

SAFETY DATA SHEET

1. Identification

Product identifier	KS-4V GR PLUS; KS-4V GR PLUS WF	
Other means of identification		
Brand Code	5905, 5906	
Recommended use	For Industrial Use Only	
Recommended restrictions	Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.	

Manufacturer/Importer/Supplier/Distributor information

Manufacturer		
Company name	HarbisonWalker Internationa	l
Address	1305 Cherrington Parkway,	Suite 100
	Moon Township, Pennsylvar	nia 15108 US
Telephone	General Phone:	412-375-6600
Website	www.thinkHWI.com	
Emergency phone number	CHEMTREC 24 HOUR EMERGENCY #	1-800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Carcinogenicity	Category 1A
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger	
Hazard statement	May cause cancer. Causes damage to organs through prolonged or repeated exposure.	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.	
Response	If exposed or concerned: Get medical advice/attention.	
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

Chemical name	Common name and synonyms	CAS number	%	
Mullite		1302-93-8	40 - < 50	
Cement, Alumina, Chemicals		65997-16-2	20 - < 30	

Chemical name	Common name and synonyms	CAS number	%
Cristobalite		14464-46-1	10 - < 20
Amorphous Silica	SILICA, AMORPHOUS, FUMED SILICA (CRYSTALLINE FREE)	7631-86-9	1 - < 3
Kaolin		1332-58-7	1 - < 3
Quartz (SiO2)		14808-60-7	< 1
Other components below reportable levels			5 - < 10

Other components below reportable levels

*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	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	Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). 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 meas	

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. 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. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. 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	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Do not breathe dust. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.	
Conditions for safe storage, including any incompatibilities	Store locked up. 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

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	PEL	0.05 mg/m3	
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS	PEL	15 mg/m3 0.05 mg/m3	Total dust.
14808-60-7)		0.00 mg/m3	
US. OSHA Table Z-3 (29 CF	-	Value	Form
Components	Туре		FUIII
Amorphous Silica (CAS 7631-86-9)	TWA	0.8 mg/m3	
		20 mppcf	
Cristobalite (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable.
		1.2 mppcf	Respirable.
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
,		2.4 mppcf	Respirable.
US. ACGIH Threshold Limi Components	t Values Type	Value	Form
Cristobalite (CAS	TWA	0.025 mg/m3	Respirable fraction.
14464-46-1)			
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	Respirable fraction.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
US. NIOSH: Pocket Guide t			F
Components	Туре	Value	Form
Amorphous Silica (CAS 7631-86-9)	TWA	6 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
logical limit values	No biological exposure limits noted fo	or the ingredient(s).	
osure guidelines	Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Occupational exposure to nuisance dust (total and respirable and respirable crystalline silica should be monitored and controlled.		
propriate engineering trols	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. I exposure limits have not been established, maintain airborne levels to an acceptable level.		es, local exhaust ventilation, nmended exposure limits. If
vidual protection measures	, such as personal protective equipm	ent	
Eye/face protection	If contact is likely, safety glasses with	side shields are recommended	1.
Skin protection Hand protection	Wear appropriate chemical resistant g	gloves.	
Other	Use of an impervious apron is recomi	mended.	
Respiratory protection	Use a NIOSH/MSHA approved respir exceeding the exposure limits.	ator if there is a risk of exposure	e to dust/fume at levels



General hygiene considerations

Observe any medical surveillance requirements. 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.
рН	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 exp	losive 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.
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	No hazardous decomposition products are known.

products

11. Toxicological information

Information on likely routes of exposure

Initiation Protonged inflation may be flammul. Skin contact No adverse effects due to skin contact are expected. Ingestion Expected to be a low ingestion hazard. Swint constraints Direct contact with eyes may cause temporary initiation. physical, chemical and toxicological effects Executed to the physical, chemical and toxicological effects Kein constionitinitation Protonged skin contact may cause temporary initiation. Serious eye damage/eye Direct contact with eyes may cause temporary initiation. Serious eye damage/eye Direct contact with eyes may cause temporary initiation. Skin constionitinitation Not are exploited to cause skin sensitization. Respiratory or skin sensitization No data available to indicate product or any components present at greater than 0.1% are mutagenicity No adda available to indicate product or any components present at greater than 0.1% are initiated in compatibility or distribution of its hoppymping." (IARC then international decises officing its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the evaluation of the earchargenic risks of chemicals to the constant risks. Sciences it in the earlier induct with or earlier induction in the correliance or decising and science if the art. Work or earlier induct is not expected to cause active risk. Clause and present with a polymorphs." (IARC Monographs on the evaluation of the evaluation of the earlier inductive or distribution of its polymorphs." (IARC Monographs on the evaluation of the earlier inductive or distributin of the science or earlist." (ISCCEL SWM Doc 54-final,	Information on likely routes of ex	•	
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inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust in quaries and in the ceranic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk" (SCOEL SUM Doc 94-final, June 2003) According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits. May cause cancer. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled. IARC Monographs. Overall Evaluation of Carcinogenic to humans. US. National Toxicology Program (NTP) Report on Carcinogenic to humans. US. National Toxicology Program (NTP) Report on Carcinogenic to humans. US. OSHA Specifically Regulated Substances (29 CFR 1910.1001/1050) Not regulated. Reproductive toxicity This product is not expected to cause reproductive or developmental effects. Developmental effects - EU category Quartz (SiO2) CoS 14808-40-7) 0 Embryotoxicity Quartz (SiO2) O Reproductivity And Charts (SiO2) O Reproductivity A	Germ cell mutagenicity		roduct or any components present at greater than 0.1% are
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Specific target organ toxicity - single exposureNot classified.Specific target organ toxicity - Causes damage to organs through prolonged or repeated exposure.			0
	Specific target organ toxicity -	Not classified.	
		Causes damage to organs thro	ough prolonged or repeated exposure.

Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure. 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	Not available.
Contaminated packaging	Not available.

14. Transport information

DOT

Not regulated as dangerous goods.

ΙΑΤΑ

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Not applicable. Annex II of MARPOL 73/78 and the IBC Code

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 regulated.

Hazard categories

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Immediate Hazard - No Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous No chemical

SARA 313 (TRI reporting) Not regulated.			
Other federal regulations			
Clean Air Act (CAA) Section	n 112 Hazardous Air Pollutants (HAPs) List		
Not regulated. Clean Air Act (CAA) Section	n 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 Cal	ifornia to cause cancer.	
US - California Proposi	tion 65 - CRT: Listed date/Carcinogenic substance		
Quartz (SiO2) (CAS 14808-60-7) Listed: October 1, 1988 Titanium Dioxide (CAS 13463-67-7) Listed: September 2, 2011 US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))			
Cristobalite (CAS 14 Quartz (SiO2) (CAS			
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)	No	
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

*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	03-31-2015
Revision date	02-02-2017
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	This document has undergone significant changes and should be reviewed in its entirety.

Yes