Due to classification requirements, this SDS is for USA only. For other countries, please contact GRS directly.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 Product Identifier

Product Name: X-SIL Investment Casting Powder
REACH Registration No: This product is EXEMPT from REACH registration in accordance with Annex v.7
Synonyms: n/a
Trade Names: X-SIL

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Main Applications (non exhaustive list): Investment Casting Powder

1.3 Details of the supplier of the Safety Data Sheet

Company Name: Goodwin Refractory Services Ltd.
Address: Spencroft Road, Holditch Industrial Estate
Newcastle under Lyme, Staffordshire, ST5 9JE, UK
Phone No. +44 (0)1782 663600
Fax No. +44 (0)1782 663611
Email address: info@grscastingpowders.com

1.4 Emergency telephone number:

Emergency Telephone No. +44 (0)1782 663600
Available outside office hours? No

2. HAZARDS IDENTIFICATION

Label elements:

Signal word: DANGER
H350:May cause cancer if inhaled. Causes damage to the lungs, the immune system and the kidneys through prolonged or repeated exposure if inhaled.

P201: Obtain special instructions before use.

Other hazards:
As with all refractory mineral dusts, silica is an unavoidable impurity. X Sil contains less than 1% total silica content, however, more than 0.1% total Quartz as an impurity.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Mixture

Calcium Phosphate: 35-65 %
CAS: 7758-87-4
No known exposure limits in accordance with GESTIS international limit values on the date this SDS was produced.
Magnesium oxide: 15-50 %
CAS: 1309-48-4

	Limit value– Eight hours		Limit value– Short term	
	ppm	mg/m3	ppm	mg/m3
United Kingdom (EH40)		10 inhalable dust		
		4 respirable dust		

Mica: 1-15 %
CAS: 12001-26-2

	Limit value– Eight hours		Limit value– Short term	
	ppm	mg/m3	ppm	mg/m3
USA– NIOSH		3 respirable fraction		
USA– OSHA	20 mppcf			
United Kingdom (EH40)		10 inhalable dust		
		0.8 respirable dust		

Calcium sulphate: 12-22 %
CAS: 7778-18-9
NOTE: Calcium sulphate used in GRS products is not produced synthetically and is complete or partially dried and therefore is not a chemical process and does not require REACH registration.

	Limit value– Eight hours		Limit value– Short term	
	ppm	mg/m3	ppm	mg/m3
USA– NIOSH		10 (total)		
		5 (respirable)		
USA– OSHA		15 (total)		
		5 (respirable)		
United Kingdom(EH40)		10 inhalable aerosol		
		4 respirable aerosol		

Calcium Silicate: 0-5%
CAS: 13983-17-0

	Limit value– Eight hours		Limit value– Short term	
	ppm	mg/m3	ppm	mg/m3
USA– OSHA		15 (total)		
		5 (Respirable		
United Kingdom(EH40)		10 (inhalable)		
		4 (Respirable)		

4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye Contact: If product enters the eyes, open eyes while under gentle running water for several minutes. Remove contact lenses If present and easy to do. Where necessary, seek medical attention.

Inhalation: Avoid inhalation of dust. Use local exhaust or breathing protection. If breathing becomes difficult, remove person to fresh air. If necessary, use artificial respiration. Where necessary, seek medical attention.

Ingestion: If large quantities of this product is swallowed, call a physician or poison control center for most current information.

Skin Contact: Wash skin thoroughly after handling. Seek medical attention if irritation develops.

4.2 Most important symptoms and effects both acute and delayed: Exposure to skin and eyes may cause mechanical irritation. Quartz (as an impurity within this product) is known to have effects on the lungs. This may result in silicosis, autoimmune diseases, effects on the kidneys.

4.3 Indication of any immediate medical attention and special treatment needed: Treat symptoms and eliminate overexposure.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media:
No specific extinguishing media is needed. Use extinguisher suitable for the environment.

5.2 Special hazards arising from the substance or mixture:
Non combustible. No hazardous thermal decomposition.

5.3 Advice for firefighters:
No specific fire fighting protection is required.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective and emergency procedures:
Avoid inhalation of dust. Use local exhaust or breathing protection. To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink or smoke. Wash thoroughly after handling. Handle in a well ventilated work area.

6.2 Environmental precautions:
If possible, prevent entry to sewers, storm drains, surface waters and soils.

6.3 Methods and material for containment and cleaning up:
Spilled product should be removed immediately to avoid formation of dust. Remove by mechanical means (Vacuuming). Dilute remainder with plenty of water. Ensure sufficient ventilation. Wash contaminated clothing.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:
To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink or smoke. Wash thoroughly after handling. Handle in a well ventilated work area.

