

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Ladlelock 70 All Non-Winterized Grades  
CAS-No. : Mixture  
Product code : 3066, 3071, 3077, 3079, 3638, 9856  
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](mailto:SDS@RescoProducts.com) - [WWW.RescoProducts.com](http://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

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  | 50 – 75   | Not classified                             |
| sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions | CAS-No.: 1344-09-8  | 20 – 50   | Skin Irrit. 2, H315<br>Eye Irrit. 2B, H320 |
| quartz   | CAS-No.: 14808-60-7 | 1 – 5     | Carc. 1A, H350                             |
| cristobalite   | CAS-No.: 14464-46-1 | 0.1 – 0.5 | Carc. 1A, H350                             |

# Ladlelock 70 All Non-Winterized Grades

## Safety Data Sheet

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

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. |
|-------------|------------------|

#### 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. |
|----------------------|---|

##### 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 70 All Non-Winterized Grades

## Safety Data Sheet

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

|  |  |
|--|--|
| <b>Ladlelock 70 All Non-Winterized Grades (Mixture)</b>  |  |
| No additional information available  |  |
| <b>sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)</b> |  |
| No additional information available  |  |
| <b>aluminium oxide, non-fibrous (1344-28-1)</b>  |  |
| <b>USA - ACGIH - Occupational Exposure Limits</b>  |  |
| ACGIH OEL TWA  | 1 mg/m <sup>3</sup> respirable dust  |
| <b>crystalite (14464-46-1)</b>   |  |
| <b>USA - ACGIH - Occupational Exposure Limits</b>  |  |
| ACGIH OEL TWA  | 0.025 mg/m <sup>3</sup> respirable dust  |
| <b>USA - OSHA - Occupational Exposure Limits</b>   |  |
| OSHA PEL (TWA) [1]   | 0.05 mg/m <sup>3</sup> respirable dust   |
| <b>quartz (14808-60-7)</b>   |  |
| <b>USA - ACGIH - Occupational Exposure Limits</b>  |  |
| ACGIH OEL TWA  | 0.025 mg/m <sup>3</sup> (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction) |
| <b>USA - OSHA - Occupational Exposure Limits</b>   |  |
| Local name   | Silica, crystalline quartz, respirable dust  |
| OSHA PEL (TWA) [1]   | 0.05 mg/m <sup>3</sup> respirable dust   |
| Remark (OSHA)  | (3) See Table Z-3.   |
| <b>8.2. Appropriate engineering controls</b>   |  |
| Appropriate engineering controls   | : Emergency eye wash fountain with clean water.  |
| <b>8.3. Individual protection measures/Personal protective equipment</b>                       |  |
| <b>Personal protective equipment:</b>  |  |
| Avoid all unnecessary exposure.  |  |
| <b>Hand protection:</b>  |  |
| Wear protective gloves.  |  |
| <b>Eye protection:</b>   |  |
| Chemical goggles or safety glasses   |  |
| <b>Skin and body protection:</b>   |  |
| Wear suitable protective clothing  |  |
| <b>Respiratory protection:</b>   |  |
| After air drying or heating. Dust when sawing or tear out. Wear appropriate mask               |  |
| <b>Other information:</b>  |  |
| Do not eat, drink or smoke during use.   |  |
| <b>SECTION 9: Physical and chemical properties</b>   |  |
| <b>9.1. Information on basic physical and chemical properties</b>                              |  |
| Physical state   | : Liquid   |
| Appearance   | : Slurry.  |
| Color  | : brown  |
| Odor   | : earthy   |
| Odor threshold   | : No data available  |
| pH   | : > 10   |
| Melting point  | : > 2500 °F  |
| Freezing point   | : ≈ 32 °F  |
| Boiling point  | : Not applicable   |
| Critical temperature   | : Not applicable   |

# Ladlelock 70 All Non-Winterized Grades

## Safety Data Sheet

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

|   |                                |
|---|--------------------------------|
| Flash point                                     | : Not applicable               |
| Relative evaporation rate (butyl acetate=1)     | : No data available            |
| Flammability (solid, gas)                       | : Non flammable.               |
| Vapor pressure                                  | : No data available            |
| Relative vapor density at 20 °C                 | : No data available            |
| Relative density                                | : ≈ 2.7                        |
| 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                              | : 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

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) |
|---------------|--------------------------|

