

## 1. Identification

|  |   |                |
|--|---|----------------|
| <b>Product identifier</b>                | <b>SHAMROCK 30 RAM (WM-7639)</b>  |                |
| <b>Other means of identification</b>     |   |                |
| <b>Brand Code</b>                        | 132C  |                |
| <b>Recommended use</b>                   | For Industrial Use Only   |                |
| <b>Recommended restrictions</b>          | None known.   |                |
| <b>Manufacturer/Supplier information</b> |   |                |
| <b>Manufacturer</b>                      |   |                |
| <b>Company name</b>                      | HarbisonWalker International  |                |
| <b>Address</b>                           | 1305 Cherrington Parkway, Suite 100<br>Moon Township, Pennsylvania 15108 US |                |
| <b>Telephone</b>                         | General Phone:  | 412-375-6600   |
| <b>Website</b>                           | www.thinkHWI.com  |                |
| <b>Emergency phone number</b>            | CHEMTREC 24 HOUR<br>EMERGENCY #   | 1-800-424-9300 |

## 2. Hazard(s) identification

|                              |                                   |             |
|------------------------------|-----------------------------------|-------------|
| <b>Physical hazards</b>      | Not classified.                   |             |
| <b>Health hazards</b>        | Skin corrosion/irritation         | Category 1A |
|                              | Serious eye damage/eye irritation | Category 1  |
|                              | Carcinogenicity                   | Category 2  |
| <b>Environmental hazards</b> | Not classified.                   |             |
| <b>OSHA defined hazards</b>  | Not classified.                   |             |
| <b>Label elements</b>        |                                   |             |



|  |  |  |
|--|--|--|
| <b>Signal word</b>                               | Danger   |  |
| <b>Hazard statement</b>                          | Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of causing cancer.   |  |
| <b>Precautionary statement</b>                   |  |  |
| <b>Prevention</b>                                | Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wash thoroughly after handling. Wear eye/face protection. Wear protective gloves/protective clothing/eye protection.  |  |
| <b>Response</b>                                  | 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. If concerned: Get medical advice/attention. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. |  |
| <b>Storage</b>                                   | Store locked up.   |  |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.  |  |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.  |  |
| <b>Supplemental information</b>                  | None.  |  |

## 3. Composition/information on ingredients

### Mixtures

| Chemical name                            | Common name and synonyms | CAS number | %        |
|--|--------------------------|------------|----------|
| Aluminium Oxide (Non-Fibrous)            |                          | 1344-28-1  | 60 - 80  |
| Chromium (III) oxide                     |                          | 1308-38-9  | 20 - 40  |
| Orthophosphoric Acid                     |                          | 7664-38-2  | 2.5 - 10 |
| Other components below reportable levels |                          |            | 2.5 - 10 |

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

#### 4. First-aid measures

|   |  |
|---|--|
| <b>Inhalation</b>   | Move to fresh air. Call a physician if symptoms develop or persist.  |
| <b>Skin contact</b>   | 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.   |
| <b>Eye contact</b>  | 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.   |
| <b>Ingestion</b>  | 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.  |
| <b>Most important symptoms/effects, acute and delayed</b>                     | 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.  |
| <b>Indication of immediate medical attention and special treatment needed</b> | 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. |
| <b>General information</b>  | If concerned: Get medical advice. 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. 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.  |
| <b>Methods and materials for containment and cleaning up</b>               | <p>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.</p> <p>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.</p> <p>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.</p> |
| <b>Environmental precautions</b>   | 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

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Should be handled in closed systems, if possible. 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

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components                                    | Type | Value                 | Form                 |
|---|------|-----------------------|----------------------|
| Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1) | PEL  | 5 mg/m <sup>3</sup>   | Respirable fraction. |
|   |      | 15 mg/m <sup>3</sup>  | Total dust.          |
| Chromium (III) oxide (CAS 1308-38-9)          | PEL  | 0.5 mg/m <sup>3</sup> |                      |
| Orthophosphoric Acid (CAS 7664-38-2)          | PEL  | 1 mg/m <sup>3</sup>   |                      |

#### US. ACGIH Threshold Limit Values

| Components                                    | Type | Value                 | Form                 |
|---|------|-----------------------|----------------------|
| Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1) | TWA  | 1 mg/m <sup>3</sup>   | Respirable fraction. |
| Chromium (III) oxide (CAS 1308-38-9)          | TWA  | 0.5 mg/m <sup>3</sup> |                      |
| Orthophosphoric Acid (CAS 7664-38-2)          | STEL | 3 mg/m <sup>3</sup>   |                      |
|   | TWA  | 1 mg/m <sup>3</sup>   |                      |

