1 Identification

- **Product identifier**
- **Trade name**: Algae Resistant Shingles / Hip & Ridge / Starter Shingles
- **Other product identifiers**:
  10" MountainRidge® AR
  Arcadia Shake® AR
  Belmont® (AR only)
  Belmont® IR (AR only)
  Carriage House ® (AR only)
  Cedar Crest® (AR only)
  Cedar Crest® IR (AR only)
  Grand Manor® (AR only)
  Highland Slate® (AR only)
  Highland Slate® IR (AR only)
  Landmark Solaris® AR
  Landmark Solaris® Gold (AR only)
  Landmark Solaris® Gold IR (AR only)
  Landmark Solaris® Platinum (AR only)
  Landmark® AR
  Landmark® IR (AR only)
  Landmark® Premium AR
  Landmark® Pro AR
  Landmark® TL AR
  Patriot AR
  Presidential Shake® AR
  Presidential Shake® IR (AR only)
  Presidential Shake® TL AR
  Presidential Solaris® Gold (AR only)
  Shadow Ridge® AR
  Shingle Ridge® (AR only)
  Solaris® Accessory (AR only)
  Solaris® Accessory IR (AR only)
  Solaris® Hip & Ridge Accessory (AR only)
  XT™25 (AR only)
  XT™30 IR (AR only)

- **Recommended use and restriction on use**
- **Recommended use**: Algae Resistant Asphalt Roofing Shingles
- **Restrictions on use**: See Sections 8 and 10 for further information.

2 Hazard(s) identification

(Cont'd. on page 2)
Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

- Classification of the substance or mixture

  The product is not classified as hazardous according to the Globally Harmonized System (GHS).

- Label elements

  - GHS label elements: Not regulated.
  - Hazard pictograms: Not regulated.
  - Signal word: Not regulated.
  - Hazard statements: Not regulated.
  - Precautionary statements: Not regulated.

- Other hazards

  There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

- Chemical characterization: Mixtures

  - Components:

    | Component                        | Carc. | 10-20% |
    |----------------------------------|-------|--------|
    | 8052-42-4 Asphalt                |       |        |
    | 14808-60-7 Quartz (SiO2)         |       |        |
    | 14807-96-6 Talc (Mg3H2(SiO3)4)   |       |        |
    | 1332-58-7 Kaolin                 |       |        |
    | 13463-67-7 Titanium dioxide      | Carc. 2, H351 | 1-2.5% |
    | 1309-37-1 Diiron trioxide / iron (III) oxide | Carc. 2, H351 | 0.1-1% |
    | 1332-37-2 Iron oxide             |       | 0.1-1% |

- Additional information:

  Non-classification as a carcinogen is based on non-respirable form of product.
  For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
  For the wording of the listed Hazard Statements, refer to section 16.

4 First-aid measures

- Description of first aid measures

  - After inhalation:

    Respiration of particulates is unlikely during normal usage.
    Supply fresh air; consult doctor in case of complaints.

  - After skin contact:

    Brush off loose particles from skin.
    Wash with soap and water.
    If skin irritation is experienced, consult a doctor.

  - After eye contact:

    Remove contact lenses if worn, if possible.
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

  - After swallowing:

    Rinse out mouth and then drink plenty of water.
    Do not induce vomiting; immediately call for medical help.

  - Most important symptoms and effects, both acute and delayed:

    Slight irritant effect on eyes.
5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    The product is not flammable.
    Use fire fighting measures that suit the environment.
  - For safety reasons unsuitable extinguishing agents: None.
  - Special hazards arising from the substance or mixture
    Formation of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
- Protective equipment:
  Wear self-contained respiratory protective device.
  Wear fully protective suit.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Ensure adequate ventilation.
  Avoid formation of dust.
  Do not breathe dust.
- Environmental precautions Avoid release to the environment.
- Methods and material for containment and cleaning up
  Pick up mechanically.
  Send for recovery or disposal in suitable receptacles.
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

- Handling
  - Precautions for safe handling:
    Use only in well ventilated areas.
    Prevent formation of dust.
    Any deposit of dust which cannot be avoided must be regularly removed.
- Information about protection against explosions and fires:
  Keep respiratory protective device available.

