

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Larcobond AS
CAS-No. : Mixture
Product code : 7320
Other means of identification : Basic Speciality

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
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
H350 - May cause cancer (Inhalation)
Causes eye irritation

Precautionary statements (GHS US) : P280 - Wear Dust respirator, eye protection, 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.

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 |
|----------------------|---------------------|---------|-----------------------|
| Magnesium Oxide | CAS-No.: 1309-48-4 | 50 – 75 | Not classified |
| Transvaal Chrome Ore | CAS-No.: 1308-31-2 | 20 – 50 | Not classified |
| magnesium sulphate | CAS-No.: 7487-88-9 | 1 – 5 | Not classified |
| quartz | CAS-No.: 14808-60-7 | 0.5 – 1 | Carc. 1A, H350 |

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

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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. Take off contaminated clothing and wash it before reuse. |
| 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. Do NOT induce vomiting. Obtain emergency medical attention. |

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

| | |
|---|--|
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/effects after inhalation | : May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation. |
| Symptoms/effects after skin contact | : Causes skin 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 | : No unsuitable extinguishing media known. |

5.2. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|--|
| Firefighting instructions | : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| 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

No additional information available

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Stop release. |

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 | : On land, sweep or shovel into suitable containers. |

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

| | |
|-------------------------------|---|
| Precautions for safe handling | : Avoid contact with eyes. Avoid contact with skin. |
| 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

Larcobond AS (Mixture)

No additional information available

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Magnesium Oxide (1309-48-4) | |
|---|--|
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH OEL TWA | 10 mg/m ³ inhalable dust |
| USA - OSHA - Occupational Exposure Limits | |
| OSHA PEL (TWA) [1] | 10 mg/m ³ respirable dust |
| magnesium sulphate (7487-88-9) | |
| No additional information available | |
| Transvaal Chrome Ore (1308-31-2) | |
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH OEL TWA | 0.05 mg/m ³ inhalable dust |
| quartz (14808-60-7) | |
| USA - ACGIH - Occupational Exposure Limits | |
| ACGIH OEL TWA | 0.025 mg/m ³ (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction) |
| USA - OSHA - Occupational Exposure Limits | |
| Local name | Silica, crystalline quartz, respirable dust |
| OSHA PEL (TWA) [1] | 0.05 mg/m ³ respirable dust |
| Remark (OSHA) | (3) See Table Z-3. |

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:

[In case of inadequate ventilation] wear respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Solid |
| Appearance | : Granular Mixture. |
| Color | : Dark |
| Odor | : odorless |
| 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) | : Non flammable. |
| Vapor pressure | : No data available |

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| | |
|---|-----------------------|
| Relative vapor density at 20°C | : No data available |
| Relative density | : No data available |
| 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 | : Not Applicable |
| 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

Fire conditions may produce small amounts of hexavalent chromium and other oxidation products.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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) |

magnesium sulphate (7487-88-9)

| | |
|-----------------|--|
| LD50 oral rat | > 2000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Male / female, Experimental value, Oral, 14 day(s)) |
| LD50 dermal rat | > 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Dermal, 14 day(s)) |

Skin corrosion/irritation : Causes skin irritation.

Magnesium Oxide (1309-48-4)

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

magnesium sulphate (7487-88-9)

| | |
|----|---------|
| pH | 7 (5 %) |
|----|---------|

quartz (14808-60-7)

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

Serious eye damage/irritation : Causes eye irritation.

