


# SAFETY DATA SHEET



## 1. Product and Company Identification

|                               |  |
|-------------------------------|--|
| Product identifier            | HOPPER THROTTLE SOYBEAN  |
| Other means of identification | Not available  |
| Recommended use               | Seed flow lubricant, corn inoculant and phosphorus mobilizer   |
| Recommended restrictions      | None known.  |
| Manufacturer information      | Meristem Crop Performance<br>489 Village Park Dr.<br>Powell, OH 43065<br>Customer Service: 833-637-4783<br>24 hour emergency number   National Capital Poison Center: 800-222-1222 |

## 2. Hazards Identification

|   |  |             |
|---|--|-------------|
| Physical hazards  | Combustible dusts  | Category 1  |
| Health hazards  | Carcinogenicity  | Category 1A |
|   | Specific target organ toxicity, repeated exposure  | Category 1  |
| Environmental hazards   | Not classified.  |             |
| WHMIS 2015 defined hazards                                      | Not classified   |             |
| Label elements  |    |             |
| Signal word   | Danger   |             |
| Hazard statement  | May cause cancer.<br>Causes damage to organs through prolonged or repeated exposure.<br>May form combustible dust concentrations in air.   |             |
| Precautionary statement   |  |             |
| Prevention  | Obtain special instructions before use.<br>Do not handle until all safety precautions have been read and understood.<br>Do not breathe dust.<br>Wash thoroughly after handling.<br>Do not eat, drink or smoke when using this product.<br>Wear protective gloves, protective clothing, eye protection and face protection. |             |
| Response  | IF exposed or concerned: Get medical attention.  |             |
| Storage   | Store locked up.   |             |
| Disposal  | Dispose of container in accordance with local, regional, national and international regulations.   |             |
| WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)   | None known   |             |
| WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC) | None known   |             |
| Hazard(s) not otherwise classified (HNOC)                       | None known.  |             |
| Supplemental information  | OSHA Defined Hazard: Combustible Dust  |             |

## 3. Composition/Information on Ingredients

| Chemical name  | Common name and synonyms | CAS number | %     |
|----------------|--------------------------|------------|-------|
| Bradyrhizobium |                          |            | < 0.1 |
| Ferric oxide   |                          | 1309-37-1  | < 0.1 |

| Chemical name         | Common name and synonyms | CAS number | %         |
|-----------------------|--------------------------|------------|-----------|
| Crystalline silica    |                          | 14808-60-7 | 10 - 30 * |
| Graphite              |                          | 7782-42-5  | 1 - 5 *   |
| Manganese oxide (MnO) |                          | 1344-43-0  | 0.1 - 1 * |
| Talc                  |                          | 14807-96-6 | 15 - 40 * |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments** US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.  
\*CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.

#### 4. First Aid Measures

|   |   |
|---|---|
| <b>Inhalation</b>   | If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.  |
| <b>Skin contact</b>   | Brush away excess of dry material. Flush with water. Obtain medical attention if irritation persists.   |
| <b>Eye contact</b>  | Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.  |
| <b>Ingestion</b>  | Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Obtain medical attention.                     |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Dusts may irritate the respiratory tract, skin and eyes.<br>Direct contact with eyes may result in mechanical irritation.<br>Prolonged exposure may cause chronic effects.  |
| <b>Indication of immediate medical attention and special treatment needed</b> | Symptoms may be delayed.  |
| <b>General information</b>  | IF exposed or concerned: Get medical advice. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children. |

#### 5. Fire Fighting Measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide.   |
| <b>Unsuitable extinguishing media</b>                                | Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.   |
| <b>Specific hazards arising from the chemical</b>                    | None known.   |
| <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>                          | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.  |
| <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.   |
| <b>Hazardous combustion products</b>                                 | May include and are not limited to: Oxides of carbon. Oxides of aluminum. Oxides of calcium. Oxides of iron. Oxides of silicon. Oxides of magnesium. Oxides of manganese. |

