SECTION 1. IDENTIFICATION

Product Identifier: TIGER MICRONUTRIENTS® Onion Mix I

Other Means of Identification: Micronutrient Blend Onion Mix Sulphur

Recommended Use: Plant nutrient fertilizer.

Restrictions on Use: Always follow safe handling practices.

Manufacturer/Supplier Identifier:
- Tiger-Sul Products LLC - Hwy 31 West Industrial Park P.O. Box 5; Atmore, AL; 36504, USA.
- Tiger-Sul Products LLC - 61 Stork Rd; Stockton, CA; 95203, USA.
- Tiger-Sul (Canada) Co, -275137 Range Road 263 P.O. Box 126; Irricana, AB; T0M 1B0, Canada.

Emergency Phone No.:
- CHEMTREC, (800) 424-9300 - 24 hrs
- Irricana Toll free, (877) 299-3399
- Atmore Toll free, (800) 239-3647
- Stockton Toll free, (877) 299-3399

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification:
- Combustible dust - Category 1
- Acute toxicity (Dermal) - Category 4
- Skin irritation - Category 2
- Eye irritation - Category 2A
- Skin sensitization - Category 1B
- Carcinogenicity - Category 1A

Label Elements

Danger

May form combustible dust concentrations in air.
May cause cancer.
Causes skin and eye irritation.
May be harmful if swallowed, in contact with skin or if inhaled.

Other Hazards
None known.
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>%</th>
<th>Other Identifiers</th>
<th>Other Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFUR</td>
<td>7704-34-9</td>
<td>64 - 66</td>
<td>EU EINECS/ELINCS Number: 231-722-6</td>
<td>S</td>
</tr>
<tr>
<td>BENTONITE</td>
<td>1302-78-9</td>
<td>8.5 – 9.5</td>
<td>EU EINECS/ELINCS Number: 215-108-5</td>
<td>CLAY</td>
</tr>
<tr>
<td>MANGANOUS OXIDE</td>
<td>1344-43-0</td>
<td>5.1 - 5.3</td>
<td>EU EINECS/ELINCS Number: 215-695-8</td>
<td>MnO</td>
</tr>
<tr>
<td>CUPRIC OXIDE</td>
<td>1317-38-0</td>
<td>2.51 – 2.55</td>
<td>EU EINECS/ELINCS Number: 215-269-1</td>
<td>CuO</td>
</tr>
<tr>
<td>ZINC OXIDE</td>
<td>1314-13-2</td>
<td>14.5 – 16.0</td>
<td>EU EINECS/ELINCS Number: 215-222-5</td>
<td>ZnO</td>
</tr>
<tr>
<td>SILICA QUARTZ</td>
<td>14808-60-7</td>
<td>0.790 - 0.851</td>
<td>EU EINECS/ELINCS Number: 238-878-4</td>
<td>SiO2</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST-AID MEASURES

First-aid Measures

**Inhalation**
Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment).
Remove source of exposure or move to fresh air.

**Skin Contact**
Avoid direct contact. Wear chemical protective clothing if necessary.
Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts).
Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes.

**Eye Contact**
Wear eye protection to avoid dust getting into eyes.
If contact and irritation occurs
Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.
Remove contact lenses, if present and easy to do.

**Ingestion**
Get medical advice or attention if you feel unwell or are concerned.

First-aid Comments
Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed
If in eyes: may cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.
If on skin: may cause mild to moderate irritation
If inhaled: repeated or long term inhalation can cause respiratory problems (SILICA, QUARTZ).

Immediate Medical Attention and Special Treatment
  **Target Organs**  None known.
  **Special Instructions**  Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

**Suitable Extinguishing Media**
Water spray or fog is preferred If water is not available, use Carbon dioxide, dry chemical powder or appropriate foam. Small fires may be smothered with sand.

**Unsuitable Extinguishing Media**
Avoid scattering spilled material with high pressure water streams.

Specific Hazards Arising from the Product
Combustible dust. May form combustible dust concentration in air. Combustion products include Sulphur Dioxide and Hydrogen Sulphide.

Special Protective Equipment and Precautions for Fire-fighters
Wear positive pressure self-contained breathing apparatus (SCBA) Structural firefighters' protective clothing will only provide limited protection.
Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.
Hydrogen Sulphide is heavier than air and may collect in low lying areas and confined spaces.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures
Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions   Prevent uncontrolled release to the environment.

