STEEL MAKING SLAG
SAFETY DATA SHEET
OSHA HCS (29 CFR 1910.1200)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier: Steel Making Slag
Chemical Name: Mixture
CAS No.: Mixture
Trade Name(s): Steel Slag, BOF Slag, Electric-Furnace Slag, Open-Hearth Slag

Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s): Construction Material
Uses Advised Against: None.

Details of the supplier of the safety data sheet
Company Identification: Dunn Construction Company, Inc.
3905 Messer Airport Hwy.
Birmingham, AL 35222
Telephone: 205-592-3866
Emergency telephone number: Not classified as dangerous for supply/use. Please contact the supplier above during normal business hours.

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture
OSHA HCS (29 CFR 1910.1200) / GHS Classification: Not classified as dangerous for supply/use. Unlikely to be hazardous by inhalation unless present as a dust.

Label elements
Hazard Symbol: None
Signal Word(s): None
Hazard Statement(s): None
Precautionary Statement(s): None

Other hazards
Inhalable size dust particles may be released under certain conditions of handling. This dust may contain crystalline silica and/ manganese which can cause damage to organs (lungs, central nervous system) or cancer (respiratory system).

Additional Information
Control dust formation. Avoid breathing dust. As necessary, wear eye and/or respiratory protection (safety glasses and dust mask). Wash hands and exposed skin after use.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Composition/information on ingredients</th>
<th>% wt.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slags, Steel Making</td>
<td>100</td>
<td>65996-71-6</td>
</tr>
</tbody>
</table>

Other Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below. Please see Section 8 of SDS for more details.
- Contains: Dust may contain >1% crystalline silica and/or manganese (inherent in the slag).

Additional Information - None
SECTION 4: FIRST AID MEASURES

Description of first aid measures

Inhalation
Not normally required. Move person to fresh air. Apply artificial respiration if necessary. If symptoms persist, obtain medical attention.

Skin Contact
Gently wash with plenty of soap and water. If irritation (redness, rash, blistering) develops, get medical attention.

Eye Contact
Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation develops and persists, get medical attention.

Ingestion
Not normally required. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

Most important symptoms and effects, both acute and delayed
None known

Indication of any immediate medical attention and special treatment needed
None known

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media
- Suitable Extinguishing Media
Non-combustible. As appropriate for surrounding fire.
- Unsuitable Extinguishing Media
None anticipated.

Special hazards arising from the substance or mixture
None known

Advice for fire-fighters
A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Not normally required.

Environmental precautions
Not normally required.

Methods and material for containment and cleaning up
Not normally required.

Reference to other sections
None

Additional Information
None.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Inhalable size dust particles may be released under certain conditions of handling. Control dust formation. Avoid breathing dust. As necessary, wear eye and/or respiratory protection (safety glasses and dust mask).

Conditions for safe storage, including any incompatibilities
- Storage temperature
Ambient temperatures.
- Incompatible materials
Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
STEEL MAKING SLAG

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>CAS No.</th>
<th>PEL (OSHA) *</th>
<th>TLV (ACGIH)</th>
<th>PEL (OSHA)</th>
<th>TLV (ACGIH)</th>
<th>Note:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline Silica (respirable particulate)</td>
<td>-----</td>
<td>10 mg/m³</td>
<td>0.025 mg/m³ ^</td>
<td>-----</td>
<td>-----</td>
<td>See below</td>
</tr>
<tr>
<td>Manganese (inorganic compounds)</td>
<td>-----</td>
<td>5 mg/m³</td>
<td>0.02 mg/m³ (R)</td>
<td>0.1 mg/m³ (I)</td>
<td>-----</td>
<td>See below</td>
</tr>
</tbody>
</table>

Note:
- PEL (OSHA) *
- TLV (ACGIH)
- 8hr TWA = 8 hour time-weighted average; STEL = Short Term Exposure Limit.

Recommended monitoring method
- NIOSH 0500 (Total Dust); NIOSH 7500 (Crystalline Silica)

Exposure controls

Appropriate engineering controls
- Use only outdoors or in a well-ventilated area.

Personal protection equipment

Eye/face protection
- The following to be used as necessary: Safety Glasses

Skin protection (Hand protection/ Other)
- The following to be used as necessary: Leather or thick textile gloves.