#### 6. Accidental Release Measures

|  |  |
|--|--|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.  |
| <b>Methods and materials for containment and cleaning up</b>               | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). The product is immiscible with water and will spread on the water surface. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| <b>Environmental precautions</b>   | Do not discharge into lakes, streams, ponds or public waters.  |

## 7. Handling and Storage

|   |   |
|---|---|
| <b>Precautions for safe handling</b>                                | <p>Minimize dust generation and accumulation. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.</p> <p>Keep away from heat/sparks/open flames/hot surfaces. - No smoking.</p> <p>Explosion-proof general and local exhaust ventilation.</p> <p>Provide appropriate exhaust ventilation at places where dust is formed.</p> <p>Do not breathe dust.</p> <p>Avoid prolonged exposure.</p> <p>Wear appropriate personal protective equipment.</p> <p>Wash thoroughly after handling.</p> <p>When using, do not eat, drink or smoke.</p> |
| <b>Conditions for safe storage, including any incompatibilities</b> | <p>Store locked up.</p> <p>Store in a cool, dry place out of direct sunlight.</p> <p>Keep containers tightly closed in a dry, cool and well-ventilated place.</p> <p>Store away from incompatible materials (see Section 10 of the SDS).</p> <p>Keep out of reach of children.</p>  |

## 8. Exposure Controls/Personal Protection

### Occupational exposure limits

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components                            | Type | Value                   | Form                  |
|---------------------------------------|------|-------------------------|-----------------------|
| Crystalline silica (CAS 14808-60-7)   | TWA  | 0.025 mg/m <sup>3</sup> | Respirable particles. |
| Ferric oxide (CAS 1309-37-1)          | TWA  | 5 mg/m <sup>3</sup>     | Respirable.           |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m <sup>3</sup>     | Respirable.           |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 0.2 mg/m <sup>3</sup>   |                       |
| Talc (CAS 14807-96-6)                 | TWA  | 2 mg/m <sup>3</sup>     | Respirable particles. |

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components                            | Type | Value                   | Form                 |
|---------------------------------------|------|-------------------------|----------------------|
| Crystalline silica (CAS 14808-60-7)   | TWA  | 0.025 mg/m <sup>3</sup> | Respirable fraction. |
| Ferric oxide (CAS 1309-37-1)          | TWA  | 10 mg/m <sup>3</sup>    | Fume.                |
|                                       |      | 5 mg/m <sup>3</sup>     | Fume.                |
|                                       |      | 5 mg/m <sup>3</sup>     | Dust.                |
|                                       |      | 3 mg/m <sup>3</sup>     | Respirable fraction. |
|                                       |      | 10 mg/m <sup>3</sup>    | Total dust.          |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m <sup>3</sup>     | Respirable.          |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 0.2 mg/m <sup>3</sup>   |                      |
| Talc (CAS 14807-96-6)                 | TWA  | 2 mg/m <sup>3</sup>     | Respirable.          |

#### Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components                            | Type | Value                   | Form                 |
|---------------------------------------|------|-------------------------|----------------------|
| Crystalline silica (CAS 14808-60-7)   | TWA  | 0.025 mg/m <sup>3</sup> | Respirable fraction. |
| Ferric oxide (CAS 1309-37-1)          | TWA  | 5 mg/m <sup>3</sup>     | Respirable fraction. |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m <sup>3</sup>     | Respirable fraction. |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 0.1 mg/m <sup>3</sup>   | Inhalable fraction.  |
|                                       |      | 0.02 mg/m <sup>3</sup>  | Respirable fraction. |
| Talc (CAS 14807-96-6)                 | TWA  | 2 mg/m <sup>3</sup>     | Respirable fraction. |

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components                          | Type | Value                 | Form                 |
|-------------------------------------|------|-----------------------|----------------------|
| Crystalline silica (CAS 14808-60-7) | TWA  | 0.1 mg/m <sup>3</sup> | Respirable fraction. |