Methods and Materials for Containment and Cleaning Up
Avoid generating dust. Avoid dry sweeping. If necessary, use a dust suppressant such as water. Do not use compressed air for clean-up.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling
Avoid breathing in this product. Avoid repeated or prolonged skin contact. Do not get in eyes. Avoid generating dusts. Avoid ignition sources.

Conditions for Safe Storage
Store in an area that is: cool, well-ventilated, out of direct sunlight and away from heat and ignition sources.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV® TWA</th>
<th>ACGIH TLV® STEL</th>
<th>OSHA PEL TWA</th>
<th>OSHA PEL Ceiling</th>
<th>AIHA WEEL 8-hr TWA</th>
<th>AIHA WEEL TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFUR</td>
<td>10 mg/m3</td>
<td>N.A.V.</td>
<td>15 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
<tr>
<td>BENTONITE</td>
<td>1 mg/m3</td>
<td>10 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
<tr>
<td>SILICA QUARTZ</td>
<td>0.025 mg/m3</td>
<td>N.A.V.</td>
<td>10 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
<tr>
<td>ZINC OXIDE</td>
<td>2 mg/m3</td>
<td>10 mg/m3</td>
<td>5 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
<tr>
<td>MANGANOUS OXIDE</td>
<td>0.1 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>5 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
<tr>
<td>CUPRIC OXIDE</td>
<td>1 mg/m3</td>
<td>N.A.V.</td>
<td>1 mg/m3</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
<td>N.A.V.</td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls
Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash in work area, if contact or splash hazard exists.

Individual Protection Measures
Eye/Face Protection   Wear chemical safety goggles.
Skin Protection   Wear long sleeved clothing and impervious gloves.
Respiratory Protection
For non-routine or emergency situations: wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.
## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Grey pastilles. Particle Size: 280 SGN</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Melting Point/Freezing Point</strong></td>
<td>115 °C (239 °F) (SULFUR) (melting); Not applicable (freezing)</td>
</tr>
<tr>
<td><strong>Initial Boiling Point/Range</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>207 °C (405 °F) (closed cup) (SULFUR)</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Flammable solid. (SULFUR)</td>
</tr>
<tr>
<td><strong>Upper/Lower Flammability or Explosive Limit</strong></td>
<td>0.14% (SULFUR) (upper); 0.0035% (SULFUR) (lower)</td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapour Density (air = 1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Relative Density (water = 1)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Insoluble in water; Not available in other liquids</td>
</tr>
<tr>
<td><strong>Partition Coefficient, n-Octanol/Water (Log Kow)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Auto-ignition Temperature</strong></td>
<td>232 °C (450 °F) (SULFUR)</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not applicable (kinematic); Not applicable (dynamic)</td>
</tr>
<tr>
<td><strong>Other Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Physical State</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Bulk Density</strong></td>
<td>83 lb/ft³ (estimate)</td>
</tr>
</tbody>
</table>

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions of use.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Reacts in the presence of high energy sources (e.g. welding arcs).

Dust may cause a fire or explosion.

### Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

### Incompatible Materials

Avoid contact with incompatible materials: INTERHALOGENS (e.g. bromine pentafluoride, chlorine trifluoride); STRONG OXIDIZING AGENTS (e.g. nitric acid, perchlorates, peroxides) and PHOSPHORUS PENTACHLORIDE. Contact between these substances and Magnesium Oxide can result in violent reactions, including ignition or explosion.

### Hazardous Decomposition Products

Sulphur Dioxide

Hydrogen Sulfide.
## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure
Inhalation; skin contact; eye contact.

### Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LC50</th>
<th>LD50 (oral)</th>
<th>LD50 (dermal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFUR</td>
<td>&gt; 0.047 mg/L (rat) (4-hr exposure)</td>
<td>&gt; 5000 mg/kg (rat)</td>
<td>N.AV.</td>
</tr>
<tr>
<td>BENTONITE</td>
<td>N.AV.</td>
<td>5000 mg/kg (rat)</td>
<td>N.AV.</td>
</tr>
<tr>
<td>SILICA QUARTZ</td>
<td>N.AV.</td>
<td>500 mg/kg (rat)</td>
<td>N.AV.</td>
</tr>
<tr>
<td>ZINC OXIDE</td>
<td>2500 mg/m3 (mouse)</td>
<td>7950 mg/kg (mouse)</td>
<td>N.AV.</td>
</tr>
<tr>
<td>CUPRIC OXIDE</td>
<td>N.AV.</td>
<td>470 mg/kg (rat)</td>
<td>N.AV.</td>
</tr>
</tbody>
</table>

### Skin Corrosion/Irritation
May cause irritation to skin, eyes and respiratory tract.

### Serious Eye Damage/Irritation
Can cause serious eye irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

- **Inhalation**
  May cause nose and throat irritation.

