

# SAFETY DATA SHEET

# 1. Identification

Product identifier	KS-4T	
Other means of identification		
Brand Code	8826	
Recommended use	For Industrial Use Only	
<b>Recommended restrictions</b>	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	Not available.	

# 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 away from incompatible materials.
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	50 - 70
Cement, Alumina, Chemicals		65997-16-2	10 - 25
Cristobalite		14464-46-1	10 - 25
Amorphous Silica	Fumed Silica Silica, crystalline free	7631-86-9	2.5 - 10

Chemical name	Common name and synonyms	CAS number	%
Kaolin		1332-58-7	2.5 - 10
Quartz (SiO2)		14808-60-7	2.5 - 10
Other components below re	eportable levels		2.5 - 10

Crystalline silica may be present at low concentrations; most of this is encapsulated in the coarse aggregate or as part of the clays or sands.

### 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 you feel unwell, seek medical advice (show the label where possible).
5. Fire-fighting measures	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	Not available.
Specific hazards arising from	Not applicable.

the chemical Special protective equipment Not available. and precautions for firefighters

### 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. 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. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear

industrial hygiene practices. **Conditions for safe storage, including any incompatibilities** SDS). **Conditions for safe storage, Store in 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.

appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good

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

Components	Туре	Value	Form
Cristobalite (CAS 14464-46-1)	PEL	0.05 mg/m3	Respirable dust.
Kaolin (CAS 1332-58-7)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Components	s for Air Contaminants (29 CFR 1910.1000) Type	Value	Form
Quartz (SiO2) (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.
US. OSHA Table Z-3 (29 C Components	FR 1910.1000) Type	Value	Form
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 Lim Components	it Values Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 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.
Quartz (SiO2) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
US. NIOSH: Pocket Guide	to Chemical Hazards		
Components	Туре	Value	Form
Amorphous Silica (CAS 7631-86-9)	TWA	6 mg/m3	
Cristobalite (CAS 14464-46-1)	TWA	0.05 mg/m3	Respirable dust.
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.
ogical limit values	No biological exposure limits noted for the ingre	edient(s).	
osure guidelines	Occupational exposure to nuisance dust (total should be monitored and controlled. Occupatio and respirable crystalline silica should be moni	nal exposure to nuisa	
ropriate engineering trols	Good general ventilation (typically 10 air chang should be matched to conditions. If applicable, or other engineering controls to maintain airbor exposure limits have not been established, main	use process enclosur ne levels below recon	es, local exhaust ventilation, nmended exposure limits. If
vidual protection measure Eye/face protection	s, such as personal protective equipment Wear safety glasses with side shields (or goggl	les).	
Skin protection Hand protection	Wear appropriate chemical resistant gloves.		
-			
Other Respiratory protection	Use of an impervious apron is recommended. Use a NIOSH/MSHA approved respirator if the	re is a risk of exposure	e to dust/fume at levels
Thermal hazards	exceeding the exposure limits. Wear appropriate thermal protective clothing, w		
ineimai nazaius	wear appropriate thermal protective clothing, w	men necessary.	

Material name: KS-4T



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

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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 expl	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.

