| Copper Sulfate (CAS 1344-73-6)                        | TWA  | 1 mg/m <sup>3</sup>   | Dust and mist.       |
| Disodium Octaborate Tetrahydrate (CAS 12008-41-2)     | STEL | 0.2 mg/m <sup>3</sup> | Fume.                |
|   |      | 6 mg/m <sup>3</sup>   | Inhalable fraction.  |

**US. ACGIH Threshold Limit Values**

| Components   | Type    | Value                   | Form                 |
|--|---------|-------------------------|----------------------|
| Manganese Sulfate, monohydrate (CAS 10034-96-5)    | TWA     | 2 mg/m <sup>3</sup>     | Inhalable fraction.  |
|  | TWA     | 0.1 mg/m <sup>3</sup>   | Inhalable fraction.  |
| Quartz, Dust, Respirable Fraction (CAS 14808-60-7) | TWA     | 0.02 mg/m <sup>3</sup>  | Respirable fraction. |
|  | TWA     | 0.025 mg/m <sup>3</sup> | Respirable fraction. |
| Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)         | Ceiling | 2 mg/m <sup>3</sup>     |                      |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components  | Type    | Value                  | Form             |
|---|---------|------------------------|------------------|
| Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7) | TWA     | 5 mg/m <sup>3</sup>    | Respirable.      |
| Copper Sulfate (CAS 1344-73-6)                        | TWA     | 10 mg/m <sup>3</sup>   | Total            |
|   | TWA     | 1 mg/m <sup>3</sup>    | Dust and mist.   |
| Manganese Sulfate, monohydrate (CAS 10034-96-5)       | STEL    | 3 mg/m <sup>3</sup>    | Fume.            |
|   | TWA     | 1 mg/m <sup>3</sup>    | Fume.            |
| Quartz, Dust, Respirable Fraction (CAS 14808-60-7)    | TWA     | 0.05 mg/m <sup>3</sup> | Respirable dust. |
|   | TWA     | 0.05 mg/m <sup>3</sup> | Respirable dust. |
| Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)            | Ceiling | 2 mg/m <sup>3</sup>    |                  |

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Exposure guidelines**

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

**Skin protection****Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

**Other**

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

**Thermal hazards**

Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties****Appearance****Physical state**

Solid.

**Form**

Solid.

**Color**

Not available.

**Odor**

Not available.

**Odor threshold**

Not available.

**pH**

Not available.

**Melting point/freezing point**

1292 °F (700 °C) estimated

**Initial boiling point and boiling range** 1562 °F (850 °C) estimated

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 0.00001 hPa estimated

**Vapor density** Not available.

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Other information**

**Density** 2.76 g/cm<sup>3</sup> estimated

**Explosive properties** Not explosive.

**Oxidizing properties** Not oxidizing.

**pH in aqueous solution** 5 - 7 (10% solution)

**Specific gravity** 2.76 estimated

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability** Material is stable under normal conditions.

**Possibility of hazardous reactions** Hazardous polymerization does not occur.

**Conditions to avoid** Contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents.

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.

**Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye damage.

**Ingestion** Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.

### Information on toxicological effects

**Acute toxicity**

| Product                   | Species            | Test Results                   |
|---------------------------|--------------------|--------------------------------|
| Brandt Agra Sol Micro Mix |                    |                                |
| <b>Acute</b>              |                    |                                |
| <b>Dermal</b>             |                    |                                |
| LD50                      | Rabbit             | 25126 mg/kg estimated          |
|                           | Rat                | 19421 mg/kg estimated          |
|                           | Sprague-Dawley rat | 10689 mg/kg, 14 days estimated |
| <b>Inhalation</b>         |                    |                                |
| LD50                      | Rat                | 32 mg/l estimated              |
| <b>Oral</b>               |                    |                                |
| LD100                     | Mouse              | 2462 mg/kg estimated           |
| LD50                      | Guinea pig         | 66583 mg/kg estimated          |
|                           | Mouse              | 2240 mg/kg estimated           |
|                           | Rat                | 17268 mg/kg estimated          |
|                           | Sprague-Dawley rat | 10689 mg/kg, 14 days estimated |

| Components  | Species    | Test Results |
|---|------------|--------------|
| Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7) |            |              |
| <b>Acute</b>  |            |              |
| <b>Dermal</b>   |            |              |
| LD50  | Rat        | > 5000 mg/kg |
| <b>Oral</b>   |            |              |
| LD50  | Rat        | > 5000 mg/kg |
| Disodium Octaborate Tetrahydrate (CAS 12008-41-2)     |            |              |
| <b>Acute</b>  |            |              |
| <b>Dermal</b>   |            |              |
| LD50  | Rabbit     | > 2000 mg/kg |
| <b>Oral</b>   |            |              |
| LD50  | Guinea pig | 5300 mg/kg   |
|   | Rat        | 2550 mg/kg   |
|   |            | 2 g/kg       |
| Manganese Sulfate, monohydrate (CAS 10034-96-5)       |            |              |
| <b>Acute</b>  |            |              |
| <b>Oral</b>   |            |              |
| LD100   | Mouse      | 305 mg/kg    |
| Zinc Sulfate (CAS 7733-02-0)                          |            |              |
| <b>Acute</b>  |            |              |
| <b>Dermal</b>   |            |              |
| LD50  | Rat        | > 2000 mg/kg |
| <b>Oral</b>   |            |              |
| LD50  | Rat        | 623 mg/kg    |

\* Estimates for product may be based on additional component data not shown.