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

| Components                            | Type | Value                  | Form                 |
|---------------------------------------|------|------------------------|----------------------|
| Ferric oxide (CAS 1309-37-1)          | TWA  | 5 mg/m3                | Respirable fraction. |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m3                | Respirable fraction. |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 0.2 mg/m3              |                      |
| Talc (CAS 14807-96-6)                 | TWA  | 2 fibers/ml<br>2 mg/m3 | Respirable fraction. |

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

| Components                            | Type | Value     | Form             |
|---------------------------------------|------|-----------|------------------|
| Crystalline silica (CAS 14808-60-7)   | TWA  | 0.1 mg/m3 | Respirable dust. |
| Ferric oxide (CAS 1309-37-1)          | TWA  | 5 mg/m3   | Dust and fume.   |
|                                       |      | 10 mg/m3  | Total dust.      |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m3   | Respirable dust. |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 5 mg/m3   | Dust.            |
| Talc (CAS 14807-96-6)                 | TWA  | 3 mg/m3   | Respirable dust. |

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

| Components                            | Type    | Value               | Form                                |
|---------------------------------------|---------|---------------------|-------------------------------------|
| Crystalline silica (CAS 14808-60-7)   | PEL     | 0.05 mg/m3          | Respirable dust.                    |
| Ferric oxide (CAS 1309-37-1)          | PEL     | 10 mg/m3            | Fume.                               |
| Graphite (CAS 7782-42-5)              | PEL     | 5 mg/m3<br>15 mg/m3 | Respirable fraction.<br>Total dust. |
| Manganese oxide (MnO) (CAS 1344-43-0) | Ceiling | 5 mg/m3             |                                     |

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

| Components                          | Type | Value                              | Form                       |
|-------------------------------------|------|------------------------------------|----------------------------|
| Crystalline silica (CAS 14808-60-7) | TWA  | 0.1 mg/m3                          | Respirable.                |
|                                     |      | 2.4 mppcf                          | Respirable.                |
| Ferric oxide (CAS 1309-37-1)        | TWA  | 5 mg/m3                            | Respirable fraction.       |
|                                     |      | 15 mg/m3                           | Total dust.                |
|                                     |      | 50 mppcf                           | Total dust.                |
|                                     |      | 15 mppcf                           | Respirable fraction.       |
| Graphite (CAS 7782-42-5)            | TWA  | 15 mppcf                           |                            |
| Talc (CAS 14807-96-6)               | TWA  | 0.1 mg/m3<br>20 mppcf<br>2.4 mppcf | Respirable.<br>Respirable. |

**US. ACGIH Threshold Limit Values**

| Components                            | Type | Value       | Form                 |
|---------------------------------------|------|-------------|----------------------|
| Crystalline silica (CAS 14808-60-7)   | TWA  | 0.025 mg/m3 | Respirable fraction. |
| Ferric oxide (CAS 1309-37-1)          | TWA  | 5 mg/m3     | Respirable fraction. |
| Graphite (CAS 7782-42-5)              | TWA  | 2 mg/m3     | Respirable fraction. |
| Manganese oxide (MnO) (CAS 1344-43-0) | TWA  | 0.1 mg/m3   | Inhalable fraction.  |
|                                       |      | 0.02 mg/m3  | Respirable fraction. |
| Talc (CAS 14807-96-6)                 | TWA  | 2 mg/m3     | Respirable fraction. |

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

| Components                          | Type | Value      | Form             |
|-------------------------------------|------|------------|------------------|
| Crystalline silica (CAS 14808-60-7) | TWA  | 0.05 mg/m3 | Respirable dust. |

