

1. Identification

Product identifier	ISOTAP		
Other means of identification			
Brand Code	8194		
Recommended use	For Industrial Use Only		
Recommended restrictions	Avoid dry cutting, blasting, or dust generation.		
Manufacturer/Importer/Supplier/Distributor information			
Manufacturer			
Company name	HarbisonWalker International		
Address	1305 Cherrington Parkway, Suite 100 Moon Township Pennsylvania 15108 US		
Telephone	General Phone:	412-375-6600	
Website	www.thinkHWI.com		
Emergency phone number	CHEMTREC 24 HOUR EMERGENCY #	1-800-424-9300	
Supplier	Not available.		

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.

Other 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.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
MAGNESIUM OXIDE		1309-48-4	60 - 80
Graphite		7782-42-5	10 - 20
ALUMINUM, ELEMENTAL		7429-90-5	2.5 - 10
CALCIUM OXIDE		1305-78-8	1 - 2.5
Silicon		7440-21-3	1 - 2.5
ALPHA-ALUMINA		1344-28-1	0.1 - 1
METHENAMINE		100-97-0	0.1 - 1

Chemical name	Common name and synonyms	CAS number	%
PHENOL		108-95-2	0 - 0.1

Other components below reportable levels

2.5 - 10

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
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	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 in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	5 mg/m ³	Pyrophoric powder.
		10 mg/m ³	Dust.
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	

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

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Fume.

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

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable.
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable.
MAGNESIUM OXIDE (CAS 1309-48-4)	STEL	10 mg/m ³	Respirable dust and/or fume.
	TWA	3 mg/m ³	Respirable dust and/or fume.
		10 mg/m ³	Inhalable fume.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	1 mg/m ³	Respirable fraction.
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Inhalable fraction.
METHENAMINE (CAS 100-97-0)	STEL	2 mg/m ³	
		0.35 ppm	

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
ALUMINUM, ELEMENTAL (CAS 7429-90-5)	TWA	5 mg/m ³	Welding fume.
		10 mg/m ³	
CALCIUM OXIDE (CAS 1305-78-8)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable dust.
MAGNESIUM OXIDE (CAS 1309-48-4)	TWA	10 mg/m ³	Fume.
Silicon (CAS 7440-21-3)	TWA	10 mg/m ³	Total dust.

Biological limit values

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

Exposure guidelines

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.

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.

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.

Other information

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

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	No dangerous reaction known under conditions of normal use.
Conditions to avoid	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. 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.
Incompatible materials	Strong oxidizing agents. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

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

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

ALUMINUM, ELEMENTAL (CAS 7429-90-5)	Irritant
CALCIUM OXIDE (CAS 1305-78-8)	Irritant

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

ACGIH Carcinogens

ALUMINUM, ELEMENTAL (CAS 7429-90-5)	A4 Not classifiable as a human carcinogen.
MAGNESIUM OXIDE (CAS 1309-48-4)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

ALUMINUM, ELEMENTAL (CAS 7429-90-5)	Not classifiable as a human carcinogen.
MAGNESIUM OXIDE (CAS 1309-48-4)	Not classifiable as a human carcinogen.

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.

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
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 Not available.
Contaminated packaging Not available.

14. Transport information

TDG
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

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

ALUMINUM, ELEMENTAL (CAS 7429-90-5)

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

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)	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

Issue date 04-13-2018

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 and Company Identification
Composition / Information on Ingredients: Ingredients
Transport Information: Material Transportation Information