

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

1.1 Product Identifier

Product Name: Investment casting powder
REACH Registration No: Exempted in accordance with Annex V.7
Synonyms: n/a
Trade Names: PT960

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

Main Applications (non exhaustive list):
Casting of Jewelry and Industrial products

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

2.1 Classification of the substance or mixture:

This product contains respirable crystalline silica (RCS). The quantity of RCS powder that is composed of particle sizes of less than 10 µm is less than 10% therefore making this product a STOT RE 2 according to criteria defined in the regulation EC 1272/2008 and harmful according to criteria defined in Directive 67/548/EEC due to the potential for generation of airborne respirable crystalline.

Airborne respirable crystalline silica may be generated during the handling and use of the product. Prolonged inhalation of high levels of respirable crystalline silica dust has been shown to cause silicosis, a nodular pulmonary fibrosis.

Workplace exposure to respirable crystalline silica dust should be monitored and controlled.

2.2 Label elements:

Classification Regulation EC 1272/2008:
Specific Target Organ Toxicant- STOT RE 1—*This product contains more than 10% respirable crystalline silica.*

H372: Causes damage to lungs through prolonged or repeated exposure via Inhalation.



Signal Word: Warning

Hazard Statements:

H372: Causes damage to lungs through prolonged or repeated exposure via Inhalation.

Precautionary Statements:

P260: Do not breathe dust.
P284: Wear respiratory protection.
P501: Dispose of contents/containers in accordance with local regulations.

2.3 Other Hazards:

This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH

This product is exempt from REACH Registration.



3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Mixture

	CAS #	%
Cristobalite	14464-46-1	10 - 30
Quartz	14808-60-7	70 - 90
Mono Ammonium Phosphate	7722-76-1	<10
Magnesia (MgO)	1309-48-8	>4
Fibre Glass	65997-17-3	>2

3.2 Impurities

Contains more than 10% of respirable crystalline silica and is classified as STOT RE 1.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

- Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes. If irritation persists seek medical advice.
- Inhalation: Move exposed person to fresh air immediately and seek medical advice.
- Ingestion: No first aid measures required.
- Skin Contact: No first aid measures required.

4.2 Most important symptoms and effects both acute and delayed

No acute and delayed symptoms and effects are observed.

4.3 Indication of any immediate medical attention and special treatment needed:

5. FIRE FIGHTING MEASURES

No specific actions are required.

5.1 Extinguishing media:

No specific extinguishing media is needed.

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 airborne dust generation, wear personal protective equipment in compliance with national legislation.

6.2 Environmental precautions:

No special requirements.

6.3 Methods and material for containment and cleaning up:

Avoid dry sweeping and use water spraying or vacuum cleaning systems to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation (see section 8.2.2 for specific details).

6.4 Reference for other sections:

See sections 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid airborne dust generation. Provide appropriate ventilation at places where airborne dust is generated. In case of insufficient ventilation, (10-15 air changes per hour recommended) wear suitable respiratory protective equipment (see section 8.2.2 for specific details). Where 10-15 air changes per hour is not achieved, suitable local exhaust ventilation is recommended. Handle packaged products carefully to prevent accidental bursting. If you require advice on safe handling techniques, please contact your supplier or check the good practice guide referred to in section 16.

7.2 Conditions for safe storage, including any incompatibilities:

Minimise airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products so as to prevent accidental bursting.

7.3 Specific end use(s) :

If you require advice on specific uses, please contact your supplier or check the good practice guide referred to in section 16.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust, respirable crystalline silica dust)

The WEL (Workplace Exposure Limit) for respirable crystalline dust is 0.1 mg/m^{-3} in the UK, measured as an 8 hour TWA (Time Weighted Average).

For the equivalent limits in other countries consult your local regulatory authority.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Minimise airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering control methods to keep airborne levels below the specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. Apply organisational measures, e.g. by isolating personal from dusty areas. Wash hands before breaks and at the end of the day. Remove and wash soiled clothing.

8.2.2 Individual protection measures such as personal protective equipment

- Eye / face protection: Safety goggles to protect the eyes against dust ingress. Conforms to EN 166.1.B.3.4.9
- Skin protection: No specific requirement.
- Hand protection: Wash hands at the end of each work session. Use barrier cream / pre work cream. No specific protective gloves required, however natural rubber/ latex gloves or equivalent are advised.
- Respiratory protection: In case of prolonged exposure to airborne dust concentrations, wear respiratory equipment (e.g. respirator, powered air respirator) of FFP3 or APF 40 standards or equivalent.

8.2.3 Environmental exposure controls:

Avoid wind dispersal.

9. PHYSICAL 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	8-9
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.

9.2 Other information:
No other information.

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** No data available.
- 10.2 Chemical Stability:** Chemically stable.
- 10.3 Possibility of hazardous reactions:** Can react with Hydrofluoric acid.
- 10.4 Conditions to avoid:** No data available.
- 10.5 Incompatible materials:** Can produce corrosive gas, Silicon Tetrafluoride
- 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 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:
Based on available data, the classification is not met.
- 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:
This product contains respirable Cristobalite and respirable quartz as an Impurity and is classified as STOT RE 1 according to criteria defined in the Regulation EC 1272/2008.

Prolonged inhalation of high levels of to respirable crystalline silica dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles.
- 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:

Product:

Where possible, recycling is preferable to disposal. This should be carried out in compliance with local regulations.

Packaging:

Dust generation from residues in packaging should be avoided and suitable work protection assured. The re-use of packaging is not recommended. Recycle and disposal of packaging should be carried out in compliance with local regulations and authorized waste management company

14. TRANSPORT INFORMATION

- 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.

15. REGULATORY INFORMATION

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

International legislation/requirements:

Regulation (EC) No 2037/2000: Not relevant
 Regulation (EC) No 850/2004: Not relevant
 Regulation (EC) No 689/2008: Not relevant

15.2 Chemical safety assessment:

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

16. OTHER INFORMATION

Training advice:

Employees must be trained in the proper use and handling of this product as required under applicable regulations.

Guidance Books:

EH40/2005 - Workplace Exposure Information
 EH44/1997 - Dust: General Principles of Protection
 EH75/4 (2002) - Respirable Crystalline Silica - Phase 1
 EH75/5 (2003) - Respirable Crystalline Silica - Phase 2
 HSG37 - An Introduction to Local Exhaust Ventilation

Liability:

Such information given on this safety data sheet is to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as its accuracy, reliability or completeness. It is the users responsibility to satisfy itself as to the suitability and completeness of such information for their own particular use.

Indication of the changes made to the previous revision of the SDS:

11/10/2018– Rev 1– New document
 26/02/2019– Rev 2– Further information added to section 9.