

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Nuline 15 DFP
CAS-No. : Mixture
Product code : 7434

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, Respiratory tract irritation | H335 | May cause respiratory 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 eye protection, protective gloves.

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 | 10 – 30 | 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 |

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

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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 | : Non-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 %) |
|----|-----------|

graphite (7782-42-5)

| | |
|----|-----------|
| pH | 7 (1.3 %) |
|----|-----------|

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 %) |
|----|-----------|

graphite (7782-42-5)

| | |
|----|-----------|
| pH | 7 (1.3 %) |
|----|-----------|

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 15 DFP (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 15 DFP (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: | | |
| 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 : 4/17/2026

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

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, RHI Magnesita makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.