# 11. Toxicological information

### Information on likely routes of exposure

Inhibition Protonged inhibition may be harmful.   Skin control No adverse effects due to skin contact are expected.   Ingestion Expected to be a low ingestion hazard.   Symptoms related to the physical, chemical and toxicological cheracteristics Direct contact with eyes may cause temporary irritation.   Skin corrosion/irritation Protonged skin contact may cause temporary irritation.   Strin corrosion/irritation Protonged skin contact may cause temporary irritation.   Skin corrosion/irritation Protonged skin contact may cause temporary irritation.   Skin corrosion/irritation Protonged skin contact may cause temporary irritation.   Skin corrosion/irritation Not are segiratory sensitization   Respiratory eshitization This product is not expected to cause skin sensitization.   Germ cell mutagenicity Not data available to indicate product or any components present at greater than 0.1% are inhialed from occupational socupation stocogenicity may be dependent on inhusering the overall evaluation, IARC noted that "carcinogenicity was be dependent on industrial circumstances studed. Carcinogenicity may be dependent on industrial discussion of the carcinogenic risk of thermicals of the crystalline silica or on external factors affecting the lossicity with stallows in dustrial induct from capeure industrial. Societal with segorate or the sequendent on industrial circumstances (JARC honograph en the evaluation of the carcinogenic risk of chemicals to the pathemical stallow is allows in dustrial is allows in dustrial is allows in dustrial circumstances (JARC honograph en the evaluation of the carcinogenic risk o	Information on likely routes of e	•	
Eye contact     Direct contact with eyes may cause temporary initiation.       Ingestion     Expected to be a low ingestion hazard.       Symptoms related to the physical, chemical and obsciological characteristics.     Direct contact with eyes may cause temporary initation.       Final control on toxicological efforts.     Not known.       Skin corresion/initiation     Prolonged skin contact may cause temporary initation.       Serios eye damage/eye     Direct contact with eyes may cause temporary initation.       Respiratory or skin sensitization     Not a respiratory sensitizer.       Respiratory or skin sensitization     This product is not expected to cause skin sensitization.       Gern cell mutagenicity     Not dat available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxe.       Carcinogenicity     In 1997. IARC (the International Agency for Research on Cancer) concluded that crystalline silica invatid invation in AGC node that "carcinogenicity was not detected in a industrial circumstances studied. Carcinogenicity may be dependent on inherent characteriscies of the cardstalline silica or on external factors affecting its biological activity or prince.) In June 2003. SCOCIL (the EU Sciencogenicity may be dependent on inherent characteriscies of the cardstalline silica dust in quarties and in the caranic industry). Therefore, prevaluation of the carinogenic risks of chemicals to humans. Silica, silicaless dust and organic fibres. 1997. Vol. 68. IARC, Von, France.) In June 2003. SCOCIL (the EU Scicardstalline silica dust in quarties and in the car	Inhalation	Prolonged inhalation may be h	armful.
Ingestion     Expected to be a low ingestion hazard.       Symptons related to the physical, chemical and toxicological characteristics     Direct contact with eyes may cause temporary irritation.       Information on toxicological effects     Accute toxicity     Not known.       Skin corrosion/irritation     Prolonged skin contact may cause temporary irritation.       Respiratory or skin sensitization     Direct contact with eyes may cause temporary irritation.       Respiratory or skin sensitization     Not a respiratory sensitization to any components present at greater than 0.1% are mutagenic or genotoxic.       Gern cell mutagenicity     In 1997, IARG (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the crystalline silica or on extending table to indicate and organic fibres. 1997, Vol. 68, IARG, Lyon, France) In June crystalline silica or on extending table to produce the cause sum graneer in humans. However in making the crystalline silica or on extending table to produce a cause lung cancer in humans. However in making the crystalline silica or on extending table to produce a cause lung cancer in humans. However in making the crystalline silica or on extending table to produce a silica or on extending table to produce the cancer occupational factors affecting table to produce the characteristics or the crystalline silica or on extending table to produce the silica si silica silica a contender to produce the cancer occupational exposure in the inhaletton of fisse sprayee to silica davis a silica si source the cancer or produce the cancere occupational exposure in the inhaletton of respi	Skin contact	No adverse effects due to skin	contact are expected.
Symptoms related to the physical, chemical and characteristics is increased in the characteristics of the charatteristics of the characteristics of the ch	Eye contact	Direct contact with eyes may c	ause temporary irritation.