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

| <b>Components</b>  | <b>Type</b>   | <b>Value</b> | <b>Form</b>    |
|--|---|--------------|----------------|
| Ferric oxide (CAS 1309-37-1)   | TWA   | 5 mg/m3      | Dust and fume. |
| Graphite (CAS 7782-42-5)   | TWA   | 2.5 mg/m3    | Respirable.    |
| Manganese oxide (MnO) (CAS 1344-43-0)  | STEL  | 3 mg/m3      | Fume.          |
|  | TWA   | 1 mg/m3      | Fume.          |
| Talc (CAS 14807-96-6)  | TWA   | 2 mg/m3      | Respirable.    |
| <b>Biological limit values</b>   | No biological exposure limits noted for the ingredient(s).  |              |                |
| <b>Exposure guidelines</b>   | Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.   |              |                |
| <b>Appropriate engineering controls</b>                                      | 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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. |              |                |
| <b>Individual protection measures, such as personal protective equipment</b> |   |              |                |
| <b>Eye/face protection</b>   | Wear safety glasses with side shields (or goggles).   |              |                |
| <b>Skin protection</b>   |   |              |                |
| <b>Hand protection</b>   | Rubber gloves. Confirm with a reputable supplier first.   |              |                |
| <b>Other</b>   | Not available.  |              |                |
| <b>Respiratory protection</b>  | Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator 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), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).  |              |                |
| <b>Thermal hazards</b>   | Not applicable.   |              |                |
| <b>General hygiene considerations</b>  | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.   |              |                |

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## 9. Physical and Chemical Properties

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|   |                |
|---|----------------|
| <b>Appearance</b>                                   | Powder.        |
| <b>Physical state</b>                               | Solid.         |
| <b>Form</b>   | Powder         |
| <b>Color</b>  | Black          |
| <b>Odor</b>   | Not available. |
| <b>Odor threshold</b>                               | Not available. |
| <b>pH</b>   | Not available. |
| <b>Melting point/freezing point</b>                 | Not available. |
| <b>Initial boiling point and boiling range</b>      | Not available. |
| <b>Pour point</b>                                   | Not available. |
| <b>Specific gravity</b>                             | 2.8            |
| <b>Partition coefficient (n-octanol/water)</b>      | Not available. |
| <b>Flash point</b>                                  | Not available. |
| <b>Evaporation rate</b>                             | Not available. |
| <b>Flammability (solid, gas)</b>                    | Not available. |
| <b>Upper/lower flammability or explosive limits</b> |                |
| <b>Flammability limit - lower (%)</b>               | Not available. |
| <b>Flammability limit - upper (%)</b>               | Not available. |
| <b>Explosive limit - lower (%)</b>                  | Not available. |
| <b>Explosive limit - upper (%)</b>                  | Not available. |
| <b>Vapor pressure</b>                               | Not available. |
| <b>Vapor density</b>                                | Not available. |

|                                  |                |
|----------------------------------|----------------|
| <b>Relative density</b>          | Not available. |
| <b>Solubility(ies)</b>           | Insoluble      |
| <b>Auto-ignition temperature</b> | Not available. |
| <b>Decomposition temperature</b> | Not available. |
| <b>Viscosity</b>                 | Not available. |
| <b>Other information</b>         |                |
| <b>Explosive properties</b>      | None known.    |
| <b>Oxidizing properties</b>      | Not oxidizing. |

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## 10. Stability and Reactivity

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|   |   |
|---|---|
| <b>Reactivity</b>                         | May react with incompatible materials.  |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.  |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.   |
| <b>Conditions to avoid</b>                | Keep away from heat, sparks and open flame. Minimize dust generation and accumulation.  |
| <b>Incompatible materials</b>             | Acids. Powerful oxidizers. Phosphorus. Chlorine.  |
| <b>Hazardous decomposition products</b>   | May include and are not limited to: Oxides of manganese. Oxides of magnesium. Oxides of iron. Silica. Calcium oxide Oxides of aluminum. |

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## 11. Toxicological Information

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**Routes of exposure** Eye, Skin contact, Inhalation, Ingestion.