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

| Components                           | Type | Value                 |
|--------------------------------------|------|-----------------------|
| Chromium (III) oxide (CAS 1308-38-9) | TWA  | 0.5 mg/m <sup>3</sup> |
| Orthophosphoric Acid (CAS 7664-38-2) | STEL | 3 mg/m <sup>3</sup>   |
|                                      | TWA  | 1 mg/m <sup>3</sup>   |

### Biological limit values

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

### Exposure guidelines

Zirconium silicates (zircon sands) contain trace amounts (106-120 pCi/g) of naturally occurring radioactive uranium and thorium. Overexposure by inhalation to respirable dust containing uranium and thorium may cause lung cancer. Eye contact with the dust may cause eye irritation. Measurements made by Dupont during the use of a similar mineral sand indicated the observance of the 5 mg/m<sup>3</sup> OSHA PEL for respirable dust and/or the PEL for quartz ensures the user is below the exposure limits established for uranium and thorium. No LD50 or LC50 can be found for zircon sand.

### 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

#### Eye/face protection

Chemical respirator with organic vapor cartridge, full facepiece, dust and mist filter.

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves.

##### Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection**

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

**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**

**Physical state** Solid.  
**Form** Solid Powder.  
**Color** Not available.

**Odor** Not available.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** Not available.

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

**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**

**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** Hazardous polymerization does not occur.

**Conditions to avoid** Contact with incompatible materials.

**Incompatible materials** Acids. Chlorine.  
 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** Not available.  
**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.

|  |     |
|--|-----|
| <b>Germ cell mutagenicity: Ames test</b>             |     |
| SHAMROCK 30 RAM (WM-7639)                            | 0 0 |
| <b>Germ cell mutagenicity: Chromosome aberration</b> |     |
| SHAMROCK 30 RAM (WM-7639)                            | 0 0 |
| <b>Germ cell mutagenicity: Micronucleus</b>          |     |
| SHAMROCK 30 RAM (WM-7639)                            | 0 0 |

**Carcinogenicity** Suspected of causing cancer.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Chromium (III) oxide (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.

### US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

### 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.

|  |     |
|--|-----|
| <b>Fertility - EU category</b>               |     |
| SHAMROCK 30 RAM (WM-7639)                    | 0 0 |
| <b>Fertility effects - Males</b>             |     |
| SHAMROCK 30 RAM (WM-7639)                    | 0 0 |
| <b>Fertility effects - Males and females</b> |     |
| SHAMROCK 30 RAM (WM-7639)                    | 0 0 |

**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. Prolonged exposure may cause chronic effects.

## 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** 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.

**Waste from residues / unused products** As sold, this product is not RCRA hazardous. Final used condition must be evaluated prior to disposal. Dispose of waste product in accordance with Federal, State and Local regulations. The chrome compounds (Cr III) in this product may be altered to a hexavalent compound (Cr VI) under certain use conditions, such as exposure to alkali salts and/or high temperatures. Proper waste testing (such as TCLP) must be done to determine the waste status of used product. Reuse and recycling of chrome Refractories is recommended whenever possible.

**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)

Orthophosphoric Acid (CAS 7664-38-2) 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 - Yes  
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)

| Chemical name                 | CAS number | % by wt. |
|-------------------------------|------------|----------|
| Aluminium Oxide (Non-Fibrous) | 1344-28-1  | 60 - 80  |
| Chromium (III) oxide          | 1308-38-9  | 20 - 40  |

#### Other federal regulations

##### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Chromium (III) oxide (CAS 1308-38-9)

**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**

Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)

Chromium (III) oxide (CAS 1308-38-9)

Orthophosphoric Acid (CAS 7664-38-2)

**US. New Jersey Worker and Community Right-to-Know Act**

Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)

Chromium (III) oxide (CAS 1308-38-9)

Orthophosphoric Acid (CAS 7664-38-2)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)

Orthophosphoric Acid (CAS 7664-38-2)

**US. Rhode Island RTK**

Aluminium Oxide (Non-Fibrous) (CAS 1344-28-1)

Orthophosphoric Acid (CAS 7664-38-2)

**US. California Proposition 65**

This product contains a chemical known to the State of California to cause cancer.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

|   |                           |
|---|---------------------------|
| Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7) | Listed: October 1, 1988   |
| Titanium Dioxide (CAS 13463-67-7)           | Listed: September 2, 2011 |
| VANADIUM PENTAOXIDE (CAS 1314-62-1)         | Listed: February 11, 2005 |

**International Inventories**

| Country(s) or region        | Inventory name   | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | Yes                    |
| Canada                      | Domestic Substances List (DSL)   | Yes                    |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                    |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | Yes                    |
| 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** 07-23-2015**Revision date** 03-11-2016**Version #** 02**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 and Company Identification  
Composition / Information on Ingredients: Component Summary  
Toxicological Information: Toxicological Data  
Ecological Information: Ecotoxicity  
Disposal considerations: Hazardous waste code  
GHS: Classification