Respiratory protection
- Inhalable size dust particles may be released under certain conditions of handling. Respiratory protection may be needed if occupational exposure limits are exceeded. Air-purifying respirator with combination organic vapor cartridge / particulate filter may be sufficient. Check with protective equipment manufacturer’s data.

Thermal hazards
- Use gloves with insulation for thermal protection, when needed.

Environmental Exposure Controls
- Not normally required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Color.</td>
<td>gray</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor Threshold (ppm)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting Point (°C) / Freezing Point (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point/boiling range (°C):</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>Non-combustible</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non-combustible</td>
</tr>
<tr>
<td>Explosive Limit Ranges</td>
<td>Non-combustible</td>
</tr>
<tr>
<td>Vapor pressure (Pascal)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Density (g/ml)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Not known</td>
</tr>
<tr>
<td>Partition Coefficient (n-Octanol/water)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
### SECTION 10: STABILITY AND REACTIVITY

- **Reactivity**: Stable under normal conditions.
- **Chemical stability**: Stable.
- **Possibility of hazardous reactions**: None known.
- **Conditions to avoid**: Incompatible materials (Acids and Oxidizers).
- **Hazardous decomposition product(s)**: None known.

### SECTION 11: TOXICOLOGICAL INFORMATION

**Exposure routes**: Inhalation, Skin Contact, Eye Contact

#### Crystalline Silica (quartz and cristobalite)

- **Acute toxicity**: 
  - LD50 (rat): >5000 mg/kg bw
  - LD50 (dermal): >2000 mg/kg bw
  - LC50 (inhalation, fume): >94.4 mg/m³ - Causes damage to organs: Lungs (silicosis)

- **Irritation/Corrosivity**: Not to be expected.
- **Sensitization**: Not to be expected.
- **Repeated dose toxicity**: Causes damage to organs through prolonged or repeated exposure: Lungs (silicosis)
- **Carcinogenicity**: May cause cancer. Lungs

<table>
<thead>
<tr>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Yes.</td>
<td>A2</td>
<td>Yes.</td>
</tr>
</tbody>
</table>

- **Mutagenicity**: Not to be expected.
- **Reproductive toxicity**: Not to be expected.

#### Manganese:

- **Acute toxicity**: 
  - LD50 (rat): >5000 mg/kg bw
  - LD50 (dermal): >2000 mg/kg bw
  - LC50 (inhalation, dust): >5000 mg/m³

- **Irritation/Corrosivity**: Not to be expected.
- **Sensitization**: Not to be expected.
- **Repeated dose toxicity**: Causes damage to organs through prolonged or repeated exposure: Central nervous system.
- **Carcinogenicity**: Not to be expected.

<table>
<thead>
<tr>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
</tbody>
</table>

- **Mutagenicity**: Not to be expected.
- **Reproductive toxicity**: Not to be expected.

### SECTION 12: ECOLOGICAL INFORMATION

**Ecotoxicity**

- **Short term**: 
  - LL50 (48 hour): >1000 mg/l (Fish)
  - LL50 (48 hour): >1000 mg/L (Aquatic Invertebrates)
  - EL50 (48 hour): >1000 mg/L (Aquatic Plants)
Long Term  No data
Persistence and degradability  The substance is non biodegradable.
Bioaccumulative potential  The product has no potential for bioaccumulation.
Mobility in soil  The product has low mobility in soil.
Results of PBT and vPvB assessment  Not classified as PBT or vPvB.
Other adverse effects  None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods  Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.
Additional Information  None known.

SECTION 14: TRANSPORT INFORMATION

Ground or Water Domestic Voyage (DOT):  Not classified as dangerous for transport.

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:
TSCA (Toxic Substance Control Act) - Inventory Status: All components listed or polymer exempt.
RCRA Hazardous Waste Number (40 CFR 261.33): None
US RCRA Hazard Class: Not applicable.
Designated Hazardous Substances and Reportable Quantities (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
<th>RQ (Pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 - Hazard Categories: None

- Fire
- Sudden Release
- Reactivity
- Immediate (acute)
- Chronic (delayed)

SARA 313 - Toxic Chemicals (40 CFR 372):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 302 - Extremely Hazardous Substances (40 CFR 355):

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Typical %wt.</th>
<th>TPQ (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

Additional Information

The following sections contain revisions or new statements: 1-16.

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