




# Blast Furnace Slag

## Safety Data Sheet (SDS)

### Section 1: Identification

<b>1 (a) Product Identifier:</b> Blast Furnace Slag	
<b>1 (b) Other means of Identification:</b>	Granulated Blast Furnace Slag, Air Cooled Blast Furnace Slag
<b>1 (c) Recommended use and restrictions on use:</b>	Used as fill, or as cementation material for cement.
<b>1 (d) Manufacturer's Name &amp; Address</b>	
Algoma Steel Inc. 105 West Street Sault Ste. Marie Ontario, Canada P6A 7B4	
<b>1 (e) Emergency Telephone Numbers:</b> 1 (705) 945-4058 (Mon – Fri 8:00 AM – 4:00 PM); 1 (705) 945-2275 (After Hours)	

### Section 2: Hazard Identification

<b>2 (a) Classification of the substance or mixture:</b>			
The categories of Health Hazards as defined in "GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3" United Nations, New York and Geneva, 2009 have been evaluated and listed below. Refer to Section 3, 8 and 11 for additional information.			
<b>2 (b) Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s):</b>			
Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity - 1A Specific Target Organ Toxicity (STOT) Repeat Exposure -1	Danger	May causing cancer by inhalation.  Causes damage to lungs through prolonged or repeated exposure by inhalation.
	Acute Toxicity – Oral 4 Skin irritation – 2 Specific Target Organ Toxicity (STOT) Single Exposure -3	Warning	Harmful if swallowed.  Causes skin irritation.  May cause respiratory irritation.
	Serious eye Damage/eye irritation – 1	Danger	Causes serious eye damage.

### Section 2: Hazard Identification (continued)

<b>Precautionary Statement(s):</b>		
Prevention	Response	Storage/Disposal
Do not breathe dusts.  Wear protective gloves / protective clothing / eye protection / face protection.  Use only outdoors or in well ventilated areas.  Wash thoroughly after handling.  Obtain special instructions before use.  Do not handle until all safety precautions have been read and understood.	<b>If inhaled:</b> Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention.  <b>If in eyes:</b> 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.  <b>If on skin:</b> Wash with plenty of water. Caustic burns must be treated promptly by	Store locked up.  Recycle and or dispose of contents in accordance with federal, state and local regulations.

Do not eat, drink or smoke when using this product.	<p>a doctor. If skin irritation occurs: get medical advice/attention. Take off contaminated clothing and wash it before reuse.</p> <p><b>If swallowed:</b> Call a poison center or doctor/physician if you feel unwell. Rinse mouth.</p>	
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**2 (c) Hazards Not Otherwise Classified:** Inhalation may cause serious respiratory irritation or lung damage. Repeated inhalation may increase symptoms in individuals with pre-existing chronic lung disease. Heating the product may produce hydrogen sulfide which is a highly flammable toxic gas. Dusts from this product, when combined with water or sweat, produce a corrosive alkaline solution.

**2 (d) Unknown Acute Toxicity Statement (mixture):** None Known

### Section 3: Composition/Information on Ingredients

**3 (a-c) Chemical Name, Common Name, CAS Number and Other Identifiers, and Concentration:**

Chemical Name	CAS Number	% By Weight
Silicon Dioxide	7440-21-3	40.0
Calcium Oxide	1305-78-8	38.0
Magnesium Oxide	1309-48-4	11.0
Aluminum Oxide	1344-28-1	8.0
Sulfur	7704-34-9	1.0

**Blast Furnace Slag** is a nonmetallic byproduct from the production of iron. The Silicon Dioxide may contain trace amounts of crystalline silica. Slag may contain trace amounts of metallic chemicals present in the iron ore at less than 0.1 percent including: Iron oxide, manganese oxide, carbon, and zinc oxide.

### Section 4: First Aid Measures

**4(a) Description of necessary measures:** If exposed, concerned or feel unwell: Get medical advice/attention.

- **Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Seek medical advice if discomfort persists. Inhalation of large amounts of dust requires immediate medical attention.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing. If eye irritation persists: Get medical advice attention.
- **Skin Contact:** Wash thoroughly after handling. Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse. Heavy exposure to cement dust, wet concrete or associated water requires prompt attention. Quickly and gently blot or brush away excess cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated promptly by a doctor.
- **Ingestion:** if swallowed: Do NOT induce vomiting. Rinse mouth. Obtain medical attention immediately or transport victim to an emergency treatment center.