7.2 Conditions for safe storage, including any incompatibilities:
Keep in a dry, well-ventilated area in closed containers. Protect containers from physical damage.

7.3 Specific end use(s) :
Investment Casting Powder.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
See section 3.1 for known exposure limits.

8.2 Exposure controls:
Appropriate engineering controls:
Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in section 3.1.
Respiratory protection: Not required for properly ventilated areas. Maintain airborne contaminant concentrations below the local guidance, see section 3.1/ *https://limitvalue.ifa.dguv.de/* for further information. Where exposure limits are exceeded, suitable respiratory protection is recommended.

Environmental exposure controls:

9. PHYISCAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Fine, white powder.
Odor:	Odorless
Odor threshold:	No components are considered hazardous.
pH	7-10
Melting point/ freezing point:	No components are considered hazardous.
Initial Boiling point:	No components are considered hazardous.
Flash point:	No components are considered hazardous.
Evaporation rate:	No components are considered hazardous.
Flammability:	No components are considered hazardous.
Upper/ lower flammability exposure limit:	No components are considered hazardous.
Vapour pressure:	No components are considered hazardous.
Relative density:	No components are considered hazardous.
Water solubility:	Non soluble
Partition coefficient:	No components are considered hazardous.
Auto ignition temperature:	No components are considered hazardous.
Decomposition temperature:	No components are considered hazardous.
Viscosity:	No components are considered hazardous.
Explosive Properties:	No components are considered hazardous.
Oxidising properties:	No components are considered hazardous.

10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available.
10.2 Chemical Stability: Chemically stable.
10.3 Possibility of hazardous reactions: No hazardous reactions.
10.4 Conditions to avoid: No data available.
10.5 Incompatible materials: No data available.
10.6 Hazardous decomposition products: No data available.

11. TOXICOLOGY INFORMATION

11.1 Information on toxicology effects:

a) Acute toxicity:
Based on available data, the classification criteria is not met.

b) Skin corrosion/irritation:
Based on available data, the classification is not met.

c) Serious eye damage/irritation:
Based on available data, the classification is not met.

d) Respiratory or skin sensation:
Based on available data, the classification is not met.

e) Germ cell mutagenicity:
Based on available data, the classification is not met.

f) Carcinogenicity:
May cause cancer if inhaled. Causes damage to the lungs, the immune system and the kidneys through prolonged or repeated exposure if inhaled.

g) Reproductive toxicity:
Based on available data, the classification is not met.

h) STOT-single exposure:
Based on available data, the classification is not met.

i) STOT-repeated exposure:
Based on available data, the classification is not met.

j) Aspiration hazard:
Based on available data, the classification is not met.

12. ECOLOGICAL INFORMATION

12.1 Toxicity: No data available.
12.2 Persistence and degradability: No data available.
12.3 Bioaccumulative potential: No data available.
12.4 Mobility in soil: No data available.
12.5 Results of PBT and vPvB assessment: No data available
12.6 Other adverse effects: No specific adverse effects known

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Non– Hazardous waste
Disposal should be carried out in compliance with local regulations, following product identifiers in section 3.1.

14. TRANSPORT INFORMATION

This product is not classified as dangerous goods.

14.1 UN Number: No data available.
14.2 UN proper shipping name: No data available.
14.3 Transport hazard class(es):
ADR: Not dangerous goods.
IMDG: Not dangerous goods.
ICAO/IATA: Not dangerous goods.
RID: Not dangerous goods.
14.4 Packing group: No data available.
14.5 Environmental hazards: No data available.
14.6 Special precautions for user: No data available.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: No data available.

Recommended HS Tarrif code: 6815 99

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

U.S SARA Reporting requirements: NONE
U.S SARA 311/ 312: None
U.S. SARA Threshold planning quantity: There are no specific threshold planning quantities for the components of this product.
U.S TSCA Inventory status: The components of this product are listed on the TSCA inventory or are exempt from listing.
Other U.S Federal regulations: None known.
California safe drinking water and toxic enforcement act (Proposition 65): No ingredients in this product are on the proposition 65 lists.

European economic community information:
This product does not meet the definition of a hazardous substance or preparation as defined by the European union council directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent directives.

16. OTHER INFORMATION

15.2 Chemical safety assessment:
No chemical safety assessment has been carried out by the supplier.

Indication of the changes made to the previous revision of the SDS:
06/04/2023– Rev 1– American SDS only.
11/11/2023– Rev 2– Amendment to wording on page 1 & 2 regarding impurities.
13/05/2025– Rev 3– Review only. No changes made.
19/05/2025– Rev 4– Inclusion of statement in header to indicate where this SDS has been produced for due to classification requirements.