- **Skin Absorption**
  May cause skin to become sensitive to sunlight (ultraviolet light).

- **Ingestion**
  May be harmful if large amounts are swallowed
  Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

### Aspiration Hazard
Not known to be an aspiration hazard.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure
If inhaled: lung injury, irritation of the respiratory system. May cause respiratory tract injury.

### Respiratory and/or Skin Sensitization
May cause an allergic reaction (skin sensitization) based on limited evidence.

### Carcinogenicity
If inhaled: lung cancer. A1 – Confirmed human carcinogen. (SILICA QUARTZ)

### Reproductive Toxicity

- **Development of Offspring**
  No information was located.

- **Sexual Function and Fertility**
  No information was located.

- **Effects on or via Lactation**
  No information was located.

### Germ Cell Mutagenicity
No information was located.

### Interactive Effects
No information was located.
SECTION 12. ECOLOGICAL INFORMATION

Avoid uncontrolled release.

Ecotoxicity

Acute Aquatic Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LC50 Fish</th>
<th>EC50 Crustacea</th>
<th>ErC50 Aquatic Plants</th>
<th>ErC50 Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULFUR</td>
<td>&lt; 14 mg/L (Lepomis macrochirus (bluegill); 96-hour; fresh water; static)</td>
<td>&gt; 5000 mg/L (Daphnia magna (water flea); 48-hour; fresh water; static)</td>
<td>N.AV.</td>
<td>N.AV.</td>
</tr>
<tr>
<td>BENTONITE</td>
<td>19000 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water; static)</td>
<td>N.AV.</td>
<td>N.AV.</td>
<td>N.AV.</td>
</tr>
<tr>
<td>ZINC OXIDE</td>
<td>0.14 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)</td>
<td>0.07 mg/L (Daphnia magna (water flea); 48-hour; fresh water)</td>
<td>N.AV.</td>
<td>N.AV.</td>
</tr>
<tr>
<td>CUPRIC OXIDE</td>
<td>0.19-0.21 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)</td>
<td>0.011-0.039 mg/L (Daphnia magna (water flea); 48-hour; fresh water)</td>
<td>N.AV.</td>
<td>N.AV.</td>
</tr>
</tbody>
</table>

Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

Bioaccumulative Potential

This product and its degradation products are not known to bioaccumulate.

Mobility in Soil

If released into the environment, this product is expected to move slowly through the soil, based on physical and chemical properties.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

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

SECTION 14. TRANSPORT INFORMATION


Environmental Hazards

Not applicable

Special Precautions

Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable
SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by the Controlled Products Regulations.

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

USA
Toxic Substances Control Act (TSCA) Section 8(b) All ingredients are listed on the TSCA Inventory.

Additional USA Regulatory Lists

⚠ WARNING: This product can expose you to chemicals including crystalline silica, which is known to the State of California to cause cancer when inhaled. For more information, go to www.P65Warnings.ca.gov.

SARA Title III - Section 313: Listed Reportable Product > 1% Zn. > 1% Mn > 1% Cu
Listed Pennsylvania Right to Know. (SULFUR). (SILICA QUARTZ).

SECTION 16. OTHER INFORMATION

NFPA Rating
Health - 1  Flammability - 1  Instability – 0

SDS Prepared By
Tiger-Sul

Phone No.
(877) 299-3399

Date of Preparation
April 4, 2018

Date of Last Revision
June 20, 2019

Revision Indicators
06/20/2019 –added EU/EINECS for Sulphur, updated California Proposition 65 statement.

Key to Abbreviations
ACGIH® = American Conference of Governmental Industrial Hygienists
NFPA = National Fire Protection Association
NIOSH = National Institute for Occupational Safety and Health
OSHA = US Occupational Safety and Health Administration

Disclaimer
This Safety Data Sheet is offered solely for information, consideration, and investigation purposes. It is not to be construed as recommending any practice or product in violation of any law or regulation. The user is responsible to determine the suitability of the material for use and practice necessary safety precautions. The information presented has been compiled from sources considered to be dependable and is reliable to the best of our knowledge and is not to be considered as a warranty or quality specification.