



# SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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## Caulkcrete (R) 100 ceramic cement

Revision 4  
Revision date 2018-03-29

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

#### 1.1. Product identifier

Product name	Caulkcrete (R) 100 ceramic cement
Product code	Caulkcrete 100 ceramic cement 032918 C068

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

Description	Foundry material.
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#### 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	Repr. 1B: H360FD; STOT RE 2: H373;
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#### 2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Repr. 1B: H360FD - May damage fertility. May damage the unborn child. STOT RE 2: H373 - May cause damage to organs (lungs) through prolonged or repeated exposure inhalation.

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## 2.2. Label elements

<b>Precautionary Statement: Prevention</b>	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary Statement: Response</b>	P308+P313 - IF exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell.
<b>Precautionary Statement: Storage</b>	P405 - Store locked up.
<b>Precautionary Statement: Disposal</b>	P501 - Dispose of contents/container to local and national regulations

## 2.3. Other hazards

<b>Other hazards</b>	Product contains respirable crystalline silica (RCS).  Zircon contains trace amounts of naturally occurring uranium, thorium, and radium.
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## Further information

	Not applicable. PBT and vPvB assessment.
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**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
zirconium silicate		14940-68-2			60 - 70%	
phosphate binder (proprietary)					1 - 10%	Skin Irrit. 2: H315; Eye Irrit. 2: H319;
phosphate binder 2 (proprietary)					1 - 10%	Skin Irrit. 2: H315; Eye Irrit. 2: H319;
Quartz		14808-60-7	238-878-4		1 - 10%	STOT RE 1: H372;
boric acid. .	005-007-00-2	10043-35-3	233-139-2		0.5 - 1%	Repr. 1B: H360FD;

## Further information

	Full text for all Risk Phrases mentioned in this section are displayed in Section 16.  Quartz -- 1 % w/w < "fine fraction" < 10 % w/w / CAS 14808-60-7, EC No 238-878-4 / STOT RE2: H373.
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**SECTION 4: First aid measures**

## 4.1. Description of first aid measures

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

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

<b>Inhalation</b>	May cause irritation to respiratory system.
<b>Eye contact</b>	May cause irritation to eyes.
<b>Skin contact</b>	May cause irritation to skin.

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Ingestion	May cause irritation to mucous membranes.
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**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.
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**5.2. Special hazards arising from the substance or mixture**

	Burning produces irritating, toxic and obnoxious fumes.
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**5.3. Advice for firefighters**

	Self-contained breathing apparatus. Wear suitable protective clothing.
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**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

	Avoid formation of dust. Wear suitable respiratory equipment when necessary.
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**6.2. Environmental precautions**

	No environmental requirements.
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**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.
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**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

	Ensure adequate ventilation of the working area. Avoid formation of dust. In case of insufficient ventilation, wear suitable respiratory equipment.
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	Do not eat, drink or smoke in areas where this product is used or stored. Wash hands after handling the product.
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**7.2. Conditions for safe storage, including any incompatibilities**

	Keep containers tightly closed.
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**7.3. Specific end use(s)**

	Foundry material.
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**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

	Ensure adequate ventilation of the working area.
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	exposure limits - Zirconium silicate 10 mg/m <sup>3</sup> STEL ACGIH (respirable fraction)
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## 8.1. Control parameters

	5 mg/m3 TWA OSHA PEL (respirable fraction).
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## 8.1.1. Exposure Limit Values

Quartz	WEL 8-hr limit ppm:	WEL 8-hr limit mg/m3: 0.3
	WEL 15 min limit ppm:	WEL 15 min limit mg/m3:
	WEL 8-hr limit mg/m3 total - inhalable dust:	WEL 15 min limit mg/m3 total - inhalable dust:
	WEL 8-hr limit mg/m3 total - respirable dust:	WEL 15 min limit mg/m3 total - respirable dust:

## 8.2. Exposure controls

	
8.2.1. Appropriate engineering controls	Ensure adequate ventilation of the working area.
8.2.2. Individual protection measures	Wear protective clothing.
Eye / face protection	In case of splashing, wear: Approved safety goggles. safety glasses with side-shields.
Skin protection - Handprotection	Wear suitable gloves.
Respiratory protection	Suitable respiratory equipment.
8.2.3. Environmental exposure controls	Not normally required.
Occupational exposure controls	Appropriate local exhaust ventilation is required.

