



## 4. First-aid measures

|   |  |
|---|--|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.  |
| <b>Skin contact</b>   | Wash off with soap and water. Get medical attention if irritation develops and persists.                         |
| <b>Eye contact</b>  | Rinse with water. Get medical attention if irritation develops and persists.                                     |
| <b>Ingestion</b>  | Rinse mouth. Get medical attention if symptoms occur.  |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Direct contact with eyes may cause temporary irritation.   |
| <b>Indication of immediate medical attention and special treatment needed</b> | Treat symptomatically.   |
| <b>General information</b>  | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

|  |   |
|--|---|
| <b>Suitable extinguishing media</b>                                  | Use fire-extinguishing media appropriate for surrounding materials. |
| <b>Unsuitable extinguishing media</b>                                | Not available.  |
| <b>Specific hazards arising from the chemical</b>                    | Not applicable.   |
| <b>Special protective equipment and precautions for firefighters</b> | Not available.  |

## 6. Accidental release measures

|  |   |
|--|---|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.   |
| <b>Methods and materials for containment and cleaning up</b>               | Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. |
| <b>Environmental precautions</b>   | Avoid discharge into drains, water courses or onto the ground.  |

## 7. Handling and storage

|   |   |
|---|---|
| <b>Precautions for safe handling</b>                                | Observe good industrial hygiene practices.                          |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)


| Components                | Type | Value                | Form                  |
|---------------------------|------|----------------------|-----------------------|
| Dolomite (CAS 16389-88-1) | TWA  | 3 mg/m <sup>3</sup>  | Respirable particles. |
|                           |      | 10 mg/m <sup>3</sup> | Total particulate.    |

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components                | Type | Value                | Form                 |
|---------------------------|------|----------------------|----------------------|
| Dolomite (CAS 16389-88-1) | TWA  | 3 mg/m <sup>3</sup>  | Respirable fraction. |
|                           |      | 10 mg/m <sup>3</sup> | Total dust.          |

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components                 | Type | Value                | Form                 |
|----------------------------|------|----------------------|----------------------|
| Dolomite (CAS 16389-88-1)  | TWA  | 3 mg/m <sup>3</sup>  | Respirable fraction. |
|                            |      | 10 mg/m <sup>3</sup> | Inhalable fraction.  |
| METHENAMINE (CAS 100-97-0) | STEL | 2 mg/m <sup>3</sup>  |                      |
|                            |      | 0.35 ppm             |                      |

| Components  | Type  | Value                | Form        |
|---|---|----------------------|-------------|
| Dolomite (CAS 16389-88-1)   | TWA   | 10 mg/m <sup>3</sup> | Total dust. |
| <b>Biological limit values</b>  | No biological exposure limits noted for the ingredient(s).  |                      |             |
| <b>Exposure guidelines</b>  | The resin binder in this product was specifically engineered to have low toxicity, with minimal free-phenol (less than 100ppm in this refractory product) and no free-formaldehyde. Under certain conditions, thermal decomposition products may still include carbon monoxide, carbon dioxide, formaldehyde, phenol and aromatic and/or aliphatic compounds.                                 |                      |             |
| <b>Appropriate engineering controls</b>   | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |                      |             |
| <b>Individual protection measures, such as personal protective equipment</b>      |   |                      |             |
| <b>Eye/face protection</b>  | Wear safety glasses with side shields (or goggles).   |                      |             |
| <b>Skin protection</b>  |   |                      |             |
| <b>Hand protection</b>  | Wear appropriate chemical resistant gloves.   |                      |             |
| <b>Other</b>  | Wear suitable protective clothing.  |                      |             |
| <b>Respiratory protection</b>   | Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.   |                      |             |
| <b>Thermal hazards</b>  | Wear appropriate thermal protective clothing, when necessary.   |                      |             |
|  |   |                      |             |
| <b>General hygiene considerations</b>   | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.   |                      |             |

## 9. Physical and chemical properties

### Appearance

|   |                     |
|---|---------------------|
| <b>Physical state</b>                               | Solid.              |
| <b>Form</b>   | Brick or Cast Shape |
| <b>Color</b>  | Not available.      |
| <b>Odor</b>   | Not available.      |
| <b>Odor threshold</b>                               | Not available.      |
| <b>pH</b>   | Not available.      |
| <b>Melting point/freezing point</b>                 | Not available.      |
| <b>Initial boiling point and boiling range</b>      | Not available.      |
| <b>Flash point</b>                                  | Not available.      |
| <b>Evaporation rate</b>                             | Not available.      |
| <b>Flammability (solid, gas)</b>                    | Not available.      |
| <b>Upper/lower flammability or explosive limits</b> |                     |
| <b>Flammability limit - lower (%)</b>               | Not available.      |
| <b>Flammability limit - upper (%)</b>               | Not available.      |
| <b>Explosive limit - lower (%)</b>                  | Not available.      |
| <b>Explosive limit - upper (%)</b>                  | Not available.      |
| <b>Vapor pressure</b>                               | Not available.      |
| <b>Vapor density</b>                                | Not available.      |
| <b>Relative density</b>                             | Not available.      |
| <b>Solubility(ies)</b>                              |                     |
| <b>Solubility (water)</b>                           | Not available.      |

