



SAFETY DATA SHEET

according to Regulation (EU) 2015/830

Page 1/7

Shellshield 301(TM) refractory cement [EU]

Revision 0

Revision date 2020-10-27

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

1.1. Product identifier

Product name Shellshield 301(TM) refractory cement [EU]

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 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

2.1. Classification of the substance or mixture

2.1.2. Classification - EC 1272/2008 Skin Irrit. 2: H315; Eye Dam. 1: H318;

2.2. Label elements

Hazard pictograms



Signal Word

Danger

Hazard Statement

Skin Irrit. 2: H315 - Causes skin irritation.
Eye Dam. 1: H318 - Causes serious eye damage.

Precautionary Statement: Prevention

P264 - Wash (hands) thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement: Response

P302+P352 - IF ON SKIN: Wash with plenty of water/ .
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor/ .

Shellshield 301(TM) refractory cement [EU]

Revision 0
Revision date 2020-10-27

2.2. Label elements

	P321 - Specific treatment (see on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention.
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2.3. Other hazards

Other hazards	Product contains non-respirable crystalline silica as quartz and cristobalite in a wet form.
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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
sodium silicate.		1344-09-8	215-687-4		10 - 20%	Met. Corr. 1: H290; Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Dam. 1: H318;
Kaolin clay. (Kaolin)		1332-58-7			1 - 10%	Eye Irrit. 2: H319;

Further information

	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

	Burning produces irritating, toxic and obnoxious fumes. Eliminate all sources of ignition. Risk of explosion by shock, friction, fire or other sources of ignition.
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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

Shellshield 301(TM) refractory cement [EU]

Revision 0

Revision date 2020-10-27

6.1. Personal precautions, protective equipment and emergency procedures

Avoid formation of dust. Wear suitable respiratory equipment when necessary. After contact with skin, wash immediately with plenty of water.

6.2. Environmental precautions

Do not allow runoff water to enter sewers or drains.

6.3. Methods and material for containment and cleaning up

Absorb with inert, absorbent material. 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 & 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. Keep away from heat. Heat, sparks and open flames.

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 - Crystalline Silica, quartz - 0.025 mg/m³ TWA ACGIH TLV (respirable fraction); 50 ug/m³ 8 hr -TWA PEL (respirable fraction).

8.1.1. Exposure Limit Values

Kaolin clay. (Kaolin)	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m ³ : -
	WEL 15 min limit ppm: -	WEL 15 min limit mg/m ³ : -
	WEL 8-hr limit mg/m ³ total -	WEL 15 min limit mg/m ³ total -
	inhalable dust:	inhalable dust:
	WEL 8-hr limit mg/m ³ total 2	WEL 15 min limit mg/m ³ total -
	respirable dust:	respirable dust:

8.2. Exposure controls



8.2.1. Appropriate engineering controls

Ensure adequate ventilation of the working area. Provide eye wash station.

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.

Shellshield 301(TM) refractory cement [EU]

Revision 0

Revision date 2020-10-27

8.2. Exposure controls

8.2.3. Environmental exposure controls	Avoid release to the environment.
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	Paste
Colour	Dark grey
Odour	Odourless
pH	>
Melting point	> 1100 °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.
Relative density	2 - 3.5
Fat Solubility	Not applicable.
Partition coefficient	No data available
Autoignition temperature	Not applicable.
Viscosity	No data available
Oxidising properties	Not applicable.
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

	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

	Strong oxidising agents.
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10.6. Hazardous decomposition products

	Hazardous Decomposition Products (silica):	Crystalline silica will dissolve in hydrofluoric acid
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Shellshield 301(TM) refractory cement [EU]

Revision 0

Revision date 2020-10-27

10.6. Hazardous decomposition products

and produce silicone tetrafluoride. Reaction with water or acids generates heat.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	sodium silicate. Oral Rat LD50 = 1960 mg/kg. Dermal Rabbit LD50 = 4640 mg/kg. Kaolin clay. ORL RAT LD50 > 5000 mg/kg. Dermal Rat LD50 = > 5000 mg/kg.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Causes serious eye damage. Causes serious eye irritation.
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 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	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

Not applicable.

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

Not applicable.

12.3. Bioaccumulative potential

Does not bioaccumulate.

Partition coefficient

Shellshield 301(TM) refractory cement [EU]

Revision 0
Revision date 2020-10-27

Partition coefficient

	Shellshield 301(TM) refractory cement [EU] No data available
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12.4. Mobility in soil

	Not determined.
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12.5. Results of PBT and vPvB assessment

	Not determined.
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12.6. Other adverse effects

	Not applicable.
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Further information

	sodium silicate. Fish LC50/96h = 3185 mg/kg.
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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

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	COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No
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Shellshield 301(TM) refractory cement [EU]

Revision 0

Revision date 2020-10-27

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

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**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,.

Text of Hazard Statements in Section 3

Met. Corr. 1: H290 - May be corrosive to metals.
Acute Tox. 4: H302 - Harmful if swallowed.
Skin Irrit. 2: H315 - Causes skin irritation.
Eye Dam. 1: H318 - Causes serious eye damage.
Eye Irrit. 2: H319 - Causes serious eye irritation.

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.