#### 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.  
pH: > 10

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

|    |         |
|----|---------|
| pH | 11 – 13 |
|----|---------|

#### 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 |
|----|-------|

# Ladlelock 70 All Non-Winterized Grades

## Safety Data Sheet

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

Serious eye damage/irritation : Causes eye irritation.  
pH: > 10

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

|    |         |
|----|---------|
| pH | 11 – 13 |
|----|---------|

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

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

### crystalobalite (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

### 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.  
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) |
|----------------------|--|

#### 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 70 All Non-Winterized Grades (Mixture)

|                               |                  |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

#### 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 |
|-----------------|----------------|

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

|                               |                 |
|-------------------------------|-----------------|
| Persistence and degradability | Not applicable. |
|-------------------------------|-----------------|

|                              |                |
|------------------------------|----------------|
| Chemical oxygen demand (COD) | Not applicable |
|------------------------------|----------------|

|      |                |
|------|----------------|
| ThOD | Not applicable |
|------|----------------|

#### crystalobalite (14464-46-1)

|                               |                          |
|-------------------------------|--------------------------|
| Persistence and degradability | Mineral. Not applicable. |
|-------------------------------|--------------------------|

# Ladlelock 70 All Non-Winterized Grades

## Safety Data Sheet

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

|  |  |
|--|--|
| <b>crystalobalite (14464-46-1)</b>   |  |
| Chemical oxygen demand (COD)   | Not applicable   |
| ThOD   | Not applicable   |
| BOD (% of ThOD)  | Not applicable   |
| <b>quartz (14808-60-7)</b>   |  |
| Persistence and degradability  | Not applicable.  |
| Biochemical oxygen demand (BOD)  | Not applicable   |
| Chemical oxygen demand (COD)   | Not applicable   |
| ThOD   | Not applicable   |
| <b>12.3. Bioaccumulative potential</b>   |  |
| <b>Ladlelock 70 All Non-Winterized Grades (Mixture)</b>  |  |
| Bioaccumulative potential  | Not established.   |
| <b>sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)</b>   |  |
| Bioaccumulative potential  | No bioaccumulation data available.   |
| <b>aluminium oxide, non-fibrous (1344-28-1)</b>  |  |
| Bioaccumulative potential  | No data available.   |
| <b>crystalobalite (14464-46-1)</b>   |  |
| Bioaccumulative potential  | No data available.   |
| <b>quartz (14808-60-7)</b>   |  |
| Bioaccumulative potential  | No data available.   |
| <b>12.4. Mobility in soil</b>  |  |
| <b>sodium silicate, alkaline 1.6/2.6, 35%≤concentration≤55%, aqueous solutions (1344-09-8)</b>   |  |
| Ecology - soil   | No data available.   |
| <b>aluminium oxide, non-fibrous (1344-28-1)</b>  |  |
| Surface tension  | No data available in the literature  |
| Ecology - soil   | No data available.   |
| <b>crystalobalite (14464-46-1)</b>   |  |
| Ecology - soil   | No data available.   |
| <b>12.5. Other adverse effects</b>   |  |
| Effect on the global warming   | : None known   |
| Other information  | : Avoid release to the environment.  |
| <b>SECTION 13: Disposal considerations</b>   |  |
| <b>13.1. Disposal methods</b>  |  |
| Product/Packaging disposal recommendations   | : Dispose in a safe manner in accordance with local/national regulations.  |
| Ecology - waste materials  | : Avoid release to the environment.  |
| <b>SECTION 14: Transport information</b>   |  |
| In accordance with DOT / TDG / IMDG / IATA   |  |
| <b>Department of Transportation (DOT)</b>  |  |
| In accordance with DOT   |  |
| Not regulated  |  |
| <b>Transportation of Dangerous Goods</b>   |  |
| Not regulated  |  |
| <b>Transport by sea</b>  |  |
| Not regulated  |  |
| <b>Air transport</b>   |  |
| Not regulated  |  |
| <b>SECTION 15: Regulatory information</b>  |  |
| <b>15.1. US Federal regulations</b>  |  |
| All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory |  |
| <b>aluminium oxide, non-fibrous (1344-28-1)</b>  |  |
| 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. |

# Ladlelock 70 All Non-Winterized Grades

## Safety Data Sheet

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

### 15.2. International regulations

#### CANADA

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

Listed on the Canadian DSL (Domestic Substances List)

##### crystalobalite (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 70 All Non-Winterized 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 <a href="http://WWW.P65Warnings.ca.gov">WWW.P65Warnings.ca.gov</a> |
|--|--|

##### 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  |                                  |                                     |

##### 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  |
|--|---|
| 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 |
| Crystalobalite (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 : 1/6/2023

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.