Adamant X (Green or Yellow Lids)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 08/12/2019  Revision date: 08/12/2019  Supersedes: 12/27/2016

SECTION 1: Identification
1.1. Identification
Product form : Mixture
Product name : Adamant X (Green or Yellow Lids)
CAS-No. : Mixture
Product code : 0109, 0110
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
Use of the substance/mixture : Industrial

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 2 : H319 - Causes serious 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)
Not applicable

SECTION 3: Composition/Information on ingredients
3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>quartz</td>
<td>(CAS-No.) 14808-60-7</td>
<td>50 - 75</td>
<td>Carc. 1A, H350</td>
</tr>
<tr>
<td>sodium silicate, alkaline 1.6/2.6, 35%conc55%, aqueous solutions</td>
<td>(CAS-No.) 1344-09-8</td>
<td>20 - 50</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2B, H350</td>
</tr>
</tbody>
</table>

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: 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: 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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>OSHA Remark (OSHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)</td>
<td>0.025 mg/m³ (Silica-Crystalline Quartz; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)</td>
<td>0.05 mg/m³ Respirable fraction</td>
<td>(3) See Table Z-3.</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
No additional information available

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 when sawing or tear out. Wear appropriate mask.
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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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Slurry</td>
</tr>
<tr>
<td>Color</td>
<td>Gray</td>
</tr>
<tr>
<td>Odor</td>
<td>earthy</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>= 32 °F Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>None</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure at 50 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>= 1.4</td>
</tr>
<tr>
<td>Solubility</td>
<td>Moderately soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium silicate, alkaline 1.6/2.6, 35%M&lt;sub&gt;conc&lt;/sub&gt;55% aqueous solutions (1344-09-8)</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>May cause cancer (After drying or heating, Inhalation).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>quartz (14808-60-7)</td>
<td>1 - Carcinogenic to humans</td>
</tr>
</tbody>
</table>
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quartz (14808-60-7)
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Not classified
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available
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%≤conc≤55%, aqueous solutions (1344-09-8)
LC50 fish 1: 210 mg/l (96 h, Brachydanio rerio, Pure substance)
EC50 Daphnia 1: 216 mg/l (96 h, Daphnia magna, Pure substance)

12.2. Persistence and degradability
Adamant X (Green or Yellow Lids) (Mixture)
Persistence and degradability: Not established.
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤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

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

12.3. Bioaccumulative potential
Adamant X (Green or Yellow Lids) (Mixture)
Bioaccumulative potential: Not established.
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)
Bioaccumulative potential: No bioaccumulation data available.
quartz (14808-60-7)
Bioaccumulative potential: No bioaccumulation data available.

12.4. Mobility in soil
sodium silicate, alkaline 1.6/2.6, 35%≤conc≤55%, aqueous solutions (1344-09-8)
Ecology - soil: No (test) data on mobility of the components 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

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
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15.1. US Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations
CANADA
No additional information available
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
Adamant X (Green or Yellow Lids) (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

quartz (14808-60-7)
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)

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
</tbody>
</table>

SECTION 16: Other information
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 08/12/2019
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
H319 Causes serious eye irritation
H320 Causes eye irritation
H350 May cause cancer

SDS US (GHS HazCom 2012)
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