1. Identification

Product identifier
SHAMROCK 392 MORTAR

Other means of identification
Brand Code
9994

Recommended use
For Industrial Use Only

Recommended restrictions
None known.

Manufacturer/Supplier information

Manufacturer
HarbisonWalker International
1305 Cherrington Parkway, Suite 100
Moon Township, Pennsylvania 15108 US

Telephone
General Phone: 412-375-6600

Emergency phone number
CHEMTREC 24 HOUR 1-800-424-9300

2. Hazard(s) identification

Physical hazards
Not classified.

Health hazards
Skin corrosion/irritation Category 1A
Serious eye damage/eye irritation Category 1

Environmental hazards
Not classified.

OSHA defined hazards
Not classified.

Label elements

Signal word
Danger

Hazard statement
Causes severe skin burns and eye damage. Causes serious eye damage.

Precautionary statement
Prevention
Do not breathe dust. Wash thoroughly after handling. Wear eye/face protection. Wear protective gloves/protective clothing/eye protection.

Response
If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Supplemental information
None.

3. Composition/information on ingredients

Mixtures
The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact
Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or
poison control center immediately. Chemical burns must be treated by a physician. Wash
contaminated clothing before reuse.

Eye contact
Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove
contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control
center immediately.

Ingestion
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If
vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important
symptoms/effects, acute and
delayed
Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may
include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including
blindness could result.

Indication of immediate
medical attention and special
treatment needed
Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water
immediately. While flushing, remove clothes which do not adhere to affected area. Call an
ambulance. Continue flushing during transport to hospital. Keep victim under observation.
Symptoms may be delayed.

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
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing
media
Not available.

Specific hazards arising from
the chemical
Not applicable.

Special protective equipment
and precautions for firefighters
Not available.

6. Accidental release measures

Personal precautions,
protective equipment and
emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear
appropriate protective equipment and clothing during clean-up. Do not breathe dust. Use a
NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding
the exposure limits. Do not touch damaged containers or spilled material unless wearing
appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if
significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for
containment and cleaning up
Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place
into containers. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste
container. Avoid the generation of dusts during clean-up. Following product recovery, flush area
with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe
up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual
contamination.

Environmental precautions
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

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

7. Handling and storage

Precautions for safe handling
Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places
where dust is formed. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Avoid
prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial
hygiene practices.

Conditions for safe storage,
including any incompatibilities
Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store
away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits
No exposure limits noted for ingredient(s).

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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

<table>
<thead>
<tr>
<th>Protection Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye/face protection</td>
<td>Wear safety glasses with side shields (or goggles) and a face shield.</td>
</tr>
<tr>
<td>Skin protection</td>
<td>Wear appropriate chemical resistant gloves.</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Wear appropriate chemical resistant clothing.</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.</td>
</tr>
<tr>
<td>Thermal hazards</td>
<td>Wear appropriate thermal protective clothing, when necessary.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid.</td>
</tr>
<tr>
<td>Form</td>
<td>Solid Powder.</td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Upper/lower flammability or explosive limits

| Flammability limit - lower (%)     | Not available. |
| Flammability limit - upper (%)     | Not available. |
| Explosive limit - lower (%)        | Not available. |
| Explosive limit - upper (%)        | Not available. |

Vapor pressure                      | Not available. |
Vapor density                       | Not available. |
Relative density                    | Not available. |
Solubility(ies)

| Solubility (water)                | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
Auto-ignition temperature           | Not available. |
Decomposition temperature           | Not available. |
Viscosity                           | Not available. |

10. Stability and reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability
Material is stable under normal conditions.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.
Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification.

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure
- **Inhalation**: Dust may irritate respiratory system. Prolonged inhalation may be harmful.
- **Skin contact**: Causes severe skin burns.
- **Eye contact**: Causes serious eye damage.
- **Ingestion**: Causes digestive tract burns.

Symptoms related to the physical, chemical and toxicological characteristics
Burning pain and severe corrosive skin damage. Causes serious eye damage. Dusts may irritate the respiratory tract, skin and eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHAMROCK 392 MORTAR</td>
<td>Presumed Non-Toxic</td>
<td>Dermal</td>
</tr>
</tbody>
</table>

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

Skin corrosion/irritation
Causes severe skin burns and eye damage.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitization
- **Respiratory sensitization**: Not a respiratory sensitizer.
- **Skin sensitization**: This product is not expected to cause skin sensitization.
- **Germ cell mutagenicity**: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not an aspiration hazard.

Chronic effects
Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity
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.

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
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.

Hazardous waste code
Not applicable.

Waste from residues / unused products
Not available.

Contaminated packaging
Not available.

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
Not applicable.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All chemical substances in this product are listed on the TSCA chemical substance inventory where required.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
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
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
Not regulated.

US. New Jersey Worker and Community Right-to-Know Act
Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law
Not listed.

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*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           05-29-2015
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
Composition / Information on Ingredients: Ingredients
Toxicological Information: Toxicological Data