physical, chemical and toxicological effective values values temporary inflation on toxicological effective values temporary inflation. Prolonged skin contact may cause temporary inflation. Science or solution values values temporary inflation. Science or solution values values temporary inflation. Science of values values values temporary inflation. Science of values values values temporary inflation. Science of values v	Ingestion	Expected to be a low ingestion	hazard.
Acute toxicity   Not known.     Skin corrosion/irritation   Prolonged skin contact may cause temporary irritation.     Serious sey damage/eye   Direct contact with eyes may cause temporary irritation.     Respiratory or skin sensitization   Not arespiratory sensitization     Respiratory or skin sensitization   This product is not expected to cause skin sensitization.     Gern cell mutagenicity   No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.     Carcinogenicity   In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inheld from occupational sources can cause lung cancer in humans. However in making the orival inheld from occupational sources can cause lung cancer in humans. However in making the orival inheld from occupational sources can cause lung cancer in humans. However in making the orival inheld from occupational sources can cancer) concluded that crystalline silica in an effect in humans. Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France). In June 2003, According to the carcinogenic firks of chemicals to humans. Silicates (and, apparently, not in employees without silicosis explose to silicos will also conclude that the relative risk of lung cancer is increased in persons with silicosis (ARC 60 Agenational Exposure Limits). Nav cause cancer. Occupational Exposure to respirable dust an in the caranic industry). Therefore, preventing the onset of silicosis will also cancer risk for admin in the caranic industry). Therefore, preventing the onset of silicos will also that the main effect in humans of the inhalation of respirable cystalline silicos. There is sufficion informati	physical, chemical and	Direct contact with eyes may c	ause temporary irritation.
Skin corrosion/irritation   Dired: contact with eyes may cause temporary irritation.     Serious eye damage/eye irritation   Dired: contact with eyes may cause temporary irritation.     Respiratory or skin sensitization   Not a respiratory sensitizer.     Respiratory sensitization   Not are available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.     Germ cell mutagenicity   In 1997, IARC (the international Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation. IARC otdet that "carcinogenicity was not detected in all industrial inhaled from occupational sources can cause lung cancer in humens. However in making the overall evaluation. IARC noted that "carcinogenicity was not detected in all industrial inhaled from occupational sources can cause lung cancer in humens. However in making the overall evaluation. IARC noted that "carcinogenicity was not detected in all industrial inhaled from occupational sources and facting its obligical activity or distribution of its polymorphs." (JARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silica dust and ugarine factor, sproser busine sources in persons with silicosis (and, apparently, not in employees without silicosis value atter of the archater in the caramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer insk" (SOCEL SUN 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 cyS14808-40-71	Information on toxicological effe	ects	
Serious eye damage/eye   Direct contact with eyes may cause temporary irritation.     Respiratory sensitization   Not a respiratory sensitizer.     Skin sensitization   This product is not expected to cause skin sensitization.     Germ cell mutagenicity   Not at areapiratory available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.     Carcinogenicity   In 1997, IARC (the international Agency for Research on Cancer) concluded that crystalline silica 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 relative risk of lung cancer is charces of the earner industry. Therefore, proventing the onset of silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is charces of the earner industry.) Therefore, preventing the onset of silica should be monitored and controlled.     IARC Monographs. Overall Evaluation of Carcinogenicity   A morphous Silica (CAS 7831-86-9)   3 Not classifiable as to carcinogenicity to humans.     Cristobalite (CAS 14484-46-1)   Cancer   Carcinogenic to humans.   Carcinogenic to h	Acute toxicity	Not known.	
irritation     Respiratory or skin sensitization   Not a respiratory sensitization     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   In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica 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 insks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France, In June 2003, Accolated that the relative risks of a demicals to humans, Gilica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France, In June 2003, Accolational exposure Limits) soncluded that the reality risks of a demicals to humans, folica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France, In June 2003, Accolational exposure in times and in the ceramic information to conclude the relative risk of a dust in guaries and in the ceramic infoaries). Therefore, preventing the onset of silica dust is silicates and in the ceramic infoaries of the monitored and controlled.     IARC Monographs. Overall Evaluation of Carcinogenicity   There is the valuation of carcinogenicity to humans.     Cristobalite (CAS 14806-46-1)   Cancer	Skin corrosion/irritation	Prolonged skin contact may ca	ause temporary irritation.
