



# SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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## C-1 Core Mix

Revision 5

Revision date 2021-07-28

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

#### 1.1. Product identifier

Product name C-1 Core Mix

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

Product Use [SU3] Industrial uses: Uses of substances as such or in preparations at industrial sites;

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 SDS@ransom-randolph.com  
Email address of the competent person dyouel@ransom-randolph.com

#### 1.4. Emergency telephone number

Emergency telephone number USA +1 419 865 9497  
Company Ransom & Randolph Co.  
08:00-17:00 (US 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 not eat, drink or smoke when using this product.

Precautionary Statement:  
Response

P314 - Get medical advice/attention if you feel unwell.

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## 2.2. Label elements

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).  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
silica, vitreous (Silica, fused respirable dust)		60676-86-0	262-373-8		30 - 40%	
zirconium silicate		14940-68-2			40 - 50%	
silica (cristobalite) more than 10 %		14464-46-1	238-455-4		10 - 20%	STOT RE 1: H372;
Quartz >= 1.0 conc. < 10% (Quartz)		14808-60-7	238-878-4		0.5 - 1%	STOT RE 2: H373;

## Further information

	Silica (Cristobalite) "fine fraction" >= 10 % w/w / CAS 14464-46-1, EC No 238-455-4 / STOT RE1: H372.  Full text for all Risk Phrases mentioned in this section are displayed in Section 16.
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## 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.
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## 5.2. Special hazards arising from the substance or mixture

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## 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. Wear suitable respiratory equipment when necessary.

## 6.2. Environmental precautions

No environmental requirements.

## 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.

## 6.4. Reference to other sections

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

## 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.

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

Ensure adequate ventilation of the working area.

exposure limits - Zirconium silicate 10 mg/m3 STEL ACGIH (respirable fraction)  
5 mg/m3 TWA OSHA PEL (respirable fraction).

## 8.1.1. Exposure Limit Values


Quartz >= 1.0 conc. < 10% (Quartz)	WEL 8-hr limit ppm:	WEL 8-hr limit mg/m3: 0.1
	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:
silica, vitreous (Silica, fused respirable dust)	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m3: 0.08
	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

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## 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

Appearance	Powder
Colour	Off white
Odour	Slight
pH	4 - 7
Melting point	No data available
Freezing Point	Not applicable.
Initial boiling point	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	3.6 (H <sub>2</sub> O = 1 @ 20 °C)
Fat Solubility	Not applicable.
Autoignition temperature	Not applicable.
Viscosity	No data available
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Partition coefficient	No data available
Solubility	Slightly soluble in water

## 9.2. Other information

Conductivity	No data available
Surface tension	No data available
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

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<b>10.1. Reactivity</b>	
	Not applicable.
<b>10.2. Chemical stability</b>	
	Stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	
	No Significant Hazard.
<b>10.4. Conditions to avoid</b>	
	No Significant Hazard.
<b>10.5. Incompatible materials</b>	
	No Significant Hazard.
<b>10.6. Hazardous decomposition products</b>	
	Zircon sand will disassociate to Zirconium Dioxide (ZRO <sub>2</sub> ) and Silicon dioxide (SiO <sub>2</sub> ) when heated above 1540 degrees Celsius.
	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	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
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	Based on available data, the classification criteria are not met.
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.

**11.1.4. Toxicological Information**

	No data available
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**SECTION 12: Ecological information****12.1. Toxicity**

	No data available
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**12.2. Persistence and degradability**

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## 12.2. Persistence and degradability

Not applicable.

## 12.3. Bioaccumulative potential

Does not bioaccumulate.

## Partition coefficient

C-1 Core Mix No data available

## 12.4. Mobility in soil

Not determined.

## 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.

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Regulations</b>	<p>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.</p> <p>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.</p>
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**15.2. Chemical safety assessment**

	No data is available on this product.
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**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> <p>STOT RE1: H372 - DANGER - Causes damage to lungs through prolonged or repeated exposure by inhalation.</p>
<b>Text of Hazard Statements in Section 3</b>	<p>STOT RE 1: H372 - Causes damage to organs through prolonged or repeated exposure .</p> <p>STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure .</p>

**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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