



# SAFETY DATA SHEET

according to Regulation (EU) 2015/830

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## Keycote(R) binder

Revision 6  
Revision date 2020-06-01

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

#### 1.1. Product identifier

Product name Keycote(R) binder

#### 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. 08:00-17:00 (US Eastern Std. / GMT minus 5)

### SECTION 2: Hazards identification

#### 2.2. Label elements

Precautionary Statement: Prevention	This mixture/substance does not meet the criteria for classification in accordance with Regulation (EC) No 1272/2008.
	P262 - Do not get in eyes, on skin, or on clothing. Wear suitable gloves and eye/face protection.
Hazard Statement	No Significant Hazard

#### 2.3. Other hazards

Other hazards	Portions of the amorphous silica may be converted to crystalline silica (cristobalite) when subjected to higher temperatures (1700° F / 927° C), such as when used in a mold for ferrous and other high temperature alloy castings. The exposure to crystalline silica is highest at the mold knockout stage of the casting process.  Avoid breathing dust/fume/gas/mist/vapours/spray.
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#### Further information

Not applicable. PBT and vPvB assessment.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

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## 3.2. Mixtures

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
silica (amorphous)		7631-86-9	231-545-4		20 - 30%	

## 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

	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

	Wear suitable protective equipment.
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## 6.2. Environmental precautions

	Do not allow product to enter drains.
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## 6.3. Methods and material for containment and cleaning up

	Absorb with inert, absorbent material. 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

	Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Wash hands after handling the product.
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## 7.2. Conditions for safe storage, including any incompatibilities

Do NOT allow to freeze. Keep in a cool, dry, well ventilated area. Keep containers tightly closed.

## 7.3. Specific end use(s)

Foundry material.

## SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

exposure limits - Silica, vitreous (fused, amorphous) 80 mg/m<sup>3</sup> / (% Silica), TWA PEL (respirable fraction).

## 8.1.1. Exposure Limit Values

Keycote(R) binder (Matrixsol(TM) 30 colloidal silica)	WEL 8-hr limit ppm:	WEL 8-hr limit mg/m <sup>3</sup> : 2.1
	WEL 15 min limit ppm:	WEL 15 min limit mg/m <sup>3</sup> :
	WEL 8-hr limit mg/m <sup>3</sup> total - inhalable dust:	WEL 15 min limit mg/m <sup>3</sup> total - inhalable dust:
	WEL 8-hr limit mg/m <sup>3</sup> total - respirable dust:	WEL 15 min limit mg/m <sup>3</sup> 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

Apron (Plastic or rubber).

## Eye / face protection

In case of splashing, wear:.. Approved safety goggles.

Skin protection -  
Handprotection

Wear suitable gloves.

## Respiratory protection

Suitable respiratory equipment.

## 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>	Liquid
<b>Colour</b>	Clear
<b>Odour</b>	Slight
<b>pH</b>	10.2
<b>Melting point</b>	Not applicable.
<b>Freezing Point</b>	≈ 0 °C
<b>Initial boiling point</b>	≈ 100 °C
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Vapour pressure</b>	No data available
<b>Vapour density</b>	No data available
<b>Relative density</b>	1.2
<b>Fat Solubility</b>	Not applicable.
<b>Partition coefficient</b>	Not applicable.
<b>Autoignition temperature</b>	Not applicable.
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	Not applicable.
<b>Oxidising properties</b>	Not applicable.
<b>Solubility</b>	Miscible in water

## 9.2. Other information

<b>Conductivity</b>	No data available
<b>Surface tension</b>	Not applicable.
<b>Gas group</b>	Not applicable.
<b>Benzene Content</b>	Not applicable.
<b>Lead content</b>	Not applicable.
<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

	Direct sunlight. Do NOT allow to freeze.
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## 10.5. Incompatible materials

	Sodium chloride.
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## 10.6. Hazardous decomposition products

	None.
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## SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Skin corrosion/irritation</b>	May cause irritation to skin.

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## 11.1. Information on toxicological effects

Serious eye damage/irritation	May cause irritation to eyes.
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	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Repeated or prolonged exposure	May cause irritation to skin.

## 11.1.4. Toxicological Information

Keycote(R) binder	Oral Rat LD50: >15 g/kg
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## SECTION 12: Ecological information

## 12.1. Toxicity

Keycote(R) binder	Daphnia EC50/48h: 7600.000 mg/l Brachydanio Rerio LC50/96h: >5000 mg/l	Green Algae EC50/48h: 440 mg/l
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## 12.2. Persistence and degradability

	No data is available on this product.
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## 12.3. Bioaccumulative potential

	Does not bioaccumulate.
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## Partition coefficient

	Keycote(R) binder Not applicable.
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## 12.4. Mobility in soil

	No data is available on this product.
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## 12.5. Results of PBT and vPvB assessment

	Not applicable.
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## 12.6. Other adverse effects

	Not applicable.
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## SECTION 13: Disposal considerations

## 13.1. Waste treatment methods

	Dispose of in compliance with all. local and national regulations.
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## Disposal methods

	Contact a licensed waste disposal company.
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## Disposal of packaging

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

	For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
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## SECTION 14: Transport information

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## 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 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**

## 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.

## 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.