

SAFETY DATA SHEET

Conforms to OSHA HazCom 2012, CPR, NOM-018-STPS-2000 Standards & GHS

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name(s): Slag

Product Identities: Granulated Blast-Furnace Slag, Iron Slag, Granular Pig Iron Slag, Water Granulated Slag, Water Granulated Blast-Furnace Slag, Slag cement

Supplier/Manufacture:




Diversified Minerals Inc.
1135 E. Wooley Road
Oxnard CA, 93030
(888) 364-9595

**Poison Control System:
(800) 222-1222**

Recommended Uses: Concrete containing ground granulated slag develops strength over a longer period, leading to reduced permeability and better durability. Since the unit volume of Portland cement is reduced, this concrete is less vulnerable to alkali-silica and sulfate attack. Other uses include GGBS cement, Soil cement, Roller compacted concrete, Road Base, Agriculture/Soil Amendment, and Glass Manufacture.

Restrictions on Use: Strong Acids, Fluorine and Strong Oxidizing Agents

SECTION 2: HAZARD IDENTIFICATION

	WARNING		
	Irritant: Causes eye, skin and inhalation irritation Use proper engineering controls, work practices, and personal protective equipment to prevent exposure to wet or dry product. Read SDS for details.	Respiratory Protection	Eye Protection

GHS Classification: (Please see GHS Classifications on our website under Resources)

Carcinogenicity - Category 1A

Specific Target Organ Toxicity Single Exposure – Category 2

Specific Target Organ Toxicity Repeat Exposure - Category 1

GHS LABEL ELEMENTS Symbol(s)



SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS RN	ACGIH TLV (mg/m ³)	OSHA-PEL (mg/m ³)
Silica, amorphous	7631-86-9	10	2
Calcium compounds	1305-78-8	2	5
Magnesium compounds	1309-48-4	10	5(R) 15(T)
Aluminum compounds	1344-28-1	10	(R) 5 (T) 15
Sulfur compounds	7446-09-5	5	13
Silica	14808-60-7	0.1	(R)3 (T)10
Inert or nuisance dust	---	(R)3 (T)10	(R)5 (T)15

Slag is a partially vitreous by-product of smelting ore to separate metals from the unwanted impurities. It can usually be considered to be a mixture of metal oxides and silicon dioxide. However, slag can contain trace amounts of metal sulfides and metal atoms in the elemental form.

SECTION 4: FIRST-AID MEASURES

- Eye Contact:** Rinse eyes thoroughly with water for at least 15 minutes, including under lids to remove all particles. Seek medical attention for discomfort or if irritation or other symptoms do not subside.
- Skin Contact:** Wash with cool water and pH neutral soap or a mild skin detergent. Seek medical attention for rash, irritation and dermatitis.
- Inhalation:** Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
- Ingestion:** Treat symptomatically. If bowel obstruction is suspected, seek immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

- General Hazard:** Avoid breathing dust..
- Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.
- Firefighting Equipment:** Slag poses no fire-related hazard.
- Combustion Products:** In excess of 1000°C compounds will break down into their constituent oxides.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- General:** Place spilled material into a container. Avoid actions that cause the Slag to become airborne. Avoid inhalation of Slag and contact with skin. Wear appropriate Personal Protective Equipment (PPE) as described in Section 8 below. Scrape wet Slag into a container. Allow material to dry or solidify before disposal. Do not wash Slag down sewage and drainage systems or into bodies of water (e.g. streams).
- Waste Disposal:** Dispose of Slag according to Federal, State, Provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

