

SAFETY DATA SHEET

according to Regulation (EU) 2020/878

Matrixsol(TM) 30 colloidal silica

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

1.1. Product identifier

Product name	Matrixsol(TM) 30 colloidal silica
Nanoform	No data available.

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 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	rcarter@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) For medical advice contact: NHS 111 in England: 111 NHS 24 in Scotland: 111 NHS Direct in Wales: 111 or 0845 4647

SECTION 2: Hazards identification

2.2. Label elements

Precautionary Statement:	This mixture/substance does not meet the criteria for classification in accordance with Regulation (EC) No 1272/2008.
Prevention	P262 - Do not get in eyes, on skin, or on clothing. P280 - Wear protective gloves/protective clothing/eye protection/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

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Further information

Not applicable. PBT and vPvB assessment.

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 (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.

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

Wear suitable protective equipment.

6.2. Environmental precautions

Do not allow product to enter drains.

6.3. Methods and material for containment and cleaning up

Absorb with inert, absorbent material. Transfer to suitable, labelled container.

6.4. Reference to other sections

See section for further information.

SECTION 7: Handling and storage

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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.
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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

8.1.1. Exposure Limit Values

Matrixsol(TM) 30 colloidal silica	WEL 8-hr limit ppm:	WEL 8-hr limit mg/m3: 2.1
	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:

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

Appearance	Liquid
Colour	Clear
pH	9 - 11
Initial boiling point	100 °C
Density / Relative Density	1.1 - 1.3 (H2O = 1 @ 20 °C)
Partition coefficient	No data available
Evaporation rate	No data available
Vapour pressure	No data available
Relative Vapour Density	No data available
Viscosity	No data available
Freezing Point	≈ 0 °C
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Flammability (solid, gas)	Not applicable.
Flash point	Not applicable.
Melting point	Not applicable.
Autoignition temperature	Not applicable.
Fat Solubility	Not applicable.
Solubility	Miscible 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.

9.2.1. Information with regard to physical hazard classes

	No data available.
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9.2.2. Other safety characteristics

	No data available.
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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 hazard classes

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

Matrixsol(TM) 30 colloidal silica	Oral Rat LD50: > 15 g/kg
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SECTION 12: Ecological information

12.1. Toxicity

Matrixsol(TM) 30 colloidal silica	Daphnia EC50/48h: 7600.000 mg/l Brachydanio Rerio LC50/96h: >5000	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

	Matrixsol(TM) 30 colloidal silica No data available
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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 Endocrine disrupting properties

	No data available.
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12.7 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

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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 Maritime Transport in bulk according to IMO instruments

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

German Water Hazard Class (WGK) Rating: 1.

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.

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No data is available on this product.

SECTION 16: Other information

Other information

Revision

This document differs from the previous version in the following areas:.

- 1 - Nanoform.
- 9 - 9.2.2. Other safety characteristics.
- 9 - 9.2.1. Information with regard to physical hazard classes.
- 12 - 12.6 Endocrine disrupting properties.
- 15 - Regulations.

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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.