



Nuline R-5 SA

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)
Issue date: 5/18/2015 Revision date: 4/20/2026 Supersedes: 7/10/2023

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Nuline R-5 SA
CAS-No. : Mixture
Product code : 3746 - Mix3343

1.2. Other means of identification

Other means of identification : Resin Bonded Magnesia-Carbon Brick

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Refractory Brick
Recommended use : Industrial use

1.4. Supplier's details

RHI Magnesita
425 South Salem Church Road
York, PA, 17408
United States
T 717-792-3611
[Resco SDS.TDS@rhimagnesita.com](mailto:Resco_SDS.TDS@rhimagnesita.com) - WWW.RescoProducts.com

1.5. Emergency phone number

Emergency number : EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 2 H315 Causes skin irritation.
Serious eye damage/eye irritation, Category 2B H320 Causes eye irritation.
Specific target organ toxicity – Single exposure, Category 3, H335 May cause respiratory irritation.
Respiratory tract irritation
Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H315 - Causes skin irritation
H320 - Causes eye irritation
H335 - May cause respiratory irritation
Precautionary statements (GHS US) : P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Magnesium Oxide	CAS-No.: 1309-48-4	≥ 80	Not classified
graphite	CAS-No.: 7782-42-5	1 – 5	Not classified
Phenolic Resin	CAS-No.: 108-95-2	1 – 5	Not classified
Aluminum - metal powder	CAS-No.: 7429-90-5	1 – 5	Not classified
Si	CAS-No.: 7440-21-3	1 – 5	Not classified

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Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Dust when sawing or tear out. Remove the victim into fresh air.
First-aid measures after skin contact	: Gently wash with plenty of soap and water.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Rinse mouth with water. Do not induce vomiting.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Dust when sawing or tear out. Cough.
Most Important Symptoms/Effects	: No additional information available.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: No unsuitable extinguishing media known.

5.2. Specific hazards arising from the chemical

Fire hazard	: Not flammable. Do not breathe fumes from fires or vapors from decomposition.
Hazardous decomposition products in case of fire	: Fire conditions may produce carbon dioxide-carbon monoxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
Other information	: Product will not burn, but does contain small quantities of chemicals which can generate toxic and/or irritating vapors when initially heated. Under fire conditions hazardous combustion products such as carbon monoxide may be generated. The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLV's for specific air contaminants. The specific chemical compounds which may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment	: Safety glasses. Protective gloves. Safety shoes.
Emergency procedures	: Avoid contact with skin and eyes.

For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Collect spillage. On land, sweep or shovel into suitable containers.

6.2. Methods and materials for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Mechanically recover the product.

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin and eyes.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions	: Store this product in a dry location where it can be protected from the elements.
Incompatible products	: Strong acids.
Incompatible materials	: Oxidizing agents and strong acids.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

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Magnesium Oxide (1309-48-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	10 mg/m ³ inhalable dust
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	10 mg/m ³ respirable dust
graphite (7782-42-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2 mg/m ³ (Respirable fraction)
Aluminum - metal powder (7429-90-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	1 mg/m ³ (Respirable fraction)

8.2. Appropriate engineering controls

Appropriate engineering controls : Dust when sawing or tear out. Provide adequate ventilation to minimize dust concentrations.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Safety shoes. Wear suitable protective clothing

Respiratory protection:

Dust when sawing or tear out. Wear appropriate mask

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Solid
Appearance	: Solid in various shapes.
Color	: Black
Odor	: Resin Odor
Odor threshold	: No data available
pH	: No data available
Melting point	: > 2800 °F
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: Not flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: ≈ 2.9
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

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10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids.

10.6. Hazardous decomposition products

The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLV's for specific air contaminants. The specific chemical compounds which may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Magnesium Oxide (1309-48-4)

LD50 oral rat	> 5000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg body weight (Rabbit, Literature study, Dermal)

graphite (7782-42-5)

LD50 oral rat	> 2000 mg/kg (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
LC50 Inhalation - Rat	> 2000 mg/m ³ air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))

Si (7440-21-3)

LD50 oral rat	> 5000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (24 h, Rabbit, Read-across, Dermal, 14 day(s))
Skin corrosion/irritation	: Causes skin irritation.

Magnesium Oxide (1309-48-4)

pH	11 (10 %)
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graphite (7782-42-5)

pH	7 (1.3 %)
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Si (7440-21-3)

pH	No data available in the literature
Serious eye damage/irritation	: Causes eye irritation.

