SAFETY DATA SHEET

according to Regulation (EU) 2015/830

FG (TM) Cristobalite

Revision 1

Revision date 2019-05-03

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	FG (TM) Cristobalite

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

Description	Foundry material.

1.3. Details of the supplier of the safety data sheet

Company	Ransom & Randolph
Address	3535 Briarfield Boulevard, PO Box 1570 Maumee, Ohio 43537 USA
Web	www.ransom-randolph.com
Telephone	+1 (419) 865-9497
Fax	+1 (419) 865-9997
Email	RR.SDS@dentsply.com
Email address of the competent person	RR.SDS@dentsply.com

1.4. Emergency telephone number

Emergency telephone number	USA +1 419 865 9497
Company	Ransom & Randolph Co. 07:30 to 16:30 (Eastern Std. / GMT minus 5)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.2. Classification - EC 1272/2008	STOT RE 1: H372;

2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	STOT RE 1: H372 - Causes damage to organs (lungs) through prolonged or repeated exposure inhalation.
Precautionary Statement: Prevention	P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash (hands) thoroughly after handling. P270 - Do no eat, drink or smoke when using this product.
Precautionary Statement: Response	P314 - Get medical advice/attention if you feel unwell.
Precautionary Statement: Disposal	P501 - Dispose of contents/container to local and national regulations

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2.3. Other hazards

Other hazards	Product contains respirable crystalline silica (RCS). Not applicable. PBT and vPvB assessment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
Silica (cristobalite)		14464-46-1	238-455-4		90 - 100%	STOT RE 1: H372;

Further information

	Full text for all Risk Phrases mentioned in this section are displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air.
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open.
Skin contact	Wash with soap and water.
Ingestion	Drink 1 to 2 glasses of water. DO NOT INDUCE VOMITING.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	May cause irritation to respiratory system.
Eye contact	May cause irritation to eyes.
Skin contact	May cause irritation to skin.
Ingestion	May cause irritation to mucous membranes.

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

Inhalation	Seek medical attention if irritation or symptoms persist.
Eye contact	Seek medical attention if irritation or symptoms persist.
Skin contact	Seek medical attention if irritation or symptoms persist.
Ingestion	Seek medical attention if irritation or symptoms persist.

SECTION 5: Firefighting measures

5.1. Extinguishing media

	Use extinguishing media appropriate to the surrounding fire conditions.

5.2. Special hazards arising from the substance or mixture

	Burning produces irritating, toxic and obnoxious fumes.

5.3. Advice for firefighters

	Self-contained breathing apparatus. Wear suitable protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Avoid formation of dust.

6.2. Environmental precautions

	Use appropriate container to avoid environmental contamination.

6.3. Methods and material for containment and cleaning up

	Avoid raising dust. Clean the area using a vacuum cleaner. Transfer to suitable, labelled container.

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6.4. Reference to other sections

	See section [2, 8 & 13] for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

	Avoid formation of dust. Ensure adequate ventilation of the working area. <. OEL: Occupational exposure limit. Do not eat, drink or smoke in areas where this product is used or stored. Wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

	Keep containers tightly closed.

7.3. Specific end use(s)

	Foundry material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

	OEL: Occupational exposure limit. quartz - 0.1 mg/m3 (respirable fraction); cristobalite - 0.1 mg/m3 (respirable fraction).

8.2. Exposure controls

	
8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area. <. OEL: Occupational exposure limit.
8.2.2. Individual protection measures	Wear protective clothing. EN13982, ANSI 103 or =.
Eye / face protection	Avoid contact with eyes. Wear:. Approved safety goggles. safety glasses with side-shields. EN166, ANSI Z87.1 or =.
Skin protection - Handprotection	Avoid contact with skin. Wear suitable gloves. EN374, ASTM F1001 or =.
Respiratory protection	Exposure above the recommended occupational exposure limit (OEL) may cause adverse health effects. Wear:. Suitable half mask respirator with filter P3 (EN 143). EN140, EN143, ASTM F2704-10 or =.
8.2.3. Environmental exposure controls	Use appropriate container to avoid environmental contamination.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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Revision 1
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9.1. Information on basic physical and chemical properties

Appearance	Powder
Colour	Off white
Odour	Slight
pH	6 - 8
Melting point	= 1710 °C
Freezing Point	Not relevant
Initial boiling point	Not applicable.
Flash point	No data available
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	2.3
Fat Solubility	No data available
Partition coefficient	Not applicable.
Autoignition temperature	Not applicable.
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	Not applicable.
Solubility	Slightly soluble in water

9.2. Other information

Conductivity	Not applicable.
Surface tension	Not applicable.
Gas group	Not applicable.
Benzene Content	Not applicable.
Lead content	Not applicable.
VOC (Volatile organic compounds)	Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Not applicable.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No Significant Hazard.

