1. Identification

Product identifier
None

Other means of identification
Not available.

Recommended use
Coatings

Recommended restrictions
None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Refractory Anchors, Inc.
Address: 9836 S. 219th E. Ave.
Broken Arrow, OK 74014
USA

Telephone: 800-331-3270
Website: www.rai-1.com
E-mail: sales@rai-1.com
Contact Person:
Emergency 24-hour phone number: CHEMTREC: 1-800-424-9300
Information on operation hours: 8:00 am - 5:00 pm

2. Hazard(s) identification

Physical hazards
Not classified.

Health hazards
Not classified.

Environmental hazards
Not classified.

OSHA defined hazards
Not classified.

Label elements

Hazard symbol
None.

Signal word
None.

Hazard statement
The mixture does not meet the criteria for classification.

Prevention
Observe good industrial hygiene practices.

Response
Wash hands after handling.

Storage
Store away from incompatible materials.

Disposal
Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
Not applicable.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>7732-18-5</td>
<td>35 - 45</td>
<td></td>
</tr>
<tr>
<td>ASPHALT</td>
<td>8052-42-4</td>
<td>25 - 35</td>
<td></td>
</tr>
<tr>
<td>KAOLIN</td>
<td>1332-58-7</td>
<td>25 - 35</td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels 0.9960159362

4. First-aid measures

Inhalation
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact
If clothing sticks to the skin, do not remove. Lotion or hand cream may aid in the removal of asphalt. Wash contact areas with soap and water. If needed, seek medical attention.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion
Rinse mouth. DO NOT induce vomiting. Get medical attention immediately. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Treat symptomatically.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Water. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire-fighting equipment/instructions
ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray.

Specific methods
In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Ventilate area and avoid breathing vapors or mist. For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Environmental precautions
Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Avoid prolonged exposure. Use only in well-ventilated areas. Trace amounts of hydrogen sulfide, a very highly toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site.

Conditions for safe storage, including any incompatibilities
Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Do not allow material to freeze.

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAOLIN (CAS 1332-58-7)</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>
### US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT (CAS 8052-42-4)</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>KAOLIN (CAS 1332-58-7)</td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>Respirable fraction.</td>
</tr>
</tbody>
</table>

### US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPHALT (CAS 8052-42-4)</td>
<td>Ceiling</td>
<td>5 mg/m³</td>
<td>Fume.</td>
</tr>
<tr>
<td>KAOLIN (CAS 1332-58-7)</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Respirable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mg/m³</td>
<td>Total</td>
</tr>
</tbody>
</table>

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

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.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Chemical goggles and face shield are recommended. Wear safety glasses with side shields (or goggles).

#### Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

#### Other

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact. Plastic or rubber gloves, apron and boots.

#### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

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

Heavy-consistency emulsion.

#### Physical state

Liquid.

#### Form

Liquid. Viscous

#### Color

Brown

#### Odor

Mild Petroleum Odor

#### Odor threshold

n/a

#### pH

5 - 7

#### Melting point/freezing point

n/a

#### Initial boiling point and boiling range

212 °F (100 °C)

#### Flash point

> 212.0 °F (> 100.0 °C)

#### Evaporation rate

n/a

#### Flammability (solid, gas)

Not available.

#### Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Flammability limit - lower (%)</th>
<th>n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - upper (%)</td>
<td>n/a</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

#### Vapor pressure

60 mm Hg at 100°F

#### Vapor density

n/a

#### Relative density

n/a

#### Solubility(ies)

<table>
<thead>
<tr>
<th>Solubility (water)</th>
<th>Slightly</th>
</tr>
</thead>
</table>

#### Partition coefficient (n-octanol/water)

n/a
10. Stability and reactivity
Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Stable under normal temperature conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.
Conditions to avoid Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not overheat product.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products Upon decomposition, this product may yield sulfur dioxide, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen sulfide.