(Cont'd. of page 4)
Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

Conditions for safe storage, including any incompatibilities:
- Requirements to be met by storerooms and receptacles:
  Avoid storage near extreme heat, ignition sources or open flame.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Specific end use(s) No relevant information available.

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>8052-42-4 Asphalt</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>REL (USA)</td>
<td>Ceiling limit value: 5* mg/m³</td>
<td>*15-min; See Pocket Guide App. A</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 0.5* mg/m³</td>
<td>*inh. fraction; as benzene-soluble aerosol; BELp</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 0.5 mg/m³</td>
<td>inhalable, IARC 2B</td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>Long-term value: 0.5 mg/m³</td>
<td>fume, as benzene-soluble aerosol, inhalable</td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>Long-term value: 0.5* mg/m³</td>
<td>A4, IBE;*fracción inhalable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14808-60-7 Quartz (SiO2)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>see Quartz listing</td>
<td></td>
</tr>
<tr>
<td>REL (USA)</td>
<td>Long-term value: 0.05* mg/m³</td>
<td>*respirable dust; See Pocket Guide App. A</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 0.025* mg/m³</td>
<td>*as respirable fraction</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 0.025 mg/m³</td>
<td>ACGIH A2; IARC 1</td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>Long-term value: 0.10* mg/m³</td>
<td>*respirable fraction</td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>Long-term value: 0.025* mg/m³</td>
<td>A2, *fracción respirable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14807-96-6 Talc (Mg3H2(SiO3)4)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>Long-term value: 20 mppcf ppm (containing &lt;1% Quartz)</td>
<td></td>
</tr>
<tr>
<td>REL (USA)</td>
<td>Long-term value: 2* mg/m³</td>
<td>*respirable dust; and &lt;1% Quartz</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>Long-term value: 2* mg/m³</td>
<td>*as respirable fraction; E</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 2 *0.1 f/cc mg/m³ resp. *if contains asbestos : ACGIH A1, IARC 1</td>
<td></td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>Long-term value: 2* mg/m³, 2 f/cc ppm</td>
<td>*respirable</td>
</tr>
</tbody>
</table>

(Cont’d. on page 5)
## Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

### 1332-58-7 Kaolin

<table>
<thead>
<tr>
<th>Country</th>
<th>Long-term value:</th>
<th>Unit(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>15* 5** mg/m³</td>
<td></td>
<td>total dust **respirable fraction</td>
</tr>
<tr>
<td>REL (USA)</td>
<td>10* 5** mg/m³</td>
<td></td>
<td>total dust **respirable fraction</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>2* mg/m³</td>
<td>E; as respirable fraction</td>
<td></td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>2 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>2(D) mg/m³</td>
<td>respirable</td>
<td></td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>2* mg/m³</td>
<td>A4, *fracción respirable</td>
<td></td>
</tr>
</tbody>
</table>

### 13463-67-7 titanium dioxide

<table>
<thead>
<tr>
<th>Country</th>
<th>Long-term value:</th>
<th>Unit(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>15* mg/m³</td>
<td></td>
<td>total dust</td>
</tr>
<tr>
<td>REL (USA)</td>
<td>See Pocket Guide App. A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>10 mg/m³</td>
<td>withdrawn from NIC</td>
<td></td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>10* 3** mg/m³</td>
<td>*total dust;**respirable fraction; IARC 2B</td>
<td></td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>10 mg/m³</td>
<td>total dust</td>
<td></td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>10 mg/m³</td>
<td>A4</td>
<td></td>
</tr>
</tbody>
</table>

