

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Ladlelock 80 All Winter Grades
CAS-No. : Mixture
Product code : 3082, 3084
Other means of identification : Alumina-Silicate Wet Air Set Mortar-Slurry

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 (After drying or heating, 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
H319 - Causes serious eye irritation
H350 - May cause cancer (After drying or heating, Inhalation)

Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear eye protection, protective gloves, protective clothing.
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

Other hazards which do not result in classification : Ethylene glycol is toxic to humans.

2.4. Unknown acute toxicity (GHS US)

Not applicable

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	50 – 75	Not classified
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions	CAS-No.: 1344-09-8	10 – 20	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
quartz	CAS-No.: 14808-60-7	1 – 5	Carc. 1A, H350
ethylene glycol	CAS-No.: 107-21-1	1 – 5	Not classified

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

Name	Product identifier	%	GHS US classification
cristobalite	CAS-No.: 14464-46-1	0.5 – 1	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	: 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	: After drying or heating. May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.
Symptoms/effects after skin contact	: Causes skin 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	: 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.
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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

Emergency procedures	: If spilled, may cause the floor to be slippery.
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6.1.2. For emergency responders

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

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Plug the leak, cut off the supply.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage.

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 in original container. Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

Ladlelock 80 All Winter Grades (Mixture)	
No additional information available	
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)	
No additional information available	
ethylene glycol (107-21-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	25 ppm (Vapor fraction)
ACGIH OEL STEL	10 mg/m ³ (Inhalable fraction, Aerosol only)
ACGIH OEL STEL [ppm]	50 ppm (Vapor fraction)
aluminium oxide, non-fibrous (1344-28-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m ³ respirable dust
crystalite (14464-46-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.025 mg/m ³ respirable dust
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	0.05 mg/m ³ respirable 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	: Emergency eye wash fountain with clean water.
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: After air drying or heating. Dust on tear out. Wear appropriate mask	
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	: Liquid

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

Appearance	: Slurry.
Color	: brown
Odor	: earthy
Odor threshold	: Not applicable
	: Not applicable
pH	: No data available
Melting point	: > 2000 °F
Freezing point	: ≈ 20 °F
Boiling point	: Not applicable
Critical temperature	: Not applicable
Critical pressure	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: Not applicable
Relative evaporation rate (ether=1)	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: Not applicable
Vapor pressure at 50 °C	: Not applicable
Relative vapor density at 20 °C	: No data available
Relative density	: ≈ 2.4
Solubility	: Moderately soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not Applicable
Viscosity, dynamic	: Not Applicable
Explosion limits	: Not applicable
	: Not applicable
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

Air Setting.

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

sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)

LD50 oral rat	> 2000 mg/kg (Rat, Oral)
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ethylene glycol (107-21-1)

LD50 oral rat	7712 mg/kg body weight (according to BASF-internal standards, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal	> 3500 mg/kg body weight (Mouse, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

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))
Skin corrosion/irritation	: Causes skin irritation.
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)	
pH	11 – 13
ethylene glycol (107-21-1)	
pH	No data available in the literature
aluminium oxide, non-fibrous (1344-28-1)	
pH	9 – 10.5 (aqueous suspension, 33 %)
crystalite (14464-46-1)	
pH	6 – 7
quartz (14808-60-7)	
pH	6 – 7
Serious eye damage/irritation	: Causes eye irritation.
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)	
pH	11 – 13
ethylene glycol (107-21-1)	
pH	No data available in the literature
aluminium oxide, non-fibrous (1344-28-1)	
pH	9 – 10.5 (aqueous suspension, 33 %)
crystalite (14464-46-1)	
pH	6 – 7
quartz (14808-60-7)	
pH	6 – 7
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: May cause cancer (After drying or heating, 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
ethylene glycol (107-21-1)	
Viscosity, kinematic	No data available in the literature
aluminium oxide, non-fibrous (1344-28-1)	
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	: After drying or heating. May cause cancer by inhalation. Danger of serious damage to health by prolonged exposure through inhalation.

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

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

SECTION 12: Ecological information

12.1. Toxicity

sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)

LC50 - Fish [1]	210 mg/l (96 h, Brachydanio rerio, Pure substance)
EC50 - Crustacea [1]	216 mg/l (96 h, Daphnia magna, Pure substance)

ethylene glycol (107-21-1)

LC50 - Fish [1]	> 72860 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, Daphnia magna, Static system, Fresh water, Experimental value)

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

Ladlelock 80 All Winter Grades (Mixture)

Persistence and degradability	Not established.
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sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)

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

ethylene glycol (107-21-1)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O ₂ /g substance
Chemical oxygen demand (COD)	1.24 g O ₂ /g substance
ThOD	1.29 g O ₂ /g substance

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

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

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

Ladlelock 80 All Winter Grades (Mixture)

Bioaccumulative potential	Not established.
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sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)

Bioaccumulative potential	No bioaccumulation data available.
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ethylene glycol (107-21-1)

Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

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

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

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

Bioaccumulative potential	No data available.
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12.4. Mobility in soil

sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)

Ecology - soil	No (test) data on mobility of the component(s) available.
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Ladlelock 80 All Winter Grades

Safety Data Sheet

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

ethylene glycol (107-21-1)	
Surface tension	48.4 mN/m (20 °C)
Ecology - soil	Highly mobile in soil.
aluminium oxide, non-fibrous (1344-28-1)	
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	
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	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.
SECTION 14: Transport information	
In accordance with DOT / TDG / IMDG / IATA	
Department of Transportation (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	
ethylene glycol (107-21-1)	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
Note	This information must be included in all SDS's that are copied and distributed for this material.
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)	
crystalite (14464-46-1)	
Listed on the Canadian DSL (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	
Ladlelock 80 All Winter Grades (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
ethylene glycol (107-21-1)	
U.S. - California - Proposition 65 - Other information	This product contains ethylene glycol a chemical known to the State of California to cause birth defects or other reproductive harm.

Ladlelock 80 All Winter Grades

Safety Data Sheet

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

Ladlelock 80 All Winter Grades (Mixture)					
cristobalite (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		

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
ethylene glycol (107-21-1)	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
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
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
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

: 08/12/2022

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.