**Information on likely routes of exposure**

|                     |  |
|---------------------|--|
| <b>Ingestion</b>    | May cause stomach distress, nausea or vomiting.  |
| <b>Inhalation</b>   | May cause damage to organs through prolonged or repeated exposure by inhalation. Dust may irritate respiratory system. |
| <b>Skin contact</b> | Dust or powder may irritate the skin.  |
| <b>Eye contact</b>  | Dust may irritate the eyes.  |

**Symptoms related to the physical, chemical and toxicological characteristics** Dusts may irritate the respiratory tract, skin and eyes. Coughing.

**Information on toxicological effects**

**Acute toxicity**

| Components                          | Species       | Test Results                              |
|-------------------------------------|---------------|---|
| Crystalline silica (CAS 14808-60-7) |               |   |
| <b>Acute</b>                        |               |   |
| <i>Dermal</i>                       |               |   |
| LD50                                | Not available |   |
| <i>Inhalation</i>                   |               |   |
| LC50                                | Not available |   |
| <i>Oral</i>                         |               |   |
| LD50                                | Rat           | 500 mg/kg, HSDB, IV only                  |
| Ferric oxide (CAS 1309-37-1)        |               |   |
| <b>Acute</b>                        |               |   |
| <i>Dermal</i>                       |               |   |
| LD50                                | Not available |   |
| <i>Inhalation</i>                   |               |   |
| LC50                                | Not available |   |
| <i>Oral</i>                         |               |   |
| LD50                                | Rat           | > 10000 mg/kg, ECHA<br>> 5000 mg/kg, ECHA |
| Graphite (CAS 7782-42-5)            |               |   |
| <b>Acute</b>                        |               |   |
| <i>Dermal</i>                       |               |   |
| LD50                                | Not available |   |
| <i>Inhalation</i>                   |               |   |
| LC50                                | Rat           | > 2000 mg/m <sup>3</sup> , 4 Hours, ECHA  |

| Components                               | Species  | Test Results                               |
|--|--|--|
| <i>Oral</i><br>LD50                      | Rat  | > 2000 mg/kg, ECHA                         |
| Manganese oxide (MnO) (CAS 1344-43-0)    |  |  |
| <b>Acute</b>                             |  |  |
| <i>Dermal</i><br>LD50                    | Not available  |  |
| <i>Inhalation</i><br>LC50                | Rat  | > 5.4 mg/L, 4 Hours<br>> 5.3 mg/l/4h, ECHA |
| <i>Oral</i><br>LD50                      | Rat  | > 2000 mg/kg, ECHA                         |
| Talc (CAS 14807-96-6)                    |  |  |
| <b>Acute</b>                             |  |  |
| <i>Dermal</i><br>LD50                    | Rat  | > 2000 mg/kg, ECHA                         |
| <i>Inhalation</i><br>LC50                | Rat  | > 2.1 mg/L, 4 h, ECHA                      |
| <i>Oral</i><br>LD50                      | Rat  | > 5000 mg/kg, ECHA                         |
| <b>Skin corrosion/irritation</b>         | Prolonged skin contact may cause temporary irritation.   |  |
| <b>Exposure minutes</b>                  | Not available.   |  |
| <b>Erythema value</b>                    | Not available.   |  |
| <b>Oedema value</b>                      | Not available.   |  |
| <b>Serious eye damage/eye irritation</b> | Direct contact with eyes may cause temporary irritation.   |  |
| <b>Corneal opacity value</b>             | Not available.   |  |
| <b>Iris lesion value</b>                 | Not available.   |  |
| <b>Conjunctival reddening value</b>      | Not available.   |  |
| <b>Conjunctival oedema value</b>         | Not available.   |  |
| <b>Recover days</b>                      | Not available.   |  |
| <b>Respiratory or skin sensitization</b> |  |  |
| <b>Canada - Alberta OELs: Irritant</b>   |  |  |
| Calcium oxide (CAS 1305-78-8)            | Irritant   |  |
| Limestone (CAS 1317-65-3)                | Irritant   |  |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.  |  |
| <b>Skin sensitization</b>                | This product is not expected to cause skin sensitization.  |  |
| <b>Mutagenicity</b>                      | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.   |  |
| <b>Carcinogenicity</b>                   | May cause cancer.  |  |
|  | <p>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.)</p> <p>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)</p> <p>Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.</p> |  |