### 1309-37-1 diiron trioxide / iron (III) oxide

<table>
<thead>
<tr>
<th>Country</th>
<th>Long-term value:</th>
<th>Unit(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>10* 15** 5*** mg/m³</td>
<td>*Fume; Rouge: **Total dust, ***respirable</td>
<td></td>
</tr>
<tr>
<td>REL (USA)</td>
<td>5 mg/m³</td>
<td>Dust &amp; fume, as Fe</td>
<td></td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>5* mg/m³</td>
<td>*as respirable fraction</td>
<td></td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>10** mg/m³</td>
<td>Long-term value: 5* 10*** 3**** mg/m³</td>
<td></td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>10** mg/m³</td>
<td>*respirable, including Rouge;**total dust</td>
<td></td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>5* mg/m³</td>
<td>A4, *fracción respirable</td>
<td></td>
</tr>
</tbody>
</table>

### 1332-37-2 Iron oxide

<table>
<thead>
<tr>
<th>Country</th>
<th>Long-term value:</th>
<th>Unit(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL (USA)</td>
<td>1 mg/m³</td>
<td>as Fe</td>
<td></td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>1 mg/m³</td>
<td>as Fe</td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet
Acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: February 27, 2018
Revision: February 27, 2018

Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

LMPE (Mexico) Long-term value: 1 mg/m³ as Fe

- Ingredients with biological limit values:
  8052-42-4 Asphalt
     - BEI (USA)
     - Medium: urine
     - Time: end of shift at end of workweek
     - Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)

- Exposure controls
  - General protective and hygienic measures:
    - The usual precautionary measures for handling chemicals should be followed.
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing.
    - Store protective clothing separately.
  - Engineering controls: No relevant information available.
  - Breathing equipment:
    - Not required under normal conditions of use.
    - Use respiratory protection when grinding or cutting material.
    - For large spills, respiratory protection may be advisable.
    - Particulate mask should filter at least 99% of airborne particles.
  - Protection of hands:
    - Wear gloves for the protection against mechanical hazards according to OSHA and NIOSH rules.
  - Eye protection: Follow OSHA or EU guidelines concerning the use of protective eyewear.
  - Body protection: Wear protective clothing to protect against mechanical hazards.

- Limitation and supervision of exposure into the environment
  - Avoid release to the environment.

- Risk management measures See Section 7 for additional information.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - Appearance:
    - Form: Flexible shingle with granular surface
    - Color: Dark
    - Odor: Light petroleum
    - Odor threshold: Not determined
  - pH-value: Not applicable.
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Not determined.
  - Flash point: 460 °C (860 °F)
  - Flammability (solid, gaseous): Not determined.
  - Auto-ignition temperature: Not determined.
  - Decomposition temperature: Not determined.
Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

- **Danger of explosion:** Product does not present an explosion hazard.
  - **Explosion limits**
    - **Lower:** Not determined.
    - **Upper:** Not determined.
  - **Oxidizing properties:** Not determined.
- **Vapor pressure:** Not determined.
  - **Density:** Not determined.
  - **Relative density:** Not determined.
  - **Vapor density:** Not applicable.
  - **Evaporation rate:** Not applicable.
- **Solubility in / Miscibility with Water:** Insoluble.
- **Partition coefficient (n-octanol/water):** Not determined.
  - **Viscosity**
    - **Dynamic:** Not applicable.
    - **Kinematic:** Not applicable.
  - **Other information** No relevant information available.

