### SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. **Product identifier**

- **Product form**: Mixture
- **Product name**: Electric Furnace Slag
- **Other means of identification**: MOLTEN SLAG

1.2. **Relevant identified uses of the substance or mixture and uses advised against**

- **Use of the substance/mixture**: Multiple Industrial & Commercial Uses

1.3. **Details of the supplier of the safety data sheet**

Republic Steel  
2633 Eighth Street NE  
Canton, Ohio 44704  
Fax 330-438-5423  
Phone 330-438-5466

1.4. **Emergency telephone number**

- **Emergency number**: 24 hr. Emergency Contact: CHEMTREC  
  U.S.A. - (800) 424–9300  
  International - (703) 527-3887 (collect)

### SECTION 2: Hazards identification

2.1. **Classification of the substance or mixture**

**Classification (GHS-US)**  
Acute Tox. 4 (Oral) H302  
Skin Corr. 1A H314

2.2. **Label elements**

**GHS-US labeling**

- **Hazard pictograms (GHS-US)**:  
  ![GHS05](image)  
  ![GHS07](image)

- **Signal word (GHS-US)**: Danger
- **Hazard statements (GHS-US)**:  
  H302 - Harmful if swallowed  
  H314 - Causes severe skin burns and eye damage
- **Precautionary statements (GHS-US)**:  
  P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
  P264 - Wash all contacted areas thoroughly after handling  
  P270 - Do not eat, drink or smoke when using this product  
  P280 - Wear protective gloves/protective clothing/eye protection/face protection  
  P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
  P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
  P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
  P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
  P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
  P310 - Immediately call a poison center or doctor/physician  
  P330 - If swallowed, rinse mouth  
  P363 - Wash contaminated clothing before reuse

2.3. **Other hazards**

Excessive dust generation may present a dust explosion hazard.

2.4. **Unknown acute toxicity (GHS-US)**

None of the ingredients are of unknown toxicity.
**SECTION 3: Composition/information on ingredients**

3.1. Substance

Not applicable – this product is a mixture.

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide</td>
<td>(CAS No) 1305-78-8</td>
<td>42 - 48</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1A, H314</td>
</tr>
<tr>
<td>Manganese</td>
<td>(CAS No) 7439-96-5</td>
<td>2.40</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Causes severe skin burns and eye damage.

Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

**SECTION 5: Firefighting measures**

5.1. Extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity: Thermal decomposition generates: Corrosive vapors.

5.3. Advice for firefighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe dust/fume. Avoid contact during pregnancy/while nursing.

Hygiene measures: Do not eat, drink or smoke when using this product. Wash all contacted areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.

Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

Incompatible products: Strong bases. Strong acids.

Incompatible materials: Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Calcium oxide (1305-78-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH ACGIH TWA (mg/m³)</td>
</tr>
<tr>
<td>USA OSHA OSHA PEL (TWA) (mg/m³)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or face shield.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: If processing of this product generates particulates, local and general ventilation may be necessary to control employee exposures to within applicable limits. If the exposure limits indicated are exceeded, NIOSH approved respirators for protection against dust and/or fume should be worn in accordance with 29 CFR 1910.134.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state: Solid |
| Appearance: Grey-black, particulate |
| Color: Grey |
| Odor: Odorless |
| Odor threshold: No data available |
| pH: No data available |
| Relative evaporation rate (butyl acetate=1): No data available |
| Melting point: No data available |
| Freezing point: No data available |
| Boiling point: No data available |
| Flash point: No data available |
| Auto-ignition temperature: No data available |
| Decomposition temperature: No data available |
| Flammability (solid, gas): No data available |
| Vapor pressure: No data available |
| Relative vapor density at 20 °C: No data available |
| Relative density: 7 |
| Solubility: Insoluble in water |
| Log Pow: No data available |
Electric Furnace Slag
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

1. Physical data
   - Log Kow: No data available
   - Viscosity, kinematic: No data available
   - Viscosity, dynamic: No data available
   - Explosive properties: No data available
   - Oxidizing properties: No data available
   - Explosive limits: No data available

2. Other information
   No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
   Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability
   Not established.

10.3. Possibility of hazardous reactions
   Not established.

10.4. Conditions to avoid
   Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials
   Strong acids. Strong bases.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
   - Acute toxicity: Harmful if swallowed.
     - Calcium oxide (1305-78-8)
       - LD50 oral rat: 500 mg/kg
       - Skin corrosion/irritation: Causes severe skin burns and eye damage.
       - Serious eye damage/irritation: Not classified
       - Respiratory or skin sensitization: Not classified
       - Germ cell mutagenicity: Not classified
       - Carcinogenicity: Not classified
       - Reproductive toxicity: Not classified
       - Specific target organ toxicity (single exposure): Not classified
       - Specific target organ toxicity (repeated exposure): Not classified
       - Aspiration hazard: Not classified
       - Potential Adverse human health effects and symptoms: Harmful if swallowed.
       - Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity
   - Calcium oxide (1305-78-8)
     - LC50 fish 1: 1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

12.2. Persistence and degradability
   - Electric Furnace Slag
     - Persistence and degradability: Not established.
### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Electric Furnace Slag</th>
<th>Bioaccumulative potential</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium oxide (1305-78-8)</td>
<td>BCF fish 1</td>
<td>(no bioaccumulation)</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- Waste disposal recommendations: Dispose in a safe manner in accordance with local, state and federal regulations.
- Ecology - waste materials: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT

- **ADR**
  - No additional information available

- **Transport by sea**
  - No additional information available

- **Air transport**
  - No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Electric Furnace Slag</th>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manganese (7439-96-5)</strong></td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Listed on United States SARA Section 313</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SARA Section 313 - Emission Reporting</td>
<td>1.0% deminimis</td>
</tr>
</tbody>
</table>

| Calcium oxide (1305-78-8) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |

#### 15.2. International regulations

**CANADA**

<table>
<thead>
<tr>
<th>Calcium oxide (1305-78-8)</th>
<th>Listed on the Canadian DSL (Domestic Substances List)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WHMIS Classification</td>
</tr>
</tbody>
</table>

**EU-Regulations**

| Calcium oxide (1305-78-8) | Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

No additional information available

**Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]**

No additional information available
15.2. National regulations

**Calcium oxide (1305-78-8)**
- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
- Listed on the Korean ECL (Existing Chemicals List)
- Listed on NZIoC (New Zealand Inventory of Chemicals)
- Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations
No additional information available

**SECTION 16: Other information**

Other information : None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation Category 1A</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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