



Sandblast Slags
Foundry Sands
Empire Blast Equipment
Bullard Safety Equipment
Sandblast Hose & Nozzles
Walnut Shells & Corn Cob Grit
Waterjet & Sandblast Garnet
Schmidt Blast Equipment
Silica Free Abrasives
Steel Shot & Grit
Aluminum Oxide
Glass Beads

SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

Product Identifier: Black Lightning

Other Means of Identification: Coal-Fired Boiler Slag, Iron Silicate (CAS #68476-96-0)

Recommended Use: Sandblasting Media, Roofing granules, Non-slip surfaces

Restrictions on Use: None Known

Supplier Identifier: Allredi Blast and Abrasives Canada Inc., 500 Sherman Ave., N., P.O. Box 844 LCD #1, Hamilton, Ontario L8N 3N9 Telephone #905-527-6000 or 1-888-794-5665

Emergency Telephone Number: See above

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classifications:

Health: Not Classified.

Environmental: Not Classified.

Physical: Not Classified.

Black Lightning is not flammable, combustible or explosive; and it poses no unusual hazard in the unused condition. During use for abrasive blasting, the dust may irritate the respiratory tract, skin and eyes and may cause inflammation and pulmonary fibrosis. Refer to Section 3 for a listing of heavy metals that are present. Appropriate care should be taken in the storage and disposal of this product.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS NO | % | Other Identifiers |
|------------------------------|------------|-------------|--------------------------------|
| Iron Oxide | 1309-37-1 | 5-35 | Fe ₂ O ₃ |
| Silica, Amorphous | 60676-86-0 | 35-58 | SiO ₂ |
| Aluminum Oxide | 1344-28-1 | 12-30 | Al ₂ O ₃ |
| Calcium Oxide | 1305-78-8 | 3-20 | CaO |
| Magnesium Oxide | 1309-48-4 | 0.1-7 | MgO |
| Manganese | 7439-96-5 | 0.01-0.05 | Mn |
| Potassium Oxide | 12136-45-7 | 0.1-3 | K ₂ O |
| Titanium Oxide | 13463-67-7 | 0.1-2 | TiO ₂ |
| Beryllium | 7440-41-7 | 0-0.001 | Be |
| Cadmium | 7440-43-9 | 0.001-0.002 | Cd |
| Silica, Crystalline (quartz) | 14808-60-7 | <0.1 | |

** Black Lightning is a 99-100% slag product produced from the combustion of coal in the generation of electricity.

SECTION 4: FIRST AID MEASURES

Inhalation: Remove affected person(s) to fresh air. Apply oxygen if difficulty breathing and consult a Professional immediately.

Ingestion: Rinse mouth with water. Don't induce vomiting. Consult a Physician if discomfort continues.

Skin Contact: Wash exposed skin gently with soap and lukewarm water for about 10 minutes. Get medical attention if irritation develops or persists.

Eye Contact: Immediately flush eyes thoroughly with lukewarm water for at least 15 minutes while holding the eye lid open. Do not rub eyes. If irritation persists, seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: Respiratory tract irritation, skin irritation, eye irritation.

Immediate Medical Attention and Special Treatment: Respiratory System.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Non-Combustible. Use appropriate extinguishing media for surrounding materials.

Unsuitable Extinguishing Media: None known.

Specific Hazards Arising from the Product: None known.

Special Protective Equipment and Precautions for Fire-Fighters: Wear full protective firefighting gear. Wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate clothing and respiratory protection (see Section 8). Avoid generating airborne dust during clean-up.

Environmental Precautions: Avoid runoff into storm sewers and ditches leading to waterways.

Methods for Containment and Cleaning Up: Avoid generating dust. Collect spillage by using an approved HEPA vacuum or gently moisten before collecting with a shovel and broom and place in a suitable container for disposal. Dispose in accordance with local, provincial, federal and state regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Avoid inhalation of dust and contact with skin and eyes. Wear personal protective equipment. Keep the work area clean and use work methods that minimize dust generation. Have proper ventilation. Wash thoroughly and use good industrial hygiene practices.