### 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
  No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
  Reacts with strong oxidizing agents.
  Reacts with strong acids.
- **Conditions to avoid** Avoid acids.
- **Incompatible materials**
  Strong acids
  Oxidizing agents
- **Hazardous decomposition products** Carbon monoxide and carbon dioxide

### 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:** Based on available data, the classification criteria are not met.
  - **LD/LC50 values that are relevant for classification:** None.
  - **Primary irritant effect:**
  - **On the skin:** Based on available data, the classification criteria are not met.
  - **On the eye:** Based on available data, the classification criteria are not met.
  - **Sensitization:** Based on available data, the classification criteria are not met.
Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer):
    - 8052-42-4 Asphalt 2B
    - 14808-60-7 Quartz (SiO2) 1
    - 13463-67-7 titanium dioxide 2B
  - NTP (National Toxicology Program):
    - 14808-60-7 Quartz (SiO2) K
    - 8007-18-9 C.I. Pigment Yellow 53 K
  - OSHA-Ca (Occupational Safety & Health Administration):
    None of the ingredients are listed.

- Probable route(s) of exposure:
  - Ingestion.
  - Eye contact.
  - Skin contact.
- Acute effects (acute toxicity, irritation and corrosivity): From product as supplied: None.
- Repeated dose toxicity:
  - Repeated or long-term inhalation of product dusts may cause pulmonary disease.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity:
  - Contains known or suspect carcinogens when inhaled. Product is in non-inhalable form and is nonclassifiable as a carcinogen.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: Based on available data, the classification criteria are not met.
- STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

12 Ecological information

- Toxicity
  - Aquatic toxicity No relevant information available.
  - Persistence and degradability No relevant information available.
  - Bioaccumulative potential: No relevant information available.
  - Mobility in soil: No relevant information available.
- Additional ecological information
  - General notes:
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Other adverse effects No relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    - Smaller quantities can be disposed of with household waste.
    - The user of this material has the responsibility to dispose of unused material, residues and containers in
## 14 Transport information

- **UN-Number**: Not regulated.
- **DOT, ADR, IMDG, IATA**
  - **UN proper shipping name**: Not regulated.
  - **DOT, ADR, IMDG, IATA Class**: Not regulated.
- **Transport hazard class(es)**
  - **DOT, ADR, IMDG, IATA Class**: Not regulated.
- **Packing group**
  - **DOT, ADR, IMDG, IATA**: Not regulated.
- **Environmental hazards**
  - **Marine pollutant**: No
- **Special precautions for user**: Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**: Not applicable.

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **United States (USA)**
  - **SARA**
    - **Section 302 (extremely hazardous substances)**: None of the ingredients are listed.
    - **Section 355 (extremely hazardous substances)**: None of the ingredients are listed.
    - **Section 313 (Specific toxic chemical listings)**: None of the ingredients are listed.
- **TSCA (Toxic Substances Control Act)**
  - All ingredients are listed.
- **Proposition 65 (California)**
- **Chemicals known to cause cancer**:
  - 8052-42-4 Asphalt

(Cont’d. on page 10)
Trade name: Algae Resistant Shingles / Hip & Ridge / Starter Shingles

14808-60-7 Quartz (SiO2)
14807-96-6 Talc (Mg3H2(SiO3)4)
13463-67-7 titanium dioxide
8007-18-9 C.I. Pigment Yellow 53

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

EPA (Environmental Protection Agency):
None of the ingredients are listed.

IARC (International Agency for Research on Cancer):
8052-42-4 Asphalt 2B
14808-60-7 Quartz (SiO2) 1
13463-67-7 titanium dioxide 2B

NIOSH-Ca (National Institute for Occupational Safety and Health):
8052-42-4 Asphalt
14808-60-7 Quartz (SiO2)
13463-67-7 titanium dioxide
8007-18-9 C.I. Pigment Yellow 53

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Date of preparation / last revision February 27, 2018 / -

- Abbreviations and acronyms:
  ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  NIOSH: National Institute for Occupational Safety and Health
  OSHA: Occupational Safety & Health Administration
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit
  BEI: Biological Exposure Limit
  Carc. 1A: Carcinogenicity – Category 1A
  Carc. 2: Carcinogenicity – Category 2

- Sources
  Website, European Chemicals Agency (echa.europa.eu)
  Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Safety Data Sheets, Individual Manufacturers
SDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com