Magnesium Oxide (1309-48-4)

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

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| magnesium sulphate (7487-88-9) | |
|---|--|
| pH | 7 (5 %) |
| quartz (14808-60-7) | |
| pH | 6 – 7 |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : May cause cancer (Inhalation). |
| quartz (14808-60-7) | |
| IARC group | 1 - Carcinogenic to humans |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Viscosity, kinematic | : Not Applicable |
| Magnesium Oxide (1309-48-4) | |
| Viscosity, kinematic | Not applicable (solid) |
| magnesium sulphate (7487-88-9) | |
| Viscosity, kinematic | Not applicable (solid) |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/effects after inhalation | : May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation. |
| Symptoms/effects after skin contact | : Causes skin irritation. |
| SECTION 12: Ecological information | |
| 12.1. Toxicity | |
| magnesium sulphate (7487-88-9) | |
| LC50 - Fish [1] | 680 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Read-across, Lethal) |
| EC50 - Crustacea [1] | 1700 mg/l (24 h, Daphnia magna) |
| LC50 - Fish [2] | 15500 mg/l (96 h, Gambusia affinis, Static system) |
| 12.2. Persistence and degradability | |
| Larcobond AS (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 |
| magnesium sulphate (7487-88-9) | |
| Persistence and degradability | Biodegradability: not applicable. |
| Chemical oxygen demand (COD) | Not applicable (inorganic) |
| ThOD | Not applicable (inorganic) |
| Transvaal Chrome Ore (1308-31-2) | |
| Persistence and degradability | Not established. |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| quartz (14808-60-7) | |
|---------------------------------|-----------------|
| Persistence and degradability | Not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |

12.3. Bioaccumulative potential

| Larcobond AS (Mixture) | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

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

| magnesium sulphate (7487-88-9) | |
|--------------------------------|----------------------|
| Bioaccumulative potential | Not bioaccumulative. |

| Transvaal Chrome Ore (1308-31-2) | |
|----------------------------------|--------------------|
| Bioaccumulative potential | No data available. |

| quartz (14808-60-7) | |
|---------------------------|--------------------|
| Bioaccumulative potential | No data available. |

12.4. Mobility in soil

| Magnesium Oxide (1309-48-4) | |
|-----------------------------|-------------------------------------|
| Surface tension | No data available in the literature |
| Ecology - soil | No data available. |

| magnesium sulphate (7487-88-9) | |
|--------------------------------|--|
| Surface tension | No data available in the literature |
| Ecology - soil | No (test) data on mobility of the substance available. |

| Transvaal Chrome Ore (1308-31-2) | |
|----------------------------------|--------------------|
| Ecology - soil | No data available. |

12.5. Other adverse effects

| | |
|------------------------------|-------------------------------------|
| Effect on the global warming | : None known |
| Other information | : Avoid release to the environment. |

SECTION 13: Disposal considerations

13.1. Disposal methods

| | |
|--|---|
| Product/Packaging disposal recommendations | : Chromite (Cr ⁺³) may in normal use be converted chemically to a chromate (Cr ⁺⁶). Hexavalent chromium (Cr ⁺⁶) is considered a hazardous material. |
| Ecology - waste materials | : Avoid release to the environment. |

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

Larcobond AS

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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, except for:

| | | |
|----------------------|-------------------|----------|
| magnesium sulphate | CAS-No. 7487-88-9 | 1 – 5% |
| Transvaal Chrome Ore | CAS-No. 1308-31-2 | 20 – 50% |

15.2. International regulations

CANADA

Magnesium Oxide (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

Transvaal Chrome Ore (1308-31-2)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

EU-Regulations

No additional information available

National regulations

quartz (14808-60-7)

Listed on IARC (International Agency for Research on Cancer)

15.3. US State regulations

Larcobond AS (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 |
|--|--|

Transvaal Chrome Ore (1308-31-2)

| | |
|--|---|
| U.S. - California - Proposition 65 - Other information | This product contains chromite (Cr ⁺³) which may in normal use, be converted chemically to a chromate (Cr ⁺⁶) hexavalent chrome, a chemical known to the State of California to cause cancer. |
|--|---|

quartz (14808-60-7)

| 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 |
| Transvaal Chrome Ore (1308-31-2) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List |
| Quartz (14808-60-7) | U.S. - New Jersey - Right to Know Hazardous Substance List |

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

: 4/28/2023

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.