Conditions for Safe Storage: Store in properly closed containers. Keep dry. Store away from incompatible materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

| Chemical Name | OSHA PEL | ACGIH TLV |
|---------------------|--|----------------------------|
| Silica, Amorphous | 80 mg/m ³ /%SiO ₂ | 10 mg/m ³ |
| Aluminum Oxide | 15 mg/m ³ | 1 mg/m ³ R** |
| Iron Oxide | 10 mg/m ³ (fume) | 5 mg/m ³ |
| Calcium Oxide | 5 mg/m ³ | 2 mg/m ³ |
| Magnesium Oxide | 15 mg/m ³ (fume) | 10 mg/m ³ I* |
| Titanium Dioxide | 15 mg/m ³ | 10 mg/m ³ |
| Silica, Crystalline | 10 mg/m ³ /%SiO ₂ +2 | .025 mg/m ³ R** |
| Manganese | 5 mg/m ³ | .2 mg/m ³ |

* I = Inhalable

** R = Respirable

Low health risk by inhalation. Treat as a nuisance dust. Use ACGIH-TLV or OSHA-PEL nuisance dust guidelines (see below). This product is a stable amorphous glass-like iron silicate compound which contains less than 0.10% crystalline silica.

OSHA 15 mg/m³ Total Dust (Particles not otherwise regulated) (General Industry)

ACGIH 10 mg/m³ (Inhalable) Classified as (PONS, particles not other specified)

Appropriate Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

Individual Protection Measures

Eye/Face Protection: Wear safety glasses with side shields. Use tight fitting goggles if dust is generated

Skin Protection: Use protective gloves. Wear suitable protective clothing.

Respiratory Protection: Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4

Work Hygienic Practices: Wash hands after handling. Routinely wash work clothing and protective equipment. Handle in accordance with good industrial hygiene and safety practice.

Comments: Proper and safe use of the material is solely the purchaser's responsibility. Bell & Mackenzie Co. Ltd. extends no warranties and makes no representations as to the suitability of the product for the purchaser's intended purpose or the consequences of purchaser's actions.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black, granular solid

pH: Not Available

Odor: None

Melting Point: Not Available

Freezing Point: Not Available

Boiling Point: Not Available

Flash Point: Not Available

Flammability (solid, gas): Not Applicable

Upper and Lower Flammability or Explosive Limit: Not Available

Specific Gravity (water = 1): 2.6-2.8

Evaporation Rate: None

Solubility in Water: None expected

Vapor Density: Not Available

Vapor Pressure (air = 1): Not Available
Auto-ignition Temperature: Will not burn
Decomposition Temperature: Will not decompose
Flammable Limits (LEL/UEL): Not Available
Partition Coefficient: n-octanol/water: Not Available
Viscosity: Not Available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No reactivity hazard is expected
Chemical Stability: Product is stable and non-reactive under normal conditions of use, storage and transport.
Possibility of Hazardous Reactions: None Known
Conditions to Avoid: Avoid accumulation of airborne dusts
Incompatible Materials: Hydrofluoric Acid
Hazardous Decomposition Products: None Known

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation. Skin Contact. Eye Contact. Ingestion

Acute Toxicity:

Notes: Abrasive blasting agents may cause inflammation and pulmonary fibrosis. Ingestion of dusts generated during working operations may cause nausea and vomiting.

Skin Corrosion/Irritation: May cause skin irritation.

Serious Eye Damage/Irritation: May cause eye irritation.

STOT (Specific Target Organ Toxicity) – Single Exposure

Inhalation: Can irritate the respiratory system

Skin Contact: May cause irritation

Ingestion: May cause irritation of the mouth, throat and stomach

STOT (Specific Target Organ Toxicity) – Repeated Exposure

Inhalation: Frequent dust inhalation over a long period of time increases the risk of developing lung disease. Irritation of nose and throat. Irritation of the eyes and mucous membranes. May cause respiratory tract irritation. Shortness of breath.

Respiratory and/or Skin Sensitization: Not a skin or respiratory sensitizer.

Carcinogenicity: Contains less than 0.1% crystalline silica

IARC: Coal-Fired boiler slag is not listed by IARC

NTP: Coal-Fired boiler slag is not listed by the National Toxicology Program in their Annual Report

OSHA: Coal-Fired boiler slag is not listed by NIOSH on their Occupational Cancer List

Notes:

ACGIH Carcinogens

Aluminum Oxide (CAS 1344-28-1) A4 Not classifiable as a human carcinogen.

Beryllium (CAS 7440-41-7) A1 Confirmed human carcinogen.

Cadmium (CAS 7440-43-9) A2 Suspected human carcinogen.

Calcium Oxide (CAS 1305-78-8) No designation listed.