Respiratory sensitization   Not a respiratory sensitizer.     Skin sensitization   This product is not expected to cause skin sensitization.     Germ cell mutagenicity   Not data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.     Carcinogenicity   In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica 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 crumstances studied. Carcinogenicity was not detected in all industrial 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 is silicoss. There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees withou silicos sexposed to silica dust in quarries and in the caramic industry). Therefore, preventing the onset of silicos will also reduce the cancer risk		Direct contact with eyes may c	ause temporary irritation.
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   In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica thinhaled 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 is allocies. "There is sufficient information to conclude that the relative risk of using cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quaries and in the ceranic industry). Therefore, preventing the onset of silicos is allo allo so reduce the cancer rostection actional exposure limits. May cause cancer. Occupational exposure to respirable dust and controlled.     IARC Monographs. Overall Evaluation of Carcinogenicity   A carcinogenic to humans.     Ciristobalite (CAS 14464-46-1)   Carcinogenic to humans.     Quartz (SiO2) (CAS 14808-60-7)   Cancer     Quartz (SiO2) (CAS 14808-60-7)   Cancer<	Respiratory or skin sensitization	l	
Germ cell mutagenicity   No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.     Carcinogenicity   In 1997, LARC (the International Agency for Research on Cancer) concluded that crystalline silica 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." (LARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silica silica suit and organic fibres, 1997, Vol. 88, IARC, Lyon, France, Jn June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quaries and in the ceramic industry). Therefore, preventing the onset of silicosis will also relate 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 dust and creating existing regulatory dust (SiO2) (CAS 14408-446-1)     Amorphous Silica (CAS 7631-86-9)   3 Not classifiable as to carcinogenicity to humans.     OstHA Specificatly Regulated Substances (29 CFR 1910.1001-1052)   Cristobalite (CAS 14464-46-1)     Cancer   Cuartz (SiO2) (CAS 14408-40-7)   Cancer     Quartz (SiO2) (CAS 14408-40-7)   Cancer     Cust (SiO2) (CAS	Respiratory sensitization	Not a respiratory sensitizer.	
mutagenic or genotoxic.     Carcinogenicity   In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity way 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 silicos. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quaries and in the caramic 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 Carcinogenicity   Amorphous Silica (CAS 7631-86-9)   3 Not classifiable as to carcinogenicity to humans.     Ciristobalite (CAS 14464-46-1)   Carcinogenic to humans.   Carcinogenic to humans.     Quartz (SiO2) (CAS 14808-60-7)   Cancer   Caurcer     Uautz (SiO2) (CAS 14808-60-7)	Skin sensitization	This product is not expected to	o cause skin sensitization.
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 is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic 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. Quartz (SiO2) (CAS 14408-46-1) 1 Carcinogenic to humans. Quartz (SiO2) (CAS 14408-46-1) Cancer Quartz (SiO2) (CAS 14408-46-1) Cancer Quartz (SiO2) (CAS 14408-46-1) Cancer Quartz (SiO2) (CAS 14408-46-7) Known To Be Human Carcinogen. Resonably Anticipated to be a Human Carcinogen. Meyohomental effects Quartz (SiO2) (CAS 14408-46-7) Known To Be Human Carcinogen. Meyohomental effects Quartz (SiO2) (CAS 14408-46-7) Cancer Quartz (SiO2) (CAS 14408-46-7) Known To Be Human Carcinogen. Meyohomental effects Quartz (SiO2) 0 Bevelopmental effects Quartz (SiO2) 0 Reproductive toxicity Quar	Germ cell mutagenicity		roduct or any components present at greater than 0.1% are
Amorphous Silica (CAS 7631-86-9)   3 Not classifiable as to carcinogenicity to humans.     Cristobalite (CAS 14464-46-1)   1 Carcinogenic to humans.     Quartz (SiO2) (CAS 14808-60-7)   1 Carcinogenic to humans.     OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)   Cristobalite (CAS 14464-46-1)     Cristobalite (CAS 14464-46-1)   Cancer     Quartz (SiO2) (CAS 14808-60-7)   Cancer     US. National Toxicology Program (NTP) Report on Carcinogens   Cristobalite (CAS 14464-46-1)     Known To Be Human Carcinogen.   Reasonably Anticipated to be a Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Not easuse reproductive or developmental effects.     