**ACGIH Carcinogens**

Crystalline silica (CAS 14808-60-7)

A2 Suspected human carcinogen.

**Canada - Alberta OELs: Carcinogen category**

Crystalline silica (CAS 14808-60-7)

Suspected human carcinogen.

**Canada - Manitoba OELs: carcinogenicity**SILICA, CRYSTALLINE-.ALPHA.-QUARTZ,  
RESPIRABLE FRACTION (CAS 14808-60-7)

Suspected human carcinogen.

**Canada - Quebec OELs: Carcinogen category**

Crystalline silica (CAS 14808-60-7)

Suspected carcinogenic effect in humans.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Crystalline silica (CAS 14808-60-7)

Volume 68, Volume 100C 1 Carcinogenic to humans.

Ferric oxide (CAS 1309-37-1)

Volume 1, Supplement 7 - 3 Not classifiable as to carcinogenicity to humans.

Talc (CAS 14807-96-6)

Volume 42, Supplement 7, Volume 93 - 3 Not classifiable as to carcinogenicity to humans.

Volume 93 - 2B Possibly carcinogenic to humans.

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

Crystalline silica (CAS 14808-60-7)

**US NTP Report on Carcinogens: Known carcinogen**

Crystalline silica (CAS 14808-60-7)

Known To Be Human Carcinogen.

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

Crystalline silica (CAS 14808-60-7)

Cancer

**Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

**Teratogenicity**

Not available.

**Specific target organ toxicity - single exposure**

Not classified.

**Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

Not an aspiration hazard.

**Chronic effects**

Causes damage to organs through prolonged or repeated exposure.

Prolonged inhalation may be harmful. Lung scarring (pneumoconiosis) after chronic exposure to aluminum oxide dust and fume Prolonged or repeated exposure to fine airborne crystalline silica dust may cause severe scarring of the lungs, a disease called silicosis. Early symptoms of silicosis include cough, mucous production and shortness of breath upon exertion.

Fibrosis was observed in rats exposed to 6 mg/m3 of hydrous magnesium silicate (talc) for 113 or 122 weeks. Chronic respiratory disease has been observed in workers exposed to up to 3.0 mg/m3 of airborne talc ore free of asbestos and silica.

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## 12. Ecological Information

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**Ecotoxicity**

Not available.

**Persistence and degradability**

No data is available on the degradability of this product.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Mobility in general**

Not available.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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## 13. Disposal Considerations

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**Disposal instructions**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Hazardous waste code**

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

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).

**Contaminated packaging**

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.



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## 14. Transport Information

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**Transport of Dangerous Goods (TDG) Proof of Classification** Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

**U.S. Department of Transportation (DOT)**

Not regulated as dangerous goods.

**Transportation of Dangerous Goods (TDG - Canada)**

Not regulated as dangerous goods.

