18–Dec–2025

Material Safety Data Sheet––GGBFS

1. Material Identification

Common name:	TJSW® - Ground Granulated Blast Furnace Slag
Synonyms:	GGBFS, GGBS, Slag Powder
Product application:	Cementitious systems
CAS No.:	65996-69-2
Description:	A ground powder made with an appropriate mill from a glassy granular material formed when molten iron blast-furnace slag is rapidly chilled as by immersion in water.
Supplier:	Beijing Miningsun Imp And Exp Co.,Ltd
Address.:	NO.48 Lilaihuayuan Linyin Road,Shunyi District,Beijing China
Telephone:	+ 86 139 1153 6292
E-mail:	info@miningsun.co

2. Composition/Information on Ingredients

Components	CAS number	Percentage (Approx)
Calcium oxide (CaO)	1305-78-8	30-50
Silicon dioxide (SiO2)	7631-86-9	30-40
Magnesium oxide (MgO)	1309-48-4	2-14
Alumina Oxide(Al2O3)	1344-28-1	7-18
Iron oxide (Fe2O3)	1309-37-1	0.1-1.8
Manganese oxide (MnO)	7439-96-5	0-1.0
Sulfur (S)	7704-34-9	0-2.0

3. Physical and Chemical Properties

Boiling Point:	N/A
Color:	White
Specific Gravity (H2O=1):	2.80-2.95
Vapor Pressure (mm Hg)::	N/A
Melting Point:	N/A
Vapor Density (AIR-1):	N/A
Evaporation Rate:	N/A
Solubility in Water:	0.1-0.5%
Appearance & Odor:)	Beige to white powder with traces of sulfur odor

4. Hazards Identification

GGBFS is unlikely to cause harmful effects when handled and stored as advised. See section 8.

5. Fire and Explosion Hazard Data

Flash Point:	N/A
Extinguishing Media:	Media suitable for surrounding fire.
Special Fire Fighting Procedures:	N/A
Unusual Fire & Explosion Hazards:	None Reported
Flammable Limits:	N/A
Lower Explosive Limit:	N/A
Upper Explosive Limits:	N/A

6. Reactivity Data

Stability:	Stable
Conditions to Avoid (Stability):	Avoid moisture. Keep dry until used.
Incompatibility:	None known.
Hazardous Decomposition/Byproducts:	Respirable dust particles may be generated when the product is handled.
Hazardous Polymerization:	Will not occur.No conditions to avoid

7. Health Hazard Data

Exposure Limits: Unless specified otherwise, limits are expressed as a time-weighted average (TWA) concentration for an 8-hour work shift of a 40-hour workweek. Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half the limits for quartz.

Abbreviations:

ACGIH TLV:	Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH). The Federal Mine Safety and Health Administration (MSHA) has adopted the TLVs established by ACGIH, as set forth in the 1973 edition of "TLVs Threshold Limit Values for Chemical Substances in Workroom Air Adopted by ACGIH for 1973".
M.P.P.C.F.:	Millions of particles per cubic foot of air, based on impinger samples counted by lightfield techniques.
Mg/m3:	Milligrams of substance per cubic meter of air.
NIOSH REL:	Recommended exposure limit of the National Institute for Occupational Safety and Health (NIOSH), expressed as a TWA concentration for up to a 10-hour workday during a 40hour workweek.

OSHA ACC:	Acceptable Ceiling Concentration set by the federal Occupational Safety and Health Administration (OSHA). Under OSHA regulations, an employee's exposure to an acceptable ceiling concentration shall not exceed at any time during an 8-hour shift the acceptable ceiling concentration limit given for the substance, except for a time period, and up to a concentration not exceeding the maximum duration and concentration allowed as specified under the subheading "acceptable maximum peak above ACC for an 8-hour shift". If no such subheading appears, then employee exposure shall never exceed the acceptable ceiling concentration limit.
OSHA PEL	**Calcium Oxide CaO:** OSHA PEL: 5 mg/m3; ACGIH TLV: 5 mg/m3; NIOSH REL: 2 mg/m3. **Silicon Dioxide SiO2:** OSHA PEL: (respirable) 80 mg/m3 ÷ (% SiO2); ACGIH TLV:20 m.p.p.c.f.; NIOSH REL: 6 mg/m3. **Magnesium Oxide MgO:** OSHA PEL: (total particulate) 15 mg/m3; ACGIH TLV 10 mg/m3. **Alumina Al2O3:** OSHA PEL: (respirable) 5 mg/m3, (total dust) 15 mg/m3; ACGIH TLV: 10 mg/m3. **Iron Oxide Fe2O3:** OSHA PEL: 10 mg/m3; ACGIH TLV: 10 mg/m3; NIOSH REL: 5 mg/m.3. **Manganese Oxide MnO:** OSHA ACC: 5 mg/m3; ACGIH TLV: 5 mg/m3; NIOSH STEL: 3 mg/m3; NIOSH REL: 1 mg/m3. **Sulfur S:** OSHA PEL: Not listed; ACGIH TLV: Not listed; NIOSH STEL: Not listed. **Other Particulates**: OSHA PEL: (total particulate, not otherwise regulated) 15 mg/m3, (respirable particulate, not otherwise regulated) 5 mg/m3; ACGIH TLV: (nuisance particulates) 10 mg/m3.