|  |                |
|--|----------------|
| <b>Partition coefficient (n-octanol/water)</b> | Not available. |
| <b>Auto-ignition temperature</b>               | Not available. |
| <b>Decomposition temperature</b>               | Not available. |
| <b>Viscosity</b>                               | Not available. |
| <b>Other information</b>                       |                |
| <b>Explosive properties</b>                    | Not explosive. |
| <b>Oxidizing properties</b>                    | Not oxidizing. |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport.  |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.  |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.   |
| <b>Conditions to avoid</b>                | <p>Contact with incompatible materials. Refractories containing crystalline silica may, after service, contain more or less crystalline silica. Care must be taken to avoid and/or control dust from demolition. If in doubt of the proper protection, seek advice from a safety professional.</p> <p>The organic binder in this product falls into a class known as phenolic resin. Refractory products using this type of binder are supplied in two forms, (1) shaped products such as brick and (2) monolithics/specialties such as refractory plastics and rams. The hazards associated with phenolic resin are different in the two forms. For pre-cured shapes (brick), the binder has been reacted or polymerized by heat to its solid form prior to shipment. On decomposition by heating, where there is sufficient air and heating rate, the gaseous products are mostly carbon dioxide and water. Under low or limited oxygen supply, decomposition products during heat-up and early service may include phenol, as well as aromatic and/or aliphatic derivatives. After a campaign in service, this refractory product should be completely coked and in that condition the material for disposal would be carbon and an inorganic oxide. During field installation of non-cured unshaped products (monolithics), there is a possibility of exposure to trace amounts of phenol by skin contact and inhalation. After the product has been heated to high temperatures in service, it will have similar decomposition characteristics to pre-cured shapes.</p> |
| <b>Incompatible materials</b>             | <p>Strong oxidizing agents.</p> <p>Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.</p>  |
| <b>Hazardous decomposition products</b>   | No hazardous decomposition products are known.   |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | No adverse effects due to inhalation are expected.       |
| <b>Skin contact</b> | No adverse effects due to skin contact are expected.     |
| <b>Eye contact</b>  | Direct contact with eyes may cause temporary irritation. |
| <b>Ingestion</b>    | Expected to be a low ingestion hazard.                   |

|   |  |
|---|--|
| <b>Symptoms related to the physical, chemical and toxicological characteristics</b> | Direct contact with eyes may cause temporary irritation. |
|---|--|

### Information on toxicological effects

|  |  |
|--|--|
| <b>Acute toxicity</b>                    | Not available.   |
| <b>Skin corrosion/irritation</b>         | Prolonged skin contact may cause temporary irritation.   |
| <b>Serious eye damage/eye irritation</b> | Direct contact with eyes may cause temporary irritation.   |
| <b>Respiratory or skin sensitization</b> |  |
| <b>Respiratory sensitization</b>         | Not a respiratory sensitizer.  |
| <b>Skin sensitization</b>                | This product is not expected to cause skin sensitization.  |
| <b>Germ cell mutagenicity</b>            | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>                   | Not available.   |
| <b>Reproductive toxicity</b>             | This product is not expected to cause reproductive or developmental effects.                                     |

|   |                           |
|---|---------------------------|
| <b>Specific target organ toxicity - single exposure</b>   | Not classified.           |
| <b>Specific target organ toxicity - repeated exposure</b> | Not classified.           |
| <b>Aspiration hazard</b>                                  | Not an aspiration hazard. |

## 12. Ecological information

|                                      |  |
|--------------------------------------|--|
| <b>Ecotoxicity</b>                   | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| <b>Persistence and degradability</b> | No data is available on the degradability of this product.   |
| <b>Bioaccumulative potential</b>     |  |
| <b>Mobility in soil</b>              | No data available.   |
| <b>Other adverse effects</b>         | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.            |

## 13. Disposal considerations

|  |   |
|--|---|
| <b>Disposal instructions</b>                 | This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. |
| <b>Hazardous waste code</b>                  | Since this product is used in several industries, no Waste Code can be provided by the supplier. The Waste Code should be determined in arrangement with your waste disposal partner or the responsible authority.  |
| <b>Waste from residues / unused products</b> | Not available.  |
| <b>Contaminated packaging</b>                | Not available.  |

## 14. Transport information

|   |                                   |
|---|-----------------------------------|
| <b>TDG</b>  | Not regulated as dangerous goods. |
| <b>IATA</b>   | Not regulated as dangerous goods. |
| <b>IMDG</b>   | Not regulated as dangerous goods. |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable.                   |

## 15. Regulatory information

### Canadian regulations

#### Controlled Drugs and Substances Act

Not regulated.

#### Export Control List (CEPA 1999, Schedule 3)

Not listed.

#### Greenhouse Gases

Not listed.

#### Precursor Control Regulations

Not regulated.

### International regulations

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Kyoto protocol

Not applicable.

#### Montreal Protocol

Not applicable.

**Basel Convention**

Not applicable.

**International Inventories**

| <b>Country(s) or region</b> | <b>Inventory name</b>  | <b>On inventory (yes/no)*</b> |
|-----------------------------|--|-------------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | Yes                           |
| Canada                      | Domestic Substances List (DSL)   | No                            |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | Yes                           |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | No                            |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | No                            |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No                            |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | No                            |
| Korea                       | Existing Chemicals List (ECL)  | Yes                           |
| New Zealand                 | New Zealand Inventory  | Yes                           |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | No                            |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                          | Yes                           |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information**

**Issue date** 11-15-2018

**Version #** 01

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

**Revision information** Product and Company Identification: Product Codes  
Composition / Information on Ingredients: Ingredients