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>         | Causes skin irritation.  |
| <b>Serious eye damage/eye irritation</b> | Causes serious eye damage.   |
| <b>Respiratory or skin sensitization</b> |  |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.  |
| <b>Skin sensitization</b>                | This product is not expected to cause skin sensitization.  |
| <b>Germ cell mutagenicity</b>            | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |

**Carcinogenicity**

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Quartz, Dust, Respirable Fraction (CAS 14808-60-7) 1 Carcinogenic to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Quartz, Dust, Respirable Fraction (CAS 14808-60-7) Known To Be Human Carcinogen.

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**Specific target organ toxicity - single exposure**

Not classified.

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Not an aspiration hazard.

**Chronic effects**

May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

**12. Ecological information****Ecotoxicity**

Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

| Product  |      | Species                                 | Test Results                      |
|--|------|---|-----------------------------------|
| <b>Brandt Agra Sol Micro Mix</b>                         |      |   |                                   |
| <b>Aquatic</b>   |      |   |                                   |
| Crustacea  | EC50 | Daphnia                                 | 319.9911 mg/l, 48 hours estimated |
| Fish   | LC50 | Fish                                    | 229.7842 mg/l, 96 hours estimated |
| <b>Components</b>  |      |   |                                   |
| <b>Disodium Octaborate Tetrahydrate (CAS 12008-41-2)</b> |      |   |                                   |
| <b>Aquatic</b>   |      |   |                                   |
| <i>Acute</i>   |      |   |                                   |
| Crustacea  | LC50 | Daphnia magna                           | 619 mg/l                          |
| Fish   | LC50 | Pimephales promelas                     | 370 mg/l                          |
| <b>Manganese Sulfate, monohydrate (CAS 10034-96-5)</b>   |      |   |                                   |
| <b>Aquatic</b>   |      |   |                                   |
| Crustacea  | EC50 | Water flea (Daphnia obtusa)             | 30.8 - 44.1 mg/l, 48 hours        |
| Fish   | LC50 | Fathead minnow (Pimephales promelas)    | 36.9 mg/l, 96 hours               |
|  |      |   | 29.7 - 52.7 mg/l, 192 hours       |
| <b>Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)</b>        |      |   |                                   |
| <b>Aquatic</b>   |      |   |                                   |
| Crustacea  | EC50 | Water flea (Ceriodaphnia dubia)         | 34.59 - 47.13 mg/l, 48 hours      |
| Fish   | LC50 | Western mosquitofish (Gambusia affinis) | 125 mg/l, 96 hours                |

| Components                   | Species | Test Results   |
|------------------------------|---------|--|
| Zinc Sulfate (CAS 7733-02-0) |         |  |
| <b>Aquatic</b>               |         |  |
| Algae                        | LC50    | Green algae ( <i>Chlorella vulgaris</i> ) 5 mg/l, 24 hours   |
| Crustacea                    | EC50    | Amphipod ( <i>Crangonyx pseudogracilis</i> ) 15.1 - 24.5 mg/l, 96 hours                              |
|                              |         | Rotifer ( <i>Philodina acuticornis</i> ) 0.5 mg/l, 48 hours  |
| Fish                         | LC50    | Fathead minnow ( <i>Pimephales promelas</i> ) 10.62 - 11.3 mg/l, 5 days                              |
|                              |         | Fish ( <i>Lepidocephalichthyes guntea</i> ) 0.168 - 0.25 mg/l, 96 hours<br>76 - 118.8 mg/l, 24 hours |

\* Estimates for product may be based on additional component data not shown.

|                                      |   |
|--------------------------------------|---|
| <b>Persistence and degradability</b> | No data is available on the degradability of this product.  |
| <b>Bioaccumulative potential</b>     | No data available.  |
| <b>Mobility in soil</b>              | No data available.  |
| <b>Other adverse effects</b>         | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

### 13. Disposal considerations

|  |  |
|--|--|
| <b>Disposal instructions</b>                 | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| <b>Local disposal regulations</b>            | Dispose in accordance with all applicable regulations.   |
| <b>Hazardous waste code</b>                  | The waste code should be assigned in discussion between the user, the producer and the waste disposal company.   |
| <b>Waste from residues / unused products</b> | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).   |
| <b>Contaminated packaging</b>                | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.   |

