

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Rescobond 90
CAS-No. : Mixture
Product code : 1549
Other means of identification : Alumina Chemically Bonded Castable

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 2 | H315 | Causes skin irritation |
| Serious eye damage/eye irritation Category 2B | H320 | Causes eye irritation |
| Carcinogenicity Category 1A | H350 | May cause cancer (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) : H315 - Causes skin irritation
H320 - Causes eye irritation
H350 - May cause cancer (Inhalation)
Precautionary statements (GHS US) : P280 - Wear eye protection, Dust respirator, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P260 - Do not breathe dust.

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 |
|------------------------------|---------------------|-----------|-----------------------|
| aluminium oxide, non-fibrous | CAS-No.: 1344-28-1 | 75 – 95 | Not classified |
| Mono-Magnesium Phosphate | CAS-No.: 13092-66-5 | 5 – 10 | Not classified |
| Magnesium Oxide | CAS-No.: 1309-48-4 | 1 – 5 | Not classified |
| cristobalite | CAS-No.: 14464-46-1 | 0.1 – 0.5 | Carc. 1A, H350 |

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

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SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Allow affected person to breathe fresh air. Allow the victim to rest. |
| 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. Get medical advice/attention if you feel unwell. Do not induce vomiting. |

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

| | |
|---|--|
| Potential Adverse human health effects and symptoms | : Danger of serious damage to health by prolonged exposure through inhalation. |
| Symptoms/effects after inhalation | : Danger of serious damage to health by prolonged exposure through inhalation. May cause cancer by inhalation. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes 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 | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : In case of fire, all extinguishing media allowed. |

5.2. Specific hazards arising from the chemical

| | |
|-------------|------------------|
| Fire hazard | : Not flammable. |
|-------------|------------------|

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 enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|-------------------------------------|
| Protective equipment | : Avoid creating or spreading dust. |
|----------------------|-------------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
|----------------------|--|

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

| | |
|-------------------------|--|
| For containment | : Collect spillage. |
| Methods for cleaning up | : On land, sweep or shovel into suitable containers. |

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 | : Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe dust. |
| 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 any incompatibilities

| | |
|-----------------------|---|
| Storage conditions | : Store this product in a dry location where it can be protected from the elements. |
| Incompatible products | : Strong bases. Strong acids. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Rescobond 90 (Mixture)

No additional information available

aluminium oxide, non-fibrous (1344-28-1)

USA - ACGIH - Occupational Exposure Limits

| | |
|---------------|-------------------------------------|
| ACGIH OEL TWA | 1 mg/m ³ respirable dust |
|---------------|-------------------------------------|

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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

Mono-Magnesium Phosphate (13092-66-5)

No additional information available

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

8.2. Appropriate engineering controls

Appropriate engineering controls : 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:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Solid |
| Appearance | : Granular mixture. |
| Color | : white |
| Odor | : Acid Odor |
| Odor threshold | : No data available |
| pH | : ≈ 5.4 |
| pH solution concentration | : 10 % |
| 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) | : Not flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20°C | : No data available |
| Relative density | : ≈ 2.8 |
| Solubility | : Slightly soluble. |
| 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 |
| 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

Hydraulic setting.

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

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

aluminium oxide, non-fibrous (1344-28-1)

| | |
|-----------------------|--|
| LD50 oral rat | > 15900 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LC50 Inhalation - Rat | > 2.3 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s)) |

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) |

Skin corrosion/irritation : Causes skin irritation.
pH: ≈ 5.4

aluminium oxide, non-fibrous (1344-28-1)

| | |
|----|-------------------------------------|
| pH | 9 – 10.5 (aqueous suspension, 33 %) |
|----|-------------------------------------|

Magnesium Oxide (1309-48-4)

| | |
|----|-----------|
| pH | 11 (10 %) |
|----|-----------|

crystalite (14464-46-1)

| | |
|----|-------|
| pH | 6 – 7 |
|----|-------|

Serious eye damage/irritation : Causes eye irritation.
pH: ≈ 5.4

aluminium oxide, non-fibrous (1344-28-1)

| | |
|----|-------------------------------------|
| pH | 9 – 10.5 (aqueous suspension, 33 %) |
|----|-------------------------------------|

Magnesium Oxide (1309-48-4)

| | |
|----|-----------|
| pH | 11 (10 %) |
|----|-----------|

crystalite (14464-46-1)

| | |
|----|-------|
| pH | 6 – 7 |
|----|-------|

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer (Inhalation).
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

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| aluminium oxide, non-fibrous (1344-28-1) | |
|---|--|
| Viscosity, kinematic | Not applicable (solid) |
| Magnesium Oxide (1309-48-4) | |
| Viscosity, kinematic | Not applicable (solid) |
| Potential Adverse human health effects and symptoms | : Danger of serious damage to health by prolonged exposure through inhalation. |
| Symptoms/effects after inhalation | : Danger of serious damage to health by prolonged exposure through inhalation. May cause cancer by inhalation. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| Symptoms/effects after eye contact | : Causes eye irritation. |
| SECTION 12: Ecological information | |
| 12.1. Toxicity | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| LC50 - Fish [1] | > 100 mg/l (96 h, Salmo trutta, Literature study) |
| EC50 - Crustacea [1] | > 100 mg/l (48 h, Daphnia magna, Literature study) |
| 12.2. Persistence and degradability | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| Persistence and degradability | Not applicable. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| Magnesium Oxide (1309-48-4) | |
| Persistence and degradability | Not applicable. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| crystalite (14464-46-1) | |
| Persistence and degradability | Mineral. Not applicable. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |
| 12.3. Bioaccumulative potential | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| Bioaccumulative potential | No data available. |
| Magnesium Oxide (1309-48-4) | |
| Bioaccumulative potential | No bioaccumulation data available. |
| crystalite (14464-46-1) | |
| Bioaccumulative potential | No data available. |
| 12.4. Mobility in soil | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| Surface tension | No data available in the literature |
| Ecology - soil | No data available. |
| Magnesium Oxide (1309-48-4) | |
| Surface tension | No data available in the literature |

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| | |
|--|--|
| Magnesium Oxide (1309-48-4) | |
| 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 | |
| All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| Not subject to reporting requirements of the United States SARA Section 313 | |
| Note | Note: The section 313 chemical list contains "CAS # 1344-28-1 Aluminum Oxide (Fibrous forms)"; the Aluminum oxide contained in this product is non-fibrous, and thus is not a section 313 material. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting. |
| 15.2. International regulations | |
| CANADA | |
| aluminium oxide, non-fibrous (1344-28-1) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Magnesium Oxide (1309-48-4) | |
| Listed on the Canadian DSL (Domestic Substances List) | |
| Mono-Magnesium Phosphate (13092-66-5) | |
| Listed on the Canadian NDSL (Non-Domestic Substances List) | |
| crystalite (14464-46-1) | |
| 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 | |
| Rescobond 90 (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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| crystalite (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 |
|--|---|
| aluminium oxide, non-fibrous (1344-28-1) | 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 |
| 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 |
| Crystalite (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 |

SECTION 16: Other information

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Revision date

: 7/24/2024

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 | |
|-------------------------------|------------------------|
| H315 | Causes skin irritation |
| H320 | Causes eye irritation |
| H350 | May cause cancer |

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, Resco Products, Inc. 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.