SAFETY DATA SHEET

according to Regulation (EU) 2020/878

FastFire Liquid

Revision 0

Revision date 2025-01-13

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

1.1. Product identifier

Product name	FastFire Liquid

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, 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

	This substance / mixture has been classified in accordance with the US Federal OSHA Hazard Communication Standard 29CFR 1910.1200. Substance concentration band-ranges are presented, and minor ingredient composition maybe withheld, to protect trade secrets.
Precautionary Statement: Prevention	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

FastFire Liquid

2.3. Other hazards

	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. Exposure to respirable crystalline silica may cause lung disease and cancer.

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
deionized water		7732-18-5	231-791-2		60 - 70%	
silica (amorphous)		7631-86-9	231-545-4		30 - 40%	

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

FastFire Liquid

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

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.

7.2. Conditions for safe storage, including any incompatibilities

	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/m3 / (% Silica), TWA PEL (respirable fraction).

8.1.1. Exposure Limit Values

FastFire Liquid (Matrixsol(TM) 30 colloidal silica)	**WEL 8-hr limit ppm:**	**WEL 8-hr limit mg/m3:**
	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	In case of insufficient ventilation, wear suitable respiratory equipment.

FastFire Liquid

Revision 0
Revision date 2025-01-13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Clear
Odour	Slight
pH	> 9.5 - 10.4
Melting point	Not applicable.
Freezing Point	≈ 0 °C
Initial boiling point	≈ 100 °C
Flash point	Not applicable.
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper Explosive Limit	No data available
Lower Explosive Limit	No data available
Vapour pressure	No data available
Relative Vapour Density	No data available
Fat Solubility	Not applicable.
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	≈ 33 mPas (Cone & Plate)
Explosive properties	No data available
Solubility	Miscible in water

9.2. Other information

Conductivity	No data available
Surface tension	No data available
Specific gravity	1.1 - 1.3
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.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No Significant Hazard.

10.4. Conditions to avoid

Direct sunlight. Do NOT allow to freeze.

10.5. Incompatible materials

Avoid contact with:. Sodium chloride.

10.6. Hazardous decomposition products

FastFire Liquid

10.6. Hazardous decomposition products

	None.

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

FastFire Liquid	**Oral Rat LD50:** >5 g/kg	**Dermal Rabbit LD50:** >5 g/kg

SECTION 12: Ecological information

12.1. Toxicity

	No data available

12.2. Persistence and degradability

	No data is available on this product.

12.3. Bioaccumulative potential

	Does not bioaccumulate.

Partition coefficient

	FastFire Liquid No data available

12.4. Mobility in soil

	Not determined.

12.5. Results of PBT and vPvB assessment

	Not applicable.

12.6 Endocrine disrupting properties

	No data available.

12.7 Other adverse effects

	Not applicable.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

FastFire Liquid

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.

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	U.S. FEDERAL REGULATIONS: CERCLA 103 Reportable Quantity: Special Liquid Concentrate, Special Liquid Concentrate Plus, & FastFire Liquid are not subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations. SARA TITLE III: Hazard Category For Section 311/312: None Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None Section 302 Extremely Hazardous Substances (TPQ): None EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

FastFire Liquid

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

INTERNATIONAL REGULATIONS:

Canadian WHMIS Classification: Not a controlled product.

Canadian Environmental Protection Act: All of the components in this product are listed on the

Domestic Substances List (DSL).

15.2. Chemical safety assessment

No data is available on this product.

SECTION 16: Other information

Other 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.

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.

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.