### 14. Transport information

#### DOT

|                                     |  |
|-------------------------------------|--|
| <b>UN number</b>                    | UN3077   |
| <b>UN proper shipping name</b>      | Environmentally hazardous substances, solid, n.o.s., mixture (Copper Sulfate RQ = 345), MARINE POLLUTANT |
| <b>Transport hazard class(es)</b>   |  |
| Class                               | 9  |
| Subsidiary risk                     | -  |
| Label(s)                            | 9  |
| <b>Packing group</b>                | III  |
| <b>Environmental hazards</b>        |  |
| Marine pollutant                    | Yes  |
| <b>Special precautions for user</b> | Read safety instructions, SDS and emergency procedures before handling.                                  |
| <b>Special provisions</b>           | 8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33  |
| <b>Packaging exceptions</b>         | 155  |
| <b>Packaging non bulk</b>           | 213  |
| <b>Packaging bulk</b>               | 240  |

Not DOT regulated in domestic (USA ground) transportation in package sizes less than 345 lbs (156 kg). The DOT transportation information above is for shipments with package sizes equal to or exceeding this value.

#### IATA

Not regulated as dangerous goods.

#### IMDG

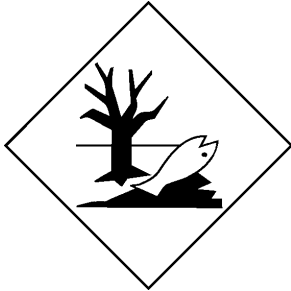
Not regulated as dangerous goods.



DOT



Marine pollutant



General information

Not DOT regulated in domestic (USA ground) transportation in package sizes less than 345 lbs (156 kg). The DOT transportation information above is for shipments with package sizes equal to or exceeding this value.

## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

|   |         |
|---|---------|
| Copper Sulfate (CAS 1344-73-6)                  | Listed. |
| FERROUS SULFATE (CAS 7782-63-0)                 | Listed. |
| Manganese Sulfate, monohydrate (CAS 10034-96-5) | Listed. |
| Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)      | Listed. |
| Zinc Sulfate (CAS 7733-02-0)                    | Listed. |

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** No

#### SARA 313 (TRI reporting)

| Chemical name                  | CAS number | % by wt.  |
|--------------------------------|------------|-----------|
| Manganese Sulfate, monohydrate | 10034-96-5 | 10 - < 20 |
| Zinc Sulfate                   | 7733-02-0  | 5 - < 10  |
| Copper Sulfate                 | 1344-73-6  | 3 - < 5   |

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Manganese Sulfate, monohydrate (CAS 10034-96-5)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Quartz, Dust, Respirable Fraction (CAS 14808-60-7)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

**US. Massachusetts RTK - Substance List**

Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7)

FERROUS SULFATE (CAS 7782-63-0)

Quartz, Dust, Respirable Fraction (CAS 14808-60-7)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Sulfate (CAS 7733-02-0)

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7)

Copper Sulfate (CAS 1344-73-6)

Disodium Octaborate Tetrahydrate (CAS 12008-41-2)

Manganese Sulfate, monohydrate (CAS 10034-96-5)

Quartz, Dust, Respirable Fraction (CAS 14808-60-7)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Sulfate (CAS 7733-02-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Aluminium Silicate, Hydrated (kaolin) (CAS 1332-58-7)

FERROUS SULFATE (CAS 7782-63-0)

Quartz, Dust, Respirable Fraction (CAS 14808-60-7)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Sulfate (CAS 7733-02-0)

**US. Rhode Island RTK**

Copper Sulfate (CAS 1344-73-6)

FERROUS SULFATE (CAS 7782-63-0)

Manganese Sulfate, monohydrate (CAS 10034-96-5)

Sodium hydroxide, (Na(OH)) (CAS 1310-73-2)

Zinc Sulfate (CAS 7733-02-0)

**US. California Proposition 65**

WARNING: This product can expose you to chemicals including arsenic, cadmium, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Quartz, Dust, Respirable Fraction (CAS 14808-60-7) Listed: October 1, 1988

**International Inventories**

| Country(s) or region | Inventory name   | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia            | Australian Inventory of Chemical Substances (AICS)                     | Yes                    |
| Canada               | Domestic Substances List (DSL)   | No                     |
| Canada               | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe               | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                    |
| Europe               | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                | Inventory of Existing and New Chemical Substances (ENCS)               | No                     |
| Korea                | Existing Chemicals List (ECL)  | No                     |
| New Zealand          | New Zealand Inventory  | Yes                    |
| Philippines          | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | Yes                    |

| <b>Country(s) or region</b> | <b>Inventory name</b>                         | <b>On inventory (yes/no)*</b> |
|-----------------------------|---|-------------------------------|
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No                            |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

**Issue date** 04-09-2018

**Version #** 01

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.