**4(b) Most important symptoms/effects, acute and delayed (chronic):**

- **Inhalation:** May cause upper respiratory irritation. Prolonged inhalation of crystalline silica may cause silicosis, chronic lung disease or death.
- **Eye:** Severely irritating in contact with eyes. Causes eye damage which may be permanent and may cause blindness. Glassy particles can cause damage to eye tissue by mechanical abrasion.
- **Skin:** Dusts from **Blast Furnace Slag**, when combined with water or sweat, produce a severely irritating alkaline solution and burning of the skin. Symptoms include pain, burns, skin dryness, cracking and eczema. Glassy particles can cause damage to skin by mechanical abrasion. May cause an allergic skin reaction from trace amounts of sensitizing metals in lime.
- **Ingestion:** Severely irritating to the mouth, throat and gastro-intestinal system if swallowed. Symptoms may include severe pain and burning of the mouth, throat, esophagus and gastrointestinal tract with nausea, vomiting and diarrhea. If aspiration into the lungs occurs during vomiting, severe lung damage may result.

See Section 11-Toxicological for further Information.

**4(c) Immediate Medical Attention and Special Treatment:** Corrosive material; get immediate medical advice/attention if inhaled, if swallowed or if in eyes.

## Section 5: Fire-fighting Measures

**5(a) Suitable (and unsuitable) Extinguishing Media:** Use extinguishers appropriate for surrounding materials.

**5(b) Specific Hazards arising from the chemical:** Not Applicable Product is not flammable or combustible. Bulk powder of this product may heat spontaneously when damp with water. Reactivity: **Blast Furnace Slag** is not compatible with acids, aluminum salts or aluminum metal. **Blast Furnace Slag** products may react with water to produce silicates and calcium hydroxide.

**5(c) Special protective equipment and precautions for fire-fighters:** Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

## Section 6: Accidental Release Measures

**6(a) Personal Precautions, Protective Equipment and Emergency Procedures:** For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust following the use of an appropriate respirator as indicated in Section 8. Isolate the spill area preventing entry by unauthorized persons. Do not touch spilled material.

**6(b) Methods and materials for containment and clean up:** Dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways.

## Section 7: Handling and Storage

**7(a) Precautions for safe handling:** Before handling, it is important that engineering controls are operating. Avoid generating dust. High concentrations of airborne particulates should be evaluated and controlled as necessary. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in well ventilated areas. Practice good housekeeping. Avoid breathing dust. Do not eat, drink or smoke when using this product. NIOSH approved respirators, impervious gloves and chemical goggles should be worn when working with slag products.

**7(b) Conditions for safe storage, including any incompatibilities:** Store in a dry, well-ventilated area, away from acids and incompatible materials. Keep containers closed and protect from moisture/humidity.

## Section 8: Exposure Controls/Personal Protection

**8(a) Occupational Exposure Limits (OELs):** The following exposure limits are offered as reference for an experienced industrial hygienist to review.

Ingredients	OSHA PEL <sup>1</sup>	OHSA OEL <sup>2</sup>	ACGIH TLV – TWA <sup>3</sup>	IDLH <sup>4</sup>
<b>Silicon Dioxide (Quartz)</b>	250 mppcf/%SiO <sub>2</sub> +5, 10mg/m <sup>3</sup> /%SiO <sub>2</sub> +2	0.10 mg/m <sup>3</sup> , (respirable fraction <sup>7</sup> )	0.025 mg/m <sup>3</sup> , (respirable fraction <sup>7</sup> )	50 mg/m <sup>3</sup>
<b>Calcium Oxide</b>	5 mg/m <sup>3</sup>	2.0 mg/m <sup>3</sup>	2.0 mg/m <sup>3</sup>	25 mg/m <sup>3</sup>
<b>Magnesium Oxide</b>	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> (inhalable fraction <sup>5</sup> )	10 mg/m <sup>3</sup> (inhalable fraction <sup>5</sup> )	750 mg/m <sup>3</sup>
<b>Aluminum Oxide</b>	5 mg/m <sup>3</sup> (respirable fraction <sup>7</sup> )	1 mg/m <sup>3</sup> (respirable fraction <sup>7</sup> )	1 mg/m <sup>3</sup> (respirable fraction <sup>7</sup> )	NA
<b>Sulphur</b>	NA	NA	NA	NA

1. OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (C) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Peak is defined as the acceptable maximum peak for a maximum duration above the ceiling concentration for an eight-hour shift. A skin notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.

