

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : RDG-DOL
CAS-No. : Mixture
Product code : 5012
Other means of identification : Dolomite Resin Bonded Brick

1.2. Recommended use and restrictions on use

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

1.3. Supplier

Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA, 15205
United States
T 412-494-4491
SDS@RescoProducts.com - WWW.RescoProducts.com

1.4. Emergency telephone number

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 1A H314 Causes severe skin burns and eye damage
Carcinogenicity Category 1A H350 May cause cancer (Dust when sawing or tear out, Inhalation)
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) : H314 - Causes severe skin burns and eye damage
H350 - May cause cancer (Dust when sawing or tear out, Inhalation)
Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P223 - Do not allow contact with water.
Avoid contact with the skin and the eyes
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Gently wash with plenty of soap and water.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P260 - Do not breathe Dust when sawing or tear out.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
calcium oxide	CAS-No.: 1305-78-8	50 – 75	Skin Corr. 1A, H314
Magnesium Oxide	CAS-No.: 1309-48-4	20 – 50	Not classified
graphite	CAS-No.: 7782-42-5	1 – 5	Not classified

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Name	Product identifier	%	GHS US classification
Phenolic Resin	CAS-No.: 108-95-2	1 – 5	Not classified
Wax, Bulk Liquid	-	1 – 5	Not classified
crystalobalite	CAS-No.: 14464-46-1	0.1 – 0.5	Carc. 1A, H350

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Dust when sawing or tear out. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Rinse mouth.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: May cause moderate irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Carbon dioxide. Dry powder. Sand.
Unsuitable extinguishing media	: Do not use extinguishing media containing water.

5.2. Specific hazards arising from the chemical

Fire hazard	: Reactions involving a fire hazard: see "Reactivity Hazard". Do not breathe fumes from fires or vapors from decomposition.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: In case of fire, use powder extinguisher, "never use water". In case of fire, never use water.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: May release smoke when heated. Combustion products include carbon monoxide, carbon dioxide, and hydrocarbon vapors.
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6.1.1. For non-emergency personnel

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

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment.
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6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with eyes. Contact lenses should be removed. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store this product in a dry location where it can be protected from the elements. Protect from moisture.
Incompatible products	: Acids; reactive fluoridated, brominated, or phosphorous compounds; aluminum (may form hydrogen gas); reactive metals; organic acid anhydrides; nitro-organic compounds; interhalogenated compounds.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Magnesium Oxide (1309-48-4)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA 10 mg/m³ inhalable dust

USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) [1] 10 mg/m³ respirable dust

calcium oxide (1305-78-8)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA 2 mg/m³

crystalite (14464-46-1)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA 0.025 mg/m³ respirable dust

USA - OSHA - Occupational Exposure Limits

OSHA PEL (TWA) [1] 0.05 mg/m³ respirable dust

Phenolic Resin (108-95-2)

No additional information available

graphite (7782-42-5)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA 2 mg/m³ (Respirable fraction)

Wax, Bulk Liquid

No additional information available

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/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 suitable respiratory equipment in case of insufficient ventilation

SECTION 9: Physical and chemical properties

9.1. Information on 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	: > 2500 °F
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 2.85 – 2.95
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available

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Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts exothermically with water (moisture). Reacts with water to form Ca(OH)₂, Mg(OH)₂, and heat. Reacts with acids to form calcium salts while generating heat.

10.2. Chemical stability

No additional information available.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Water, humidity.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon monoxide. Carbon dioxide. 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)

calcium oxide (1305-78-8)

LD50 oral rat	> 2000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 2500 mg/kg body weight (EU Method B.3: Acute toxicity (dermal), 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 6.04 mg/l (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 15 day(s))

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))

Skin corrosion/irritation : Causes severe skin burns.

Magnesium Oxide (1309-48-4)

pH	11 (10 %)
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calcium oxide (1305-78-8)

pH	12.5 (0.13 %, 20 °C)
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crystalite (14464-46-1)	
pH	6 – 7
graphite (7782-42-5)	
pH	7 (1.3 %)
Serious eye damage/irritation	: Assumed to cause serious eye damage
Magnesium Oxide (1309-48-4)	
pH	11 (10 %)
calcium oxide (1305-78-8)	
pH	12.5 (0.13 %, 20 °C)
crystalite (14464-46-1)	
pH	6 – 7
graphite (7782-42-5)	
pH	7 (1.3 %)
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (Dust when sawing or tear out, Inhalation).
Phenolic Resin (108-95-2)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Magnesium Oxide (1309-48-4)	
Viscosity, kinematic	Not applicable (solid)
calcium oxide (1305-78-8)	
Viscosity, kinematic	Not applicable (solid)
Symptoms/effects after skin contact	: May cause moderate irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
SECTION 12: Ecological information	
12.1. Toxicity	
calcium oxide (1305-78-8)	
LC50 - Fish [1]	51 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, GLP)
EC50 - Crustacea [1]	49 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across, Locomotor effect)
ErC50 algae	185 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Read-across, GLP)
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)
12.2. Persistence and degradability	
Magnesium Oxide (1309-48-4)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
calcium oxide (1305-78-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
crystalite (14464-46-1)	
Persistence and degradability	Mineral. Not applicable.

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crystalite (14464-46-1)	
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of 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

12.3. Bioaccumulative potential

Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	No bioaccumulation data available.

calcium oxide (1305-78-8)	
Bioaccumulative potential	Not bioaccumulative.

crystalite (14464-46-1)	
Bioaccumulative potential	No data available.

graphite (7782-42-5)	
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.

calcium oxide (1305-78-8)	
Surface tension	No data available in the literature
Ecology - soil	No data available.

crystalite (14464-46-1)	
Ecology - soil	No data available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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. US Federal regulations

RDG-DOL (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:

Wax, Bulk Liquid	CAS-No.	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

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15.2. International regulations

CANADA

Magnesium Oxide (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

crystalobalite (14464-46-1)

Listed on the Canadian DSL (Domestic Substances List)

Phenolic Resin (108-95-2)

Listed on the Canadian DSL (Domestic Substances List)

graphite (7782-42-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

RDG-DOL (Mixture)

U.S. - California - Proposition 65 - Other information	This product contains crystalline silica, a chemical known to the state of California to cause cancer. For more information go to WWW.P65Warnings.ca.gov
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crystalobalite (14464-46-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

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
calcium oxide (1305-78-8)	U.S. - New Jersey - Right to Know Hazardous Substance List
Cristobalite (14464-46-1)	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
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

SECTION 16: Other information

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Revision date

: 7/8/2024

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 H-phrases

H314	Causes severe skin burns and eye damage
H350	May cause cancer

Safety Data Sheet (SDS), USA

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