10.4. Conditions to avoid

No Significant Hazard.

10.5. Incompatible materials

No Significant Hazard.

10.6. Hazardous decomposition products

Hazardous Decomposition Products (silica): Crystalline silica will dissolve in hydrofluoric acid and produce silicone tetrafluoride. Reaction with water or acids generates heat.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Not applicable. Based on available data, the classification criteria are not met.

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11.1. Information on toxicological effects

Skin corrosion/irritation	Not applicable. Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Not applicable. Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Not applicable. Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Not applicable. Based on available data, the classification criteria are not met.
Carcinogenicity	Not applicable. Based on available data, the classification criteria are not met.
Reproductive toxicity	Not applicable. Based on available data, the classification criteria are not met.
STOT-single exposure	Not applicable. Based on available data, the classification criteria are not met.
STOT-repeated exposure	Chronic effects Prolonged inhalation of respirable crystalline silica In 1997, the International Agency for Research on Cancer (IARC) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France). In June 2003, the European Commission's Scientific Committee for Occupational Exposure Limits (SCOEL) concluded: "that the main effect in humans of the inhalation of respirable crystalline silica is silicosis. There is sufficient information to conclude that the relative lung cancer risk is increased in persons with silicosis (and apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk. Since a clear threshold for silicosis development cannot be identified, any reduction of exposure will reduce the risk of silicosis." (SCOEL SUM Doc 94-final on respirable crystalline silica, June 2003) There is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. Worker protection against silicosis should be assured by respecting the existing regulatory occupational exposure limits and implementing additional risk management measures where required (see Section 16).
Aspiration hazard	Not applicable. Based on available data, the classification criteria are not met.
Repeated or prolonged exposure	Inhalation of dust may cause shortness of breath.

11.1.4. Toxicological Information

FG (TM) Cristobalite	**Oral Mouse LD50:** >5000 mg/kg

SECTION 12: Ecological information

12.1. Toxicity

FG (TM) Cristobalite	**Fish LC50/96h:** 10000.000 mg/l

12.2. Persistence and degradability

Not applicable.

12.3. Bioaccumulative potential

Does not bioaccumulate.

Partition coefficient

FG (TM) Cristobalite Not applicable.

12.4. Mobility in soil

Not determined.

12.5. Results of PBT and vPvB assessment

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12.5. Results of PBT and vPvB assessment

Not determined.

12.6. Other adverse effects

Not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of in compliance with all. local and national regulations.

Disposal methods

Contact a licensed waste disposal company.

Disposal of packaging

Do NOT reuse empty containers. Empty containers can be sent for disposal or recycling.

Further information

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

SECTION 14: Transport information

14.1. UN number

The product is not classified as dangerous for carriage.

14.2. UN proper shipping name

The product is not classified as dangerous for carriage.

14.3. Transport hazard class(es)

The product is not classified as dangerous for carriage.

14.4. Packing group

The product is not classified as dangerous for carriage.

14.5. Environmental hazards

The product is not classified as dangerous for carriage.

14.6. Special precautions for user

The product is not classified as dangerous for carriage.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

The product is not classified as dangerous for carriage.

Further information

The product is not classified as dangerous for carriage.

SECTION 15: Regulatory information

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

Regulations

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94

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

	as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

15.2. Chemical safety assessment

	No data is available on this product.

SECTION 16: Other information

Other information

	Training Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations. Social Dialogue on Respirable Crystalline Silica A multi-sectoral social dialogue agreement on Workers Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it was signed on 25 April 2006. This autonomous agreement, which receives the European Commission's financial support, is based on a Good Practices Guide. The requirements of the Agreement came into force on 25 October 2006. The Agreement was published in the Official Journal of the European Union (2006/C 279/02). The text of the Agreement and its annexes, including the Good Practices Guide, are available from http://www.nepsi.eu and provide useful information and guidance for the handling of products containing respirable crystalline silica. Literature references are available on request from EUROSIL, the European Association of Industrial Silica Producers,. STOT RE1: H372 - DANGER - Causes damage to lungs through prolonged or repeated exposure by inhalation.
Revision	This document differs from the previous version in the following areas:. 1 - CAS No.
Text of Hazard Statements in Section 3	STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure .

Further information

	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.

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