

## 1. Identification

<b>Product identifier</b>	<b>ZIRMUL 11 SC</b>		
<b>Other means of identification</b>			
<b>Brand Code</b>	829C		
<b>Recommended use</b>	Industrial Use Only		
<b>Recommended restrictions</b>	None known.		
<b>Manufacturer/Importer/Supplier/Distributor information</b>			
<b>Manufacturer</b>			
<b>Company name</b>	HarbisonWalker International		
<b>Address</b>	1305 Cherrington Parkway, Suite 100 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 EMERGENCY #	1-800-424-9300	

## 2. Hazard(s) identification

### Classified hazards

This item is defined as an article per OSHA, REACH, and WHMIS and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not Classified as hazardous. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Wear protective gloves/protective clothing/eye protection.

### Label elements

This item is defined as an article per OSHA, REACH, and WHMIS and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not Classified as hazardous. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Wear protective gloves/protective clothing/eye protection.

### Hazard(s) not otherwise classified (HNOC)

This item is defined as an article per OSHA, REACH, and WHMIS and is therefore exempt from labeling. A Safety Data Sheet is available.

This item is not Classified as hazardous. However, individual customer processes (such as grinding, sawing, or blasting) may result in the formation of dust that may present health hazards. Wear protective gloves/protective clothing/eye protection.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Alumina calcined		1344-28-1	40 - 60
Mullite		1302-93-8	10 - 20
Zirconia, Fused 95%, -325 Mesh		1314-23-4	10 - 20
Kaolin		1332-58-7	2.5 - 10

## 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.

**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**

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. 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. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

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

**7. Handling and storage****Precautions for safe handling**

Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection****Occupational exposure limits**

This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

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

Components	Type	Value	Form
Alumina calcined (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Zirconia, Fused 95%, -325 Mesh (CAS 1314-23-4)	PEL	5 mg/m3	

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value	Form
Alumina calcined (CAS 1344-28-1)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Alumina calcined (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	Respirable fraction.
Zirconia, Fused 95%, -325 Mesh (CAS 1314-23-4)	STEL	10 mg/m3	
	TWA	5 mg/m3	

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

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Zirconia, Fused 95%, -325 Mesh (CAS 1314-23-4)	STEL	10 mg/m3	
	TWA	5 mg/m3	

**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/m3 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.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear safety glasses with side shields (or goggles).

**Skin protection****Hand protection**

Wear appropriate chemical resistant gloves.

**Other**

Wear suitable protective clothing.

**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.

**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.
<b>Solubility(ies)</b>	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
<b>Other information</b>	
Explosive properties	Not explosive.
Oxidizing properties	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>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
<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.
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### 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.

### Respiratory or skin sensitization

<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.
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<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
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#### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

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

Not listed.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
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<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>	No data available.
<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>DOT</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 available.

## 15. Regulatory information

<b>US federal regulations</b>	This product is not known to be 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.
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	Not listed.
<b>SARA 304 Emergency release notification</b>	Not regulated.
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not regulated.
<b>Superfund Amendments and Reauthorization Act of 1986 (SARA)</b>	
<b>Hazard categories</b>	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
<b>SARA 302 Extremely hazardous substance</b>	Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Alumina calcined	1344-28-1	40 - 60

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

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

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)	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, including date of preparation or last revision

Issue date 09-14-2018

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.