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## 15. Regulatory Information

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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

**Canada CEPA Schedule I: Listed substance**

|                                 |         |
|---------------------------------|---------|
| Aluminum oxide (CAS 1344-28-1)  | Listed. |
| Ferric oxide (CAS 1309-37-1)    | Listed. |
| Graphite (CAS 7782-42-5)        | Listed. |
| Magnesium oxide (CAS 1309-48-4) | Listed. |
| Talc (CAS 14807-96-6)           | Listed. |

**Canada DSL Challenge Substances: Listed substance**

|                                     |         |
|-------------------------------------|---------|
| Crystalline silica (CAS 14808-60-7) | Listed. |
|-------------------------------------|---------|

**Canada Priority Substances List (Second List): Listed substance**

|                                 |         |
|---------------------------------|---------|
| Aluminum oxide (CAS 1344-28-1)  | Listed. |
| Ferric oxide (CAS 1309-37-1)    | Listed. |
| Graphite (CAS 7782-42-5)        | Listed. |
| Magnesium oxide (CAS 1309-48-4) | Listed. |
| Talc (CAS 14807-96-6)           | Listed. |

**Export Control List (CEPA 1999, Schedule 3)**

Not listed.

**Greenhouse Gases**

Not listed.

**Precursor Control Regulations**

Not regulated.

**WHMIS 2015 Exemptions** Controlled

**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)**

|                                       |         |
|---------------------------------------|---------|
| Manganese oxide (MnO) (CAS 1344-43-0) | Listed. |
|---------------------------------------|---------|

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

|                                     |   |
|-------------------------------------|---|
| Crystalline silica (CAS 14808-60-7) | Cancer<br>lung effects<br>immune system effects<br>kidney effects |
|-------------------------------------|---|

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

|                          |  |
|--------------------------|--|
| <b>Hazard categories</b> | Immediate Hazard - Yes<br>Delayed Hazard - Yes<br>Fire Hazard - No<br>Pressure Hazard - No<br>Reactivity Hazard - No |
|--------------------------|--|

|   |    |
|---|----|
| <b>SARA 302 Extremely hazardous substance</b> | No |
|---|----|

|  |    |
|--|----|
| <b>SARA 311/312 Hazardous chemical</b> | No |
|--|----|

|                                 |                |
|---------------------------------|----------------|
| <b>SARA 313 (TRI reporting)</b> | Not regulated. |
|---------------------------------|----------------|

**Other federal regulations**

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

|                                       |  |
|---------------------------------------|--|
| Manganese oxide (MnO) (CAS 1344-43-0) |  |
|---------------------------------------|--|

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

Not regulated.

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**US state regulations**

See below

**US - California Hazardous Substances (Director's): Listed substance**

|                                       |         |
|---------------------------------------|---------|
| Aluminum oxide (CAS 1344-28-1)        | Listed. |
| Calcium oxide (CAS 1305-78-8)         | Listed. |
| Ferric oxide (CAS 1309-37-1)          | Listed. |
| Graphite (CAS 7782-42-5)              | Listed. |
| Magnesium oxide (CAS 1309-48-4)       | Listed. |
| Manganese oxide (MnO) (CAS 1344-43-0) | Listed. |
| Talc (CAS 14807-96-6)                 | Listed. |

**US - Illinois Chemical Safety Act: Listed substance**

Manganese oxide (MnO) (CAS 1344-43-0)

**US - Louisiana Spill Reporting: Listed substance**

Manganese oxide (MnO) (CAS 1344-43-0) Listed.

**US - Minnesota Haz Subs: Listed substance**

|                                       |         |
|---------------------------------------|---------|
| Aluminum oxide (CAS 1344-28-1)        | Listed. |
| Calcium oxide (CAS 1305-78-8)         | Listed. |
| Crystalline silica (CAS 14808-60-7)   | Listed. |
| Ferric oxide (CAS 1309-37-1)          | Listed. |
| Graphite (CAS 7782-42-5)              | Listed. |
| Limestone (CAS 1317-65-3)             | Listed. |
| Magnesium oxide (CAS 1309-48-4)       | Listed. |
| Manganese oxide (MnO) (CAS 1344-43-0) | Listed. |
| Talc (CAS 14807-96-6)                 | Listed. |