2. OEL's listed under the *Occupational Health and Safety Act* are 8-hour TWA (time-weighted average) concentrations, unless otherwise noted, as listed under section 4 of Ontario Regulation 833, Control of Exposure to Biological or Chemical Agents.

3. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as the maximum concentration to which workers can be exposed for a short period of time (15 minutes) for only four times throughout the day with at least one hour between exposures. A "skin" notation refers to the potential significant contribution to the overall exposure by the cutaneous route, either by contact with vapors or, of probable greater significance, by direct skin contact with the substance. ACGIH-TLVs are only recommended guidelines based upon consensus agreement of the membership of the ACGIH. As such, the ACGIH TLVs are for guideline use purposes and are not legal regulatory standards for compliance purposes. The TLVs are designed for use by individuals trained in the discipline of industrial hygiene relative to the evaluation of exposure to various chemical or biological substances and physical agents that may be found in the workplace.

4. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970's by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994.

5. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2014 TLVs<sup>®</sup> and BEIs<sup>®</sup> (Biological Exposure Indices) Appendix D, paragraph A.

6. PNOR (Particulates Not Otherwise Regulated). All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by a limit which is the same as the inert or nuisance dust limit of 15 mg/m<sup>3</sup> for total dust and 5 mg/m<sup>3</sup> for the respirable fraction.

7. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2015 TLVs<sup>®</sup> and BEIs<sup>®</sup> (Biological Exposure Indices) Appendix D.

**8(b) Appropriate Engineering Controls:** Use controls as appropriate to minimize exposure to dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations in confined areas. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

**8(c) Individual Protection Measures:**

- **Respiratory Protection:** If concentrations exceed established limits, seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134), ANSI Z88.2 or Canadian Standards Association (CSA) Standard Z94.4, whenever workplace conditions warrant a respirator's use and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

**Warning!** Air-purifying respirators both negative-pressure, and powered-air do not protect workers in oxygen-deficient atmospheres.

- **Eyes:** Wear appropriate eye protection to prevent eye contact. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use safety glasses with side-shields or goggles to prevent eye contact. Contact lenses should not be worn where industrial exposures to this material are likely.
- **Skin:** Wear appropriate personal protective clothing to prevent skin contact. Waterproof and cut/abrasion-resistant rubber, such as heavyweight nitrile gloves, boots and body-covering clothing may be used to prevent dermal exposures to this material and for cleaning and maintenance operations. Evaluate resistance under conditions of use and maintain protective clothing carefully; contact safety supplier for specifications. Contaminated work clothing must not be allowed out of the workplace.
- **Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

### Section 9: Physical and Chemical Properties

**9 (a) Appearance (physical state, color, etc):** Brown/Tan, Soild

**9 (b) Odor:** No distinct odour

**9 (c) Odor Threshold:** NA

**9 (d) pH:** 8/11 (ASTM D1293-95))

**9 (e) Melting Point/Freezing Point:** ~2600 °F/NA

**9 (f) Initial Boiling Point and Boiling Range:** NA

**9 (g) Flash Point:** NA

**9 (h) Evaporation Rate:** NA

**9 (i) Flammability (solid, gas):** Non-flammable, non-combustible

**9 (j) Upper and Lower Flammability or Explosive Limits:** NA

**9 (k) Vapor Pressure:** NA

**9 (l) Vapor Density (Air = 1):** NA

**9 (m) Relative Density (Water =1):** Specific Gravity 2-3

**9 (n) Solubility:** Insoluble

**9 (o) Partition Coefficient n-octanol/water:** ND

**9 (p) Auto-ignition Temperature:** NA

**9 (q) Decomposition Temperature:** ND

**9 (r) Viscosity:** NA

### Section 10: Stability and Reactivity

**10(a) Reactivity: Blast Furnace Slag** is incompatible with strong acids, ammonium salts, and aluminum metal. Slag will react with water to form silicates and calcium hydroxide. Silicates may react with strong oxidizers.

**10(b) Chemical Stability:** Stable under normal storage and handling conditions.

**10(c) Possibility of hazardous reaction:** Aqueous solutions are highly alkaline and may corrode aluminum.

**10(d) Conditions to Avoid:** Extremely high temperatures. Avoid unintentional contact with water/moisture and with strong acids.