Health Hazards:
Primary Route(s) of Entry: Inhalation: Yes Skin: Yes Ingestion: No or unlikely.
Acute:

Eye Contact:	Minor irritation to the eyes. Direct contact by larger amounts of material or splashes of wet material may cause effects ranging from moderate eye irritation to chemical burns and blindness.
Inhalation:	Dusts may irritate the nose, throat, and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.
Skin Contact:	Exposure to dry material may cause drying of the skin with consequent mild irritation. Dry material contacting wet skin or exposure to moist or wet material may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.
Ingestion:	Ingestion of large amounts may cause gastrointestinal irritation and blockage.

8. First Aid Measures

Eyes:	Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops
Inhalation:	Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.
Skin	Wash with cool water and a pH-neutral soap or mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged direct exposure to wet product or prolonged wet skin exposure to dry product.
Ingestion:	Do not induce vomiting. If person is conscious, give large quantity of water. Get immediate medical attention.

9. Accidental Release Measures

Avoid exposure to dust of GGBFS. Released material should be collected in suitable containers.

10. Personal Protection And Control Measures

Ventilation:	Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.
Other:	Exposure levels should be monitored regularly. Exposure levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) ventilation, process enclosure, and enclosed employee workstations.
Respiratory Protection:	When exposure levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.
Skin Protection:	Protective gloves, shoes and protective clothing that are impervious to water should be worn to avoid contact with skin.
Eye Protection:	Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.
Hygiene:	Periodically wash exposed skin with a pH-neutral soap.Wash again before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use. If clothing becomes saturated with wet material, it should be removed and replaced with clean, dry clothing.

11. Safty Handling /Storage and Transportation Information

Handling	Avoid dust generation. Handle with adequate ventilation for dust
Storage	General storage, best in closed containers, keeping dry. Do not store or handle near food and beverages or smoking materials..
Transportation	Not a hazardous materials in transportation Not regulated not classified not regulated by IMDG Not classified by transport regulations
Waste Disposal Method:	Do not attempt to wash material down drains. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.
Steps to be taken if material is released or spilled:	Use dry clean-up methods that do not disperse dust into the air. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment. Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal.

12. Toxicological Information

Acute effects:

INGESTION:	Finely divided dust may cause irritation and dehydration of mucous membranes.
INHALATION:	Finely divided dust may cause irritation and dehydration of mucous membranes.
SKIN CONTACT:	Finely divided dust may cause mechanical irritation and dehydration.
EYE CONTACT:	Finely divided dust may cause mechanical irritation and dehydration.

Chronic effects:

Inhalation of GGBFS dust is considered to entail minimal risk of pulmonary fibrosis. However, chronic obstructive lung disease is suspected following long term exposure (years) for concentrations above recommended occupational exposure limits.

13. Ecological Information

GGBFS is not characterised as dangerous for the environment.

MOBILITY:	The product is not mobile under normal environmental conditions.
PERSISTENCE:	Not relevant for inorganic substances.
BIOACCUMULATION:	Not relevant.
ECOTOXICITY:	GGBFS: Daphnia magna: 24 h EC50 > 1002 mg.l-1 24 h EC100 > 1002 mg.l-1 NOEC 319 mg.l-1 GGBFS has been subject to Microtox screening test. No acute toxicological effects could be observed in the test organisms.

14. Disposal Considerations

The material should be recovered for recycling if possible.

This material is not classified as hazardous waste according to Commission Decisions 2000/532/EC and 2001/118/EC. Prior to disposal of large quantities of this material advice should be sought from the relevant Waste Regulation Authority.

15. Regulatory Information

Product classification and labelling:

Symbol:	Not subject to classification
R-phrases:	None
S-phrases:	None

- The text of this Data Sheet is prepared in compliance with:

- Commission Directive 2001/58/EC.

- Council Directive 67/548/EEC and its subsequent amendments.

16. Notice

Physical and chemical data contained in this MSDS are provided for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references, however Beijing Miningsun Imp And Exp Co.,Ltd does not certify the data on the MSDS. The certified values for this material are given only based on the Beijing Miningsun Imp And Exp Co.,Ltd