Developmental effects   Quartz (SiO2)   0     Developmental effects - EU category   Quartz (SiO2)   0	Carcinogenicity	inhaled from occupational sour overall evaluation, IARC noted circumstances studied. Carcin crystalline silica or on external polymorphs." (IARC Monogra humans, Silica, silicates dust a 2003, SCOEL (the EU Scientif main effect in humans of the ir sufficient information to conclu silicosis (and, apparently, not i in the ceramic industry). There risk" (SCOEL SUM Doc 94-fi protection against silicosis can occupational exposure limits.	rces can cause lung cancer in humans. However in making the I that "carcinogenicity was not detected in all industrial ogenicity may be dependent on inherent characteristics of the factors affecting its biological activity or distribution of its phs on the evaluation of the carcinogenic risks of chemicals to and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June ic Committee on Occupational Exposure Limits) concluded that the halation of respirable crystalline silica dust is silicosis. "There is de that the relative risk of lung cancer is increased in persons with n employees without silicosis exposed to silica dust in quarries and efore, preventing the onset of silicosis will also reduce the cancer inal, June 2003) According to the current state of the art, worker be consistently assured by respecting the existing regulatory May cause cancer. Occupational exposure to respirable dust and
Cristobalite (CAS 14464-46-1)   1 Carcinogenic to humans.     Quartz (SiO2) (CAS 14808-60-7)   1 Carcinogenic to humans.     OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)   Cristobalite (CAS 14464-46-1)     Cristobalite (CAS 14808-60-7)   Cancer     Quartz (SiO2) (CAS 14808-60-7)   Cancer     US. National Toxicology Program (NTP) Report on Carcinogens   Cristobalite (CAS 14464-46-1)     Cristobalite (CAS 14464-46-1)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Reproductive or developmental effects.     Developmental effects   Quartz (SiO2)   0     Developmental effects   U category   Quartz (SiO2)   0     Quartz (SiO2)   Quartz (SiO2)   0     Reproductivity <t< th=""><th>IARC Monographs. Overall E</th><th>Evaluation of Carcinogenicity</th><th></th></t<>	IARC Monographs. Overall E	Evaluation of Carcinogenicity	
Quartz (SiO2) (CAS 14808-60-7)   Cancer     US. National Toxicology Program (NTP) Report on Carcinogens   Known To Be Human Carcinogen.     Cristobalite (CAS 14464-46-1)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Reproductive toxicity   This product is not expected to cause reproductive or developmental effects.     Quartz (SiO2)   0     Developmental effects - EU category   0     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity - Not classified.   0	Cristobalite (CAS 14464-4 Quartz (SiO2) (CAS 1480	46-1) 8-60-7)	1 Carcinogenic to humans. 1 Carcinogenic to humans.
US. National Toxicology Program (NTP) Report on Carcinogens Cristobalite (CAS 14464-46-1) Known To Be Human Carcinogen. Quartz (SiO2) (CAS 14808-60-7) Known To Be Human Carcinogen. Quartz (SiO2) (CAS 14808-60-7) Known To Be Human Carcinogen. Reproductive toxicity This product is not expected to cause reproductive or developmental effects. Developmental effects Quartz (SiO2) 0 Developmental effects - EU category Quartz (SiO2) 0 Embryotoxicity Quartz (SiO2) 0 Reproductivity Quartz (SiO2) 0 Specific target organ toxicity - Not classified.	Cristobalite (CAS 14464-4	46-1)	Cancer
Cristobalite (CAS 14464-46-1)   Known To Be Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Reproductive toxicity   This product is not expected to cause reproductive or developmental effects.     Developmental effects   Quartz (SiO2)     Quartz (SiO2)   0     Developmental effects - EU category   Quartz (SiO2)     Quartz (SiO2)   0     Embryotoxicity   Quartz (SiO2)     Quartz (SiO2)   0     Embryotoxicity   Quartz (SiO2)     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity - Not classified.   0			
Reasonably Anticipated to be a Human Carcinogen.     Quartz (SiO2) (CAS 14808-60-7)   Known To Be Human Carcinogen.     Reproductive toxicity   This product is not expected to cause reproductive or developmental effects.     Developmental effects   0     Quartz (SiO2)   0     Developmental effects - EU category   0     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity -   Not classified.			-
Reproductive toxicity   This product is not expected to cause reproductive or developmental effects.     Developmental effects   0     Quartz (SiO2)   0     Developmental effects - EU category   0     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity -   Not classified.			Reasonably Anticipated to be a Human Carcinogen.
Developmental effects   0     Quartz (SiO2)   0     Developmental effects - EU category   0     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity - Not classified.			C C
Quartz (SiO2)   0     Developmental effects - EU category   0     Quartz (SiO2)   0     Embryotoxicity   0     Quartz (SiO2)   0     Reproductivity   0     Quartz (SiO2)   0     Specific target organ toxicity - Not classified.   0			
Quartz (SiO2) 0   Embryotoxicity 0   Quartz (SiO2) 0   Reproductivity 0   Quartz (SiO2) 0   Specific target organ toxicity - Not classified. Not classified.			0
Quartz (SiO2) 0   Reproductivity 0   Quartz (SiO2) 0   Specific target organ toxicity - Not classified.	Quartz (SiO2)	EU category	0
Quartz (SiO2) 0   Specific target organ toxicity - Not classified.	Quartz (SiO2)		0
Specific target organ toxicity - Not classified.			0
	Specific target organ toxicity -	Not classified.	