11. Toxicological information
Information on likely routes of exposure
Ingestion Expected to be a low ingestion hazard.
Inhalation Prolonged inhalation may be harmful.
Skin contact No adverse effects due to skin contact are expected.
Eye contact Harmful in contact with eyes.
Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects
Acute toxicity

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERTECH 2010 (CAS Mixture)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>40160.6406 mg/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>16845.623 mg/kg estimated</td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Mouse</td>
<td>70281.125 mg/l, 7 Hours estimated</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>45180.7227 mg/l, 4 Hours estimated</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Guinea pig</td>
<td>120.4819 g/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>120.4819 g/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>32.1285 g/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>12962.0459 mg/kg estimated</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>28112.4492 mg/kg estimated</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>34136.5469 mg/kg estimated</td>
</tr>
<tr>
<td>Components</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>KAOLIN (CAS 1332-58-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>
Component | Species | Test Results
--- | --- | ---
Oral LD50 | Rat | > 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**
- Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**
- Harmful in contact with eyes. None known.

**Respiratory or skin sensitization**
- Respiratory sensitization: Not available.
- Skin sensitization: May cause skin disorders if contact is repeated or prolonged.

**Germ cell mutagenicity**
- No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**
- **IARC Monographs. Overall Evaluation of Carcinogenicity**
  - ASPHALT (CAS 8052-42-4) 2B Possibly carcinogenic to humans.
  - 3 Not classifiable as to carcinogenicity to humans.

  - Not listed.

**Reproductive toxicity**
- Not classified.

**Specific target organ toxicity**
- **single exposure**
  - Not classified.

**Specific target organ toxicity**
- **repeated exposure**
  - Not classified.

**Aspiration hazard**
- Not available.

**Chronic effects**
- Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne.

**Further information**
- This product has no known adverse effect on human health.

### 12. Ecological information

**Ecotoxicity**
- Not expected to be harmful to aquatic organisms.

**Persistence and degradability**
- No data is available on the degradability of this product.

**Bioaccumulative potential**
- No data available.

**Mobility in soil**
- No data available.

**Other adverse effects**
- 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

**Disposal instructions**
- Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations. No components are identified as hazardous wastes. Disposal recommendations are based on uncontaminated material.

**Local disposal regulations**
- Dispose in accordance with all applicable regulations.

**Hazardous waste code**
- The waste code should be assigned in discussion between the user, the producer and the waste disposal company. Not applicable.

**Waste from residues / unused products**
- Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.

**Contaminated packaging**
- Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**DOT**
- Not regulated as dangerous goods.

**IATA**
- Not regulated as dangerous goods.

**IMDG**
- Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations
- All components are on the U.S. EPA TSCA Inventory List.
- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  Not regulated.
- CERCLA Hazardous Substance List (40 CFR 302.4)
  Not listed.
- US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
  Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Hazard categories
  Immediate Hazard - No
  Delayed Hazard - No
  Fire Hazard - No
  Pressure Hazard - No
  Reactivity Hazard - No

  SARA 302 Extremely hazardous substance
  Not listed.

  SARA 311/312 Hazardous chemical
  No

  SARA 313 (TRI reporting)
  Not regulated.

Other federal regulations
- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.
- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
  Not regulated.
- Safe Drinking Water Act (SDWA)
  Not regulated.

US state regulations
- WARNING: This product contains a chemical known to the State of California to cause cancer.
  - US. Massachusetts RTK - Substance List
    ASPHALT (CAS 8052-42-4)
    KAOLIN (CAS 1332-58-7)
  - US. New Jersey Worker and Community Right-to-Know Act
    Not regulated.
  - US. Pennsylvania RTK - Hazardous Substances
    ASPHALT (CAS 8052-42-4)
    KAOLIN (CAS 1332-58-7)
  - US. Rhode Island RTK
    Not regulated.

  - US. California Proposition 65
    WARNING: This product contains a chemical known to the State of California to cause cancer.
    - US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
      ASPHALT (CAS 8052-42-4) Listed: January 1, 1990

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)*
---------------------|---------------|------------------
Korea                | Existing Chemicals List (ECL) | Yes
New Zealand          | New Zealand Inventory | Yes
Philippines          | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes
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, including date of preparation or last revision

Issue date            | 04-15-2014
Version #             | 01
Further information   | HMIS® is a registered trade and service mark of the NPCA.
References             | ACGIH
                        | EPA: AQUIRE database
                        | NLM: Hazardous Substances Data Base
                        | US. IARC Monographs on Occupational Exposures to Chemical Agents
                        | IARC Monographs. Overall Evaluation of Carcinogenicity
                        | National Toxicology Program (NTP) Report on Carcinogens
                        | ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information
Hazards Identification: EU Hazard Classifications
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory Information: United States
HazReg Data: International Inventories