General:	<p>Keep dry until used. Keep bulk and bagged Slag dry until used. Stack bagged material in a secure manner to prevent falling. Bagged Slag is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures.</p> <p>Properly ground all pneumatic conveyance systems. The potential exists for static build-up and static discharge when moving Slag powders through a plastic, non-conductive, or non-grounded pneumatic conveyance system. The static discharge may result in damage to equipment and injury to workers.</p>
Engulfment hazard:	To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck or other storage container or vessel that stores or contains Slag. Slag can build up or adhere to the walls of a confined space. The Slag can suddenly release, collapse, or fall unexpectedly.
Housekeeping:	Avoid actions that cause Slag to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.
Storage Temperature:	-32°C – 100°C
Storage Pressure:	Ambient Pressure
Storage Moisture:	Keep dry.
Clothing:	Promptly remove and launder clothing that is dusty or wet with Slag. Thoroughly wash skin after exposure to Slag.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	Use local exhaust and general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.
Personal Protective Equipment (PPE):	
<u>Respiratory Protection:</u>	Under ordinary circumstances no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.
<u>Eye Protection:</u>	Wear ANSI approved glasses or safety goggles when handling dust or wet Slag to prevent contact with eyes. Wearing contact lenses when using Slag, under dusty conditions, is not recommended.
<u>Skin protection:</u>	Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves. Remove clothing and PPE that become saturated with wet Slag and immediately wash exposed areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid (powder)	Evaporation Rate:	NA
Appearance:	Gray, off-white or white	pH (in water):	8-11
Odor:	None	Boiling Point:	>1000°C
Vapor Pressure:	NA	Freezing Point:	None, solid
Vapor Density:	NA	Viscosity:	None, solid
Specific Gravity	2-3	Solubility in water:	Slight (0.1-1%)

SECTION 10: STABILITY AND REACTIVITY

- Stability:** Stable. Keep dry until use. These products may react with water, resulting in a slight release of heat, depending upon the amount of lime (Calcium oxide) present. Avoid contact with incompatible materials.
- Incompatibility:** Wet Slag is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Slag dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.
- Hazardous Polymerization:** None.
- Hazardous Decompositions:** Will not spontaneously occur. Avoid exposure to acids. Product exposed directly to acids may release hydrogen sulfide. Hydrogen sulfide is a hazardous, toxic and poisonous gas.

SECTION 11 AND 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with Federal, State, Provincial and Local regulations.

SECTION 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous material under US D.O.T or Canadian TDG regulations.

SECTION 15: REGULATORY INFORMATION

OSHA/MSHA Hazard Communication:

This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.

CERCLA/Superfund:

This product is not listed as a CERCLA hazardous substance.

**EPCRA
SARA Title III:**

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a "hazardous substance" a delayed health hazard.

**EPCRA
SARA Section 313:**

This product does not contain any of the substance subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372

California Proposition 65:

WARNING: This material may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm

SECTION 16: OTHER INFORMATION

General Abbreviations:

>	Greater than	NIOSH	National Institute for Occupational Safety and Health
<	Lesser than	NTP	National Toxicology Program
ACGIH	American Conference of Governmental Industrial Hygienists	OSHA	Occupational Safety and Health Administration
CAS RN	Chemical Abstracts Reference Number	PEL	Permissible Exposure Limit
CERCLA	Comprehensive Environmental Response, Compensations and Liability Act	pH	Negative log of hydrogen ion
CFR	Code of Federal Regulations	PPE	Personal Protective Equipment
CL	Ceiling Limit	R	Respirable Particulate
DOT	Department of Transportation	RCRA	Resource Conservation and Reauthorization Act
g/cm ³	Grams per cubic centimeter	SARA	Superfund Amendments and Reauthorization Act
HEPA	High-Efficiency Particulate Air	SDS	Safety Data Sheet
HMIS	Hazardous Materials Identification Systems	T	Total Particulate
IARC	International Agency for Research on Cancer	TDG	Transportation of Dangerous Goods
mg/m ³	Milligrams per cubic meter	TLV	Threshold Limit Value
MSHA	Mine Safety and Health Administration	TWA	Time Weighted Average (8 hour)
NA	Not Applicable	WHMIS	Workplace Hazardous Materials Information System
NFPA	National Fire Protection Association	---	-----

This SDS (Section 1-16) was revised on May 21, 2015.

An electronic version of this SDS is available at: www.dmicement.com

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