**US - New Jersey RTK - Substances: Listed substance**

Aluminum oxide (CAS 1344-28-1)  
Calcium oxide (CAS 1305-78-8)  
Crystalline silica (CAS 14808-60-7)  
Ferric oxide (CAS 1309-37-1)  
Graphite (CAS 7782-42-5)  
Limestone (CAS 1317-65-3)  
Magnesium oxide (CAS 1309-48-4)  
Manganese oxide (MnO) (CAS 1344-43-0)  
Talc (CAS 14807-96-6)

**US - North Carolina Toxic Air Pollutants: Listed substance**

Manganese oxide (MnO) (CAS 1344-43-0)

**US - Texas Effects Screening Levels: Listed substance**

|                                       |         |
|---------------------------------------|---------|
| Aluminum oxide (CAS 1344-28-1)        | Listed. |
| Calcium oxide (CAS 1305-78-8)         | Listed. |
| Crystalline silica (CAS 14808-60-7)   | Listed. |
| Ferric oxide (CAS 1309-37-1)          | Listed. |
| Graphite (CAS 7782-42-5)              | Listed. |
| Limestone (CAS 1317-65-3)             | Listed. |
| Magnesium oxide (CAS 1309-48-4)       | Listed. |
| Manganese oxide (MnO) (CAS 1344-43-0) | Listed. |
| Talc (CAS 14807-96-6)                 | Listed. |

**US. Massachusetts RTK - Substance List**

Aluminum oxide (CAS 1344-28-1)  
Calcium oxide (CAS 1305-78-8)  
Crystalline silica (CAS 14808-60-7)  
Ferric oxide (CAS 1309-37-1)  
Graphite (CAS 7782-42-5)  
Limestone (CAS 1317-65-3)  
Magnesium oxide (CAS 1309-48-4)  
Talc (CAS 14807-96-6)

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

Aluminum oxide (CAS 1344-28-1)  
Manganese oxide (MnO) (CAS 1344-43-0)

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

Aluminum oxide (CAS 1344-28-1)  
Calcium oxide (CAS 1305-78-8)  
Crystalline silica (CAS 14808-60-7)  
Ferric oxide (CAS 1309-37-1)  
Graphite (CAS 7782-42-5)  
Limestone (CAS 1317-65-3)  
Magnesium oxide (CAS 1309-48-4)  
Manganese oxide (MnO) (CAS 1344-43-0)  
Talc (CAS 14807-96-6)

**US. Rhode Island RTK**

- Aluminum oxide (CAS 1344-28-1)
- Calcium oxide (CAS 1305-78-8)
- Crystalline silica (CAS 14808-60-7)
- Ferric oxide (CAS 1309-37-1)
- Graphite (CAS 7782-42-5)
- Limestone (CAS 1317-65-3)
- Magnesium oxide (CAS 1309-48-4)
- Talc (CAS 14807-96-6)

**US. California Proposition 65**

**WARNING:** This product can expose you to Crystalline silica, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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

Crystalline silica (CAS 14808-60-7) Listed: October 1, 1988

**Inventory status**

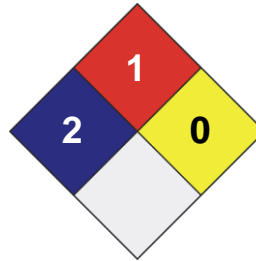
| Country(s) or region        | Inventory name                                | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada                      | Domestic Substances List (DSL)                | No                     |
| Canada                      | Non-Domestic Substances List (NDSL)           | No                     |
| 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)

**16. Other Information**

| LEGEND   |   |
|----------|---|
| Severe   | 4 |
| Serious  | 3 |
| Moderate | 2 |
| Slight   | 1 |
| Minimal  | 0 |

|                            |     |
|----------------------------|-----|
| <b>HEALTH</b>              | * 2 |
| <b>FLAMMABILITY</b>        | 1   |
| <b>PHYSICAL HAZARD</b>     | 0   |
| <b>PERSONAL PROTECTION</b> | X   |



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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01

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**Prepared by**

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**Other information**

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.