Magnesium Oxide (1309-48-4)

pH	11 (10 %)
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graphite (7782-42-5)

pH	7 (1.3 %)
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Si (7440-21-3)

pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Phenolic Resin (108-95-2)

IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.

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STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Magnesium Oxide (1309-48-4)	
Viscosity, kinematic	Not applicable (solid)
Si (7440-21-3)	
Viscosity, kinematic	Not applicable (solid)
Symptoms/effects after inhalation	: Dust when sawing or tear out. Cough.
Most Important Symptoms/Effects	: No additional information available.

SECTION 12 Ecological information

12.1. Ecotoxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

graphite (7782-42-5)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Behaviour)
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
EC50 72h - Algae [2]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers)

Si (7440-21-3)

LC50 - Fish [1]	> 100 mg/l (Pisces, Read-across)
ErC50 algae	250 mg/l (Equivalent or similar to OECD 201, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across)

12.2. Persistence and degradability

Nuline R-5 SA (Mixture)

Persistence and degradability : Not established.

Magnesium Oxide (1309-48-4)

Persistence and degradability : Not applicable.
Chemical oxygen demand (COD) : Not applicable
ThOD : Not applicable

graphite (7782-42-5)

Persistence and degradability : Biodegradability: not applicable.
Chemical oxygen demand (COD) : Not applicable
ThOD : Not applicable
BOD (% of ThOD) : Not applicable

Phenolic Resin (108-95-2)

Persistence and degradability : Rapidly degradable

Aluminum - metal powder (7429-90-5)

Persistence and degradability : Biodegradability in soil: not applicable.
Chemical oxygen demand (COD) : Not applicable
ThOD : Not applicable

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Aluminum - metal powder (7429-90-5)	
BOD (% of ThOD)	Not applicable
Si (7440-21-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
12.3. Bioaccumulative potential	
Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	No bioaccumulation data available.
graphite (7782-42-5)	
Bioaccumulative potential	Not bioaccumulative.
Aluminum - metal powder (7429-90-5)	
Bioaccumulative potential	No test data of component(s) available.
Si (7440-21-3)	
Bioaccumulative potential	Not bioaccumulative.
12.4. Mobility in soil	
Magnesium Oxide (1309-48-4)	
Surface tension	No data available in the literature
Ecology - soil	No data available.
Aluminum - metal powder (7429-90-5)	
Ecology - soil	Contains component(s) that adsorb(s) into the soil.
Si (7440-21-3)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption in soil.
12.5. Other adverse effects	
Ozone	: Not classified
Fluorinated greenhouse gases	: No
SECTION 13 Disposal considerations	
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
SECTION 14 Transport information	
In accordance with DOT / TDG / IMDG / IATA	
Department of Transportation (DOT)	
In accordance with DOT	
Not regulated	
Transportation of Dangerous Goods	
Not regulated	
Transport by sea	
Not regulated	
Air transport	
Not regulated	
SECTION 15 Regulatory information	
15.1. Federal regulations	
Nuline R-5 SA (Mixture)	
Note	This information must be included in all SDS's that are copied and distributed for this material.
All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:	

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Aluminum - metal powder	CAS-No. 7429-90-5	1 – 5%
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Phenolic Resin (108-95-2)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb 500lb if the substance is solid in powder form with particle size less than 100 microns, or is in solution or molten form

Aluminum - metal powder (7429-90-5)	
Note	This information must be included in all SDS's that are copied and distributed for this material.

15.2. International regulations

CANADA

Magnesium Oxide (1309-48-4)	
Listed on the Canadian DSL (Domestic Substances List)	

graphite (7782-42-5)	
Listed on the Canadian DSL (Domestic Substances List)	

Phenolic Resin (108-95-2)	
Listed on the Canadian DSL (Domestic Substances List)	

Si (7440-21-3)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

Component	State or local regulations
Magnesium Oxide(1309-48-4)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
graphite(7782-42-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Phenolic Resin(108-95-2)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
Si(7440-21-3)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)

Revision date	: 4/20/2026
Issue date	: 5/18/2015
Other information	: Report language name. English. In the event of any conflict between English and other language versions, the English version shall prevail.

Full text of hazard classes and H-statements	
H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation

Safety Data Sheet (SDS), USA

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