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

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## 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Powder
<b>Colour</b>	Off white
<b>Odour</b>	Slight
<b>pH</b>	4 - 7
<b>Melting point</b>	No data available
<b>Freezing Point</b>	Not applicable.
<b>Initial boiling point</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	No data available
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	4.4 (H <sub>2</sub> O = 1 @ 20 °C)
<b>Fat Solubility</b>	Not applicable.
<b>Partition coefficient</b>	Not applicable.
<b>Autoignition temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidising properties</b>	Not applicable.
<b>Solubility</b>	Slightly soluble in water

## 9.2. Other information

<b>Conductivity</b>	Not applicable.
<b>Surface tension</b>	Not applicable.
<b>Gas group</b>	Not applicable.
<b>Benzene Content</b>	Not applicable.
<b>Lead content</b>	No data available
<b>VOC (Volatile organic compounds)</b>	Not applicable.

## SECTION 10: Stability and reactivity

## 10.1. Reactivity

	Not applicable.
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## 10.2. Chemical stability

	Stable under normal conditions.
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## 10.3. Possibility of hazardous reactions

	No Significant Hazard.
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## 10.4. Conditions to avoid

	No Significant Hazard.
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## 10.5. Incompatible materials

	No Significant Hazard.
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## 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.
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## 10.6. Hazardous decomposition products

	Hazardous Decomposition Products (Zircon): Zirconium silicate will disassociate to Zirconium Dioxide (ZrO <sub>2</sub> ) and Silicon dioxide (SiO <sub>2</sub> ) when heated above 1540 degrees Celsius. Hazardous Polymerization: Will not occur.
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## SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	May cause irritation to skin.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause sensitisation by skin contact.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Possible risk of harm to the unborn child. Possible risk of impaired fertility.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Chronic Health Effects: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This product contains trace quantities of naturally occurring radioactive uranium, thorium and radium (106-120 Picocuries/gram). Overexposure to respirable dust containing radioactive materials may cause lung cancer. Zirconium silicate is exempt from NRC regulations for source material per 10 CFR 40, since it falls under the definition of material containing less than 0.05% uranium or thorium. However, calculations show that observance of 2-2.8 mg/m <sup>3</sup> of respirable dust will, under voluntary guidelines, ensure that intake is less than 10% of the annual limits on intake (ALS) specified in 10 CFR 20.1502(B) and NRC Standards for the protection against radiation for uranium, thorium, radium and radioactive daughter decay products.)
Aspiration hazard	Based on available data, the classification criteria are not met.
Repeated or prolonged exposure	Inhalation of dust may cause shortness of breath.

## SECTION 12: Ecological information

## 12.1. Toxicity

Caulkcrete (R) 100 ceramic cement	Fish LC50/96h: 200.000 mg/l	Green algae EC50/96h: 2.6 mg/l
	Fish LC50/48h: > 10,000	Sheephead minnows LC50/96h: 115 mg/l

## 12.2. Persistence and degradability

	Not applicable.
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## 12.3. Bioaccumulative potential

	Does not bioaccumulate.
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## Partition coefficient

Caulkcrete (R) 100 ceramic cement	Not applicable.
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## 12.4. Mobility in soil

	Not determined.
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## Caulkcrete (R) 100 ceramic cement

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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.

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

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 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

	<p>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.</p> <p>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 <a href="http://www.nepsi.eu">http://www.nepsi.eu</a> 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,.</p>
Revision	<p>This document differs from the previous version in the following areas: 2 - 2.1.2. Classification - EC 1272/2008. 2 - Hazard pictograms. 2 - Precautionary Statement: Prevention. 2 - Precautionary Statement: Response.</p>
Text of Hazard Statements in Section 3	<p>Skin Irrit. 2: H315 - Causes skin irritation. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure . Repr. 1B: H360FD - May damage fertility. May damage the unborn child.</p>

## General information

STOT RE2: H373 - WARNING - May cause damage to lungs 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.