



SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

Page 1/7

Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01

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

1.1. Product identifier

Product name	Matrixblend (TM) refractory blue and refractory green
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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, Maumee, OH 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

Main hazards	No Significant Hazard
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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. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
Precautionary Statement: Response	P314 - Get medical advice/attention if you feel unwell.
Risk phrases	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
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Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01

2.3. Other hazards

	temperature alloy castings. The exposure to crystalline silica is highest at the mold knockout stage of the casting process.
	does not meet criteria for. PBT and vPvB assessment.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
silica, viterous -- Overall product (Silica, fused respirable dust)		60676-86-0	262-373-8		90 - 100%		

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
silica, viterous -- Overall product (Silica, fused respirable dust)		60676-86-0	262-373-8		90 - 100%		
Quartz < 1.0% RSC (Quartz)		14808-60-7	238-878-4		0.5 - 1%		

Further information

	This product contains less than one-percent (<1%) respirable quartz.
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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	No irritation expected. Wash with soap and water.
Ingestion	No first aid requirements.

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

Inhalation	No known adverse health effects.
Eye contact	No known adverse health effects.
Skin contact	No known adverse health effects.
Ingestion	No known adverse health effects.

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

Inhalation	No known adverse health effects.
Eye contact	No known adverse health effects.
Skin contact	No known adverse health effects.
Ingestion	No known adverse health effects.

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

	No Significant Hazard.
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5.3. Advice for firefighters

	Wear suitable protective clothing.
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Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust. Wear suitable protective equipment.

6.2. Environmental precautions

No precautions required to be mentioned.

6.3. Methods and material for containment and cleaning up

Avoid formation of dust. Wear suitable protective clothing and eye/face protection.

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. In case of insufficient ventilation, wear suitable respiratory equipment.

7.2. Conditions for safe storage, including any incompatibilities

Handle and open container with care.

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.

8.1.1. Exposure Limit Values

silica, vitreous – Overall product (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

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.
Occupational exposure controls	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.

Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	Powder
Colour	Off white
Odour	Odourless
Relative density	2.2
pH	4 - 7
Melting point	> 1650 °C
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.
Fat Solubility	Not applicable.
Partition coefficient	Not applicable.
Autoignition temperature	Not applicable.
Viscosity	Not applicable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Solubility	Insoluble 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.
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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

	Not relevant.
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10.5. Incompatible materials

	No Significant Hazard.
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10.6. Hazardous decomposition products

	None.
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Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01

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	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	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

	Not relevant
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12.2. Persistence and degradability

	Not applicable.
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12.3. Bioaccumulative potential

	Not applicable.
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Partition coefficient

	Matrixblend (TM) refractory blue and refractory green Not applicable.
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12.4. Mobility in soil

	Derived minimal effect level.
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12.5. Results of PBT and vPvB assessment

	Not applicable.
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12.6. Other adverse effects

	No data is available on this product.
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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

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Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01

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

14.1. UN number

	The product is not classified as dangerous for carriage.
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14.2. UN proper shipping name

	The product is not classified as dangerous for carriage.
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14.3. Transport hazard class(es)

	The product is not classified as dangerous for carriage.
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14.4. Packing group

	The product is not classified as dangerous for carriage.
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14.5. Environmental hazards

	The product is not classified as dangerous for carriage.
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14.6. Special precautions for user

	The product is not classified as dangerous for carriage.
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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.
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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

Regulations	<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

	Not required.
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SECTION 16: Other information

Other information

Revision	This document differs from the previous version in the following areas: 2 - 2.2. Label elements.
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General information

Matrixblend (TM) refractory blue and refractory green

Revision 2
Revision date 2017-03-01

General information

IARC and SCOEL publications

In 1997, IARC (the International Agency for Research on Cancer) 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 fibres, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer 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..."

So 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.

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,.

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.