**10(e) Incompatible Materials:** Strong acids (may react vigorously), ammonium salts, aluminum (aluminum powder and other alkali earth elements will react in the presence of water liberating extremely flammable hydrogen gas), water (reaction generates heat) and oxidizers.

**10(f) Hazardous Decomposition Products:** Hydrogen sulfide gas may be released from moist or wet slag when heated. Contact with water and moisture, generates corrosive calcium hydroxide.

### Section 11: Toxicological Information

**11(a-e) Information on toxicological effects:** The following toxicity data has been determined for **Blast Furnace Slag** using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of WHMIS, OSHA and the EU CPL:

**Likely Routes of exposure:** Eye and Skin contact, Inhalation of dust.

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

**Acute Effects:** Data not available for the mixture.

- ☐ **Skin corrosion/irritation:** Based on information for **Blast Furnace Slag:** causes skin irritation. May cause caustic burns when in prolonged contact with the skin. Irritating or corrosive to mouth, throat and gastro-intestinal tract.
- ☐ **Serious eye damage/irritation:** Based on information for **Blast Furnace Slag:** Causes serious eye damage and possible blindness. Damage may be permanent if treatment is not immediate.
- ☐ **STOT (Specific Target Organ Toxicity) Single Exposure:** Breathing dusts causes respiratory irritation. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia and been attributed to the inhalation of dust containing slag cement.
- ☐ **Aspiration Hazard:** This material is corrosive; is aspiration into the lungs occurs during vomiting, severe lung damage may result.

**Acute Effects by component:**

- ☐ **Calcium Oxide:** Wetted material may cause eye and or skin irritation.
- ☐ **Magnesium oxide:** Magnesium oxide is harmful if swallowed.
- ☐ **Silicon and silicon dioxides:** May be harmful if swallowed/inhaled.
- ☐ **Aluminum Oxide:** Aluminum oxide may be harmful if swallowed.
- ☐ **Sulfur (Dioxide):** May cause acute upper respiratory irritation.

**Delayed (chronic) Effects:**

- ☐ **STOT (Specific Target Organ Toxicity) Repeated Exposure:** Prolonged and repeated breathing of dust may cause lung disease. The extent and severity of lung injury correlates with the length of exposure and dust concentration. Inflammation of the respiratory passages, ulceration and perforation of the nasal septum and pneumonia has been attributed to the inhalation of dust containing slag cement. Contains crystalline silica. Long-term exposure to fine airborne crystalline silica dust may cause silicosis a form of pulmonary fibrosis that can cause shortness of breath, cough and reduced lung function. Particles with diameters less than 1 micrometer are considered most hazardous.

**Delayed (chronic) Effects by component:**

- ☐ **Silicon Dioxide:** Product may contain crystalline silica. Repeated overexposure to crystalline silica can cause chronic obstructive lung disease or silicosis. Crystalline silica has been designated by IARC as a confirmed human carcinogen and by the ACGIH as a suspected human carcinogen.
- ☐ **Sulfur:** Sulfur dioxide may be generated when the product is heated. Repeated exposure to sulfur dioxide may cause chronic lung disease.

Toxicological data listed below are presented regardless of classification criteria.

1. No LC<sub>50</sub> or LD<sub>50</sub> has been established for **Blast Furnace Slag**. The following data has been determined for the components:
  - **Silicon Dioxide (Quartz):** Oral Rat LD50 =>15,000 mg/kg  
Dermal Rat LD50 =>5000 mg/kg  
Inhalation Rat ¼ hr LC50 =0.69 mg
  - **Calcium Oxide** Oral Rat LD50 >2000 mg/kg  
Dermal Rabbit LD50 >2500 mg/kg
  - **Magnesium Oxide:** LD50 = Not Available
  - **Aluminum Oxide:** LD50 = Not Available
  - **Sulphur:** LD50 = Not Available
2. No Skin (Dermal) Irritation data available for **Blast Furnace Slag** components.
3. No Eye Irritation data available for **Blast Furnace Slag**. The following Eye Irritation information was found for the components:
  - **Calcium Oxide:** Causes eye irritation.
4. No Skin (Dermal) Sensitization data available for **Blast Furnace Slag**. The following Skin (Dermal) Sensitization information was found for the components:
5. No Respiratory Sensitization data available for **Blast Furnace Slag** components.
6. No Germ Cell Mutagenicity data available for **Blast Furnace Slag** components.
7. Carcinogenicity: IARC, and NTP do not list **Blast Furnace Slag**. The following Carcinogenicity information was found for the components:
  - **Crystalline Silica** - IARC Group 1 carcinogen, a carcinogenic to humans.
8. No Toxic Reproduction data available for **Blast Furnace Slag**:

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2009, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Program on Chemical Safety (IPCS).