Specific target organ toxicity - repeated exposure	Causes damage to organs through 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 any ingredients in the mixture.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.

potential, endocrine disruption, global warming potential) are expected from this component. **13. Disposal considerations** 

Other adverse effects

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.

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

### 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.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Cristobalite (CAS 14464-46-1) Quartz (SiO2) (CAS 14808-60-7) Cancer Cancer lung effects lung effects immune system effects kidney effects kidney effects

Superfund Amendments and	Reauthorization Act of 1986 (SARA)	
SARA 302 Extremely haz	ardous substance	
Not listed.		
SARA 311/312 Hazardous chemical	s Yes	
Classified hazard categories	Carcinogenicity Specific target organ toxicity (single or repeated exposure)	
SARA 313 (TRI reporting) Not regulated.		
Other federal regulations		
Clean Air Act (CAA) Secti	ion 112 Hazardous Air Pollutants (HAPs) List	
Not regulated.		
· · ·	ion 112(r) Accidental Release Prevention (40 CFR 68.130)	
Not regulated.		
Safe Drinking Water Act (SDWA)	Not regulated.	
JS state regulations		
California Proposition 65		
	This product can expose you to chemicals including Quartz (SiO2), whic California to cause cancer. For more information go to www.P65Warning	
California Propositio	n 65 - CRT: Listed date/Carcinogenic substance	
Quartz (SiO2) (CA Titanium Dioxide (	AS 14808-60-7) Listed: October 1, 1988 (CAS 13463-67-7) Listed: September 2, 2011	
	date Chemicals List. Safer Consumer Products Regulations (Cal. Co	ode Regs, tit. 22, 69502.3,
Cristobalite (CAS Quartz (SiO2) (CA		
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

onina		100
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
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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

Material name: KS 4T		_
<b>Revision information</b>	Product and Company Identification: Product Codes	
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.	
Version #	02	
Revision date	11-15-2019	
Issue date	04-13-2018	

Material name: KS-4T