

# MATERIAL SAFETY DATA SHEET

# STEELMAKING SLAG

## SECTION I - MATERIAL IDENTIFICATION

**Manufacturer's Name**

Gerdau AmeriSteel

**Contact**

Matt D. Moore  
Director, Safety & Health

**Address**

P. O. Box 31328  
Tampa, FL 33631-3328

**Product**

Steelmaking Slag

**Emergency Telephone Number**

813/286-8383

**Telephone Number for Information**

813/286-8383

**CAS NO.**

65996-71-6

**Chemical Name**

Calcium Silicates and Ferrites

## SECTION II - INGREDIENTS AND HAZARDS

<u>Composition</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>Exposure Limits</u>	
			<u>OSHA PEL (mg/m<sup>3</sup>)</u>	<u>ACGIH TLV (mg/m<sup>3</sup>)</u>
CaO	1305-78-8	23-30	5	5
SiO <sub>2</sub>	14808-60-7	7-29	10/%-SiO <sub>2</sub> +2 Resp. Dust 30/%-SiO <sub>2</sub> +2 Total Dust	0.1 Resp. Fraction
Fe <sub>2</sub> O <sub>3</sub>	1309-37-1	1-46	10	5 as fume
MgO	1309-48-4	5-21	5 Respirable Fraction	10 as fume
S	7704-34-9	<.1	13	5
MnO	7439-96-5	1-10	5	5 as dust
P <sub>2</sub> O <sub>5</sub>	1314-56-3	<1	None Established	None Established
TiO <sub>2</sub>	13463-67-7	<1	5 Respirable Fraction	10
AL <sub>2</sub> O <sub>3</sub>	1344-28-1	4-17	5 Respirable Fraction	10
CR <sub>2</sub> O <sub>3</sub>	7440-47-3	<1	1	0.5

## SECTION III - PHYSICAL DATA

<b>Boiling Point</b>	N/A	<b>Percent Volatiles</b>	N/A
<b>Vapor Pressure</b>	N/A	<b>Solubility in H<sub>2</sub>O</b>	N/A
<b>Specific Gravity</b>	80/63.4	<b>Evaporation Rate</b>	N/A
<b>Freezing Point</b>	N/A	<b>Vapor Density</b>	N/A
<b>Appearance and Odor</b>	Dark gray rock-like material with no odor		

## SECTION IV- HEALTH HAZARD DATA

**Major Exposure Hazard** Inhalation

**Effects of Overexposure** - Various handling operations (crushing, grinding, sizing, conveying, etc.) may cause dust to be released. Excessive exposure to high concentrations of dust may cause irritation of the mucous membranes of the upper respiratory system and may cause coughing, sneezing and inflammation of the respiratory passages. Exposure to slag dust containing small amounts of silica particles less than 5 microns in diameter may result in silicosis if inhaled in high enough concentrations over an extended period of time. The principal manifestation of silicosis is difficult breathing. This condition can progress to dry cough, shortness of breath on exertion, decreased lung function, and massive pulmonary fibrosis. High level doses may cause acute Silicosis in 1 - 3 years. Chronic Silicosis may not occur for 10 - 20 or more years after exposures begin, and sometimes long after they have ceased.

Based on animal experimental studies and human health findings, overexposure to slag dust and/or some components of slag (i.e. various complexed amorphous silicates) can cause pneumoconiosis and may pose a fibrogenic potential to the lung. Individuals overexposed to slag dusts may be at an increased risk of progression of existing lung impairment. IARC has determined crystalline silica to be a probable human carcinogen. Repeated or prolonged contact with the skin and direct eye contact with slag dust is likely to cause irritation. Contact with molten slag can cause serious thermal burns and permanent scarring. Long-term inhalation of iron oxide dust may produce a benign pneumoconiosis (siderosis)

#### **Emergency and First Aid Procedures:**

**Inhalation** Remove from exposure to dust, administer oxygen or artificial respiration as needed.  
**Skin Contact** Wash skin with soap and water. For contact with molten product, do not remove contaminated clothing. Flush area with large amounts of cold water. If possible, submerge area in cold water, pack with ice and seek medical aid.  
**Eye Contact** Flush with water immediately for 15 minutes. Seek medical aid.

#### **SECTION V - FIRE AND EXPLOSION DATA**

<b>Flash Point</b>	N/A	<b>Extinguishing Media</b>	N/A
<b>Autoignition Temperature</b>	N/A	<b>Special Fire Fighting Data</b>	N/A
<b>Flammability Limits</b>	N/A	<b>Explosion Hazard</b>	N/A

Fire and explosion hazards are not associated with this product.

#### **SECTION VI - REACTIVITY DATA**

<b>Stability</b>	Stable	<b>Decomposition Products</b>	None
<b>Incompatibility</b>	None	<b>Hazardous Polymerization</b>	None

#### **SECTION VII - SPILL OR LEAK PROCEDURES**

**Spill or Leak** Pick up mechanically or by hand tools. Fine material should be removed by vacuuming or wet sweeping to minimize dusting. Avoid using compressed air.  
**Disposal** Dispose of in proper manner as common non-hazardous waste.  
Clean-up personnel should be protected against eye or skin contact and inhalation of dust.

#### **SECTION VIII - SPECIAL PROTECTION INFORMATION**

**Respiratory Protection** A NIOSH/MSHA-approved dust respirator should be used to avoid excessive inhalation of particles. Appropriate respirator selection depends on the magnitude of exposure.  
**Ventilation** Provide general ventilation or local exhaust ventilation where material is used or processed to prevent excessive dust exposure.  
**Gloves** Wear protective gloves as required for handling operations.  
**Protective Clothing** None required.  
**Eyes** Wear safety glasses with sideshields for impact and to prevent dust particles from entering the eye.  
**Other** Depending upon conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.

#### **SECTION IX - SPECIAL PRECAUTIONS**

**Handling and Storage** Use good housekeeping practices to prevent accumulation of dust, and follow sound cleaning techniques that will keep airborne particulate to a minimum. Avoid inhalation of dust and excessive contact with eyes and skin.  
**Other Comments** Personal hygiene should be encouraged.