## Section 12: Ecological Information

- 12(a) Ecotoxicity (aquatic & terrestrial):** No Data Available. However, individual components of the product may be toxic to the environment.
- Calcium Oxide:** LC50: Fish 1, 1070 mg/L; Fish 96 h-Species: Cyprinus carpio (Static). Harmful to aquatic life. Contact with water forms an alkaline solution. Avoid release to the environment.
  - Metal dusts may migrate into soil and groundwater and be ingested by wildlife as follows: **Iron (as iron oxide):** LC50: > 1000 mg/L; Fish

**12(b) Persistence & Degradability:** No Data Available.

**12(c) Bioaccumulative Potential:** No Data Available.

**12(d) Mobility (in soil):** No data available.

**12(e) Other adverse effects:** None Known

**Hazard Category:** Not Reported

**Signal Word:** No Signal Word

**Hazard Symbol:** No Symbol

**Hazard Statement:** No Statement

## Section 13: Disposal Considerations

**Disposal:** Dispose of material in accordance with applicable federal, state, provincial or local regulations.

## Section 14: Transport Information

**14 (a-g) Transportation Information:** All provincial, federal, and state laws and regulations that apply to the transport of this type of material must be adhered to.

### Transport Canada, *Transportation of Dangerous Goods (TDG)*

Not regulated for transport

### US Department of Transportation (DOT)

Not regulated for transport

### International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID)

Not regulated for transport

### International Air Transport Association (IATA)

Not regulated for transport

### Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR)

Not regulated for transport

## Section 15: Regulatory Information

**Regulatory Information:** *The following listing of regulations relating to an Algoma product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

### USA

**OSHA Regulations:** Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product, **Blast Furnace Slag** as a whole is not listed. However, individual components of the product are listed: Refer to Section 8, Exposure Controls and Personal Protection.

### OSHA HazCom 2012 Hazards:

Skin Irritation Cat. 2

Eye Damage Cat. 1

Specific Target Organ Toxicity, Single Exposure, Cat. 3

Carcinogenicity Cat. 1 (inhalation)

Specific Target Organ Toxicity, Repeated Exposure, Cat. 1 (inhalation)

**EPA Regulations:** The product, **Blast Furnace Slag** is not listed as a whole. However, individual components of the product are listed:

Components	Regulations
Slags, ferrous metal, blast furnace	TSCA (Toxic Substances Control Act) Inventory
Silicon Dioxide (<1% Quartz)	TSCA (Toxic Substances Control Act) Inventory
Calcium Oxide	TSCA (Toxic Substances Control Act) Inventory
Magnesium Oxide	TSCA (Toxic Substances Control Act) Inventory
Aluminum Oxide	TSCA (Toxic Substances Control Act) Inventory
Sulfur	TSCA (Toxic Substances Control Act) Inventory

**SARA 311/312 Potential Hazard Categories:** Immediate Acute Health Hazard; Delayed Chronic Health Hazard

**Section 313 Supplier Notification:** The product, Blast Furnace Slag may contain toxic chemicals subject to the reporting requirements of section 313, but not in amounts requiring supplier notification under 40 CFR part 372.

## **CANADA**

**WHMIS 1988: Blast Furnace Slag** is not listed as a whole. However individual components are listed:

D2A - Other toxic effects – Untested mixture containing Crystalline silica

E – Corrosive – Mixture generates Calcium hydroxide in contact with water

*This is a list of some of the regulations to be followed and may not be complete. Ensure you verify compliance with all applicable Provincial, Federal, State and Local Laws and Regulations*

## **Section 16: Other Information**

**Prepared By:** Algoma Steel Inc.

**Revised Date:** 11/30/2018

### **Methods for classification of mixtures:**

**USA:** Haz Com Standard 29 CFR 1910.1200 (2012)

**Canada:** Controlled Products Regulations.

UNECE, Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

### **Disclaimer**

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