Iron Oxide (CAS 1309-37-1) A4 Not classifiable as a human carcinogen.
Magnesium Oxide (CAS 1309-48-4) A4 Not classifiable as a human carcinogen.
Manganese (CAS 7439-96-5) A4 Not classifiable as a human carcinogen.
Potassium Oxide (CAS 12136-45-7) No designation listed.
Silica, Amorphous (CAS 7631-86-9) No designation listed.
Titanium Dioxide (CAS 13463-67-7) A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Aluminum Oxide (CAS 1344-28-1) Not listed.
Beryllium (CAS 7440-41-7) Group 1. Monographs 58 and 100C (2012)
Cadmium (CAS 7440-43-9) Group 1. Monographs 58 and 100C (2012)
Calcium Oxide (CAS 1305-78-8) Not listed.
Iron Oxide (CAS 1309-37-1) Not listed.
Magnesium Oxide (CAS 1309-48-4) Not listed.
Manganese (CAS 7439-96-5) Not listed.
Potassium Oxide (CAS 12136-45-7) Not listed.
Silica, Amorphous (CAS 7631-86-9) Not listed.
Titanium Oxide (CAS 13463-67-7) Group 2B. Monographs 47 and 93 (2010)

US NTP Report on Carcinogens

Beryllium (CAS 7440-41-7) Known to be a human carcinogen.
Cadmium (CAS 7440-43-9) Known to be a human carcinogen.

Reproductive Toxicity

Development of Offspring: None known.

Sexual Function and Fertility: None known.

Effects on or via Lactation: None known.

Germ Cell Mutagenicity: None known

Interactive Effects: None known

Comments: Allredi Blast and Abrasives Canada Inc. Has taken reasonable care in the preparation of this Safety Data Sheet, no warranties are made. Allredi Blast and Abrasives Canada Inc. makes no representations and assumes no responsibility as to the accuracy or suitability of the Safety Data Sheet for the applications intended by the purchaser.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Although this product is not classified as environmentally hazardous this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability: This product is not biodegradable.

Bioaccumulative potential: This product is not bioaccumulating.

Aquatic Toxicity (Acute): None known

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods: Dispose waste (spent material) in compliance with Federal, State, Provincial and Local Regulations. In the unused form it may be disposed of as a non-hazardous solid waste.

SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transportation under the U.S. DOT, Canadian TDG, IMDG, or IATA Regulations.

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

WHMIS Classification: 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.

WHMIS Hazard Symbol and Classification: Not Controlled

WHMIS (Workplace Hazardous Material Information System): Not Controlled

Domestic Substance List (Inventory): Listed on Inventory

Custom Regulatory 1: Employee exposure monitoring should be performed when using this product to determine exposure levels to not only the oxides contained in this product, but also the material being blasted.

United States

SARA TITLE III 311/312 Hazard Categories: Hazardous Chemical.

SARA 313 Reportable Ingredients: Aluminum Oxide (CAS 1344-28-1).

CERCLA (Comprehensive Environmental Response, Compensation and Liability Act):

Beryllium WT 0-0.001% CERCLA RQ 10

TSCA (Toxic Substance Control Act):

Silica, Amorphous (CAS 60676-86-0)

Aluminum Oxide (CAS 1344-28-1)

Iron Oxide (CAS 1309-37-1)

Calcium Oxide (CAS 1305-78-8)

Magnesium Oxide (CAS 1309-48-4)

Potassium Oxide (CAS 12136-45-7)

Titanium Dioxide (CAS 13463-67-7)

Silica, Crystalline (CAS 14808-60-7)

Manganese (CAS 7439-96-5)

Beryllium (CAS 7440-41-7)

California Proposition 65: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

RCRA Status: Not Regulated

OSHA Hazard Comm. Rule: Regulated

Clean Water Act: Not covered by any water quality criteria under Section 304

Carcinogen: Boiler slag is not listed by IARC, NIOSH or the NTP as a known or suspected carcinogen. However based upon presence of beryllium and cadmium, the product would be classified as a Category 2 Carcinogen pursuant to the GHS Classification System.

SECTION 16: OTHER INFORMATION

Hazardous Material Information System (HMIS):

Health 0
Flammability 0
Physical Hazard 0
Personal Protection A

National Fire Protection Association (NFPA):

Health 0
Flammability 0
Reactivity 0

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Key to Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

OSHA – Occupational Safety and Health Administration

Disclaimer: To the best of our knowledge, the information contained herein is accurate. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Allredi Blast and Abrasives Canada Inc. assumes no liability arising out of the use of this product by others. The conditions of the use of this product and the suitability of the product for your particular application are beyond the control of Allredi Blast and Abrasives Canada Inc. All risks of the use of the product are therefore assumed by you, the user. It is also your responsibility to pass on to your employees and/or customers the information contained in the SDS.