

## 1. Identification

**Product identifier** **HARWACO BOND (WET)**

**Other means of identification**

**Brand Code** 2160, 419B

**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/Supplier information

#### Manufacturer

<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

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Carcinogenicity	Category 1A
	Specific target organ toxicity, repeated exposure	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
<b>OSHA defined hazards</b>	Not classified.	

#### Label elements



**Signal word** Danger

**Hazard statement** Harmful if swallowed. May cause cancer. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

#### Precautionary statement

<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/mist. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection.
<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. If concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell. Rinse mouth. Collect spillage.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

## Supplemental information

>65% of the mixture consists of component(s) of unknown acute oral toxicity. >78% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. >78% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

Users should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Overexposure to the respirable dust of crystalline silica (quartz or cristobalite, less than or equal to 5 microns in size) may lead to silicosis in humans, which is a progressive and irreversible lung disease. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Mullite		1302-93-8	40 - 60
Silicon Dioxide		7631-86-9	10 - 20
Kaolinite		1318-74-7	2.5 - 10
Kyanite		1302-76-7	2.5 - 10
Quartz (SiO <sub>2</sub> )		14808-60-7	2.5 - 10
Silicic Acid, Sodium Salt		1344-09-8	2.5 - 10
Ethane-1,2-diol		107-21-1	1 - 2.5
Titanium Dioxide		13463-67-7	1 - 2.5
Cristobalite		14464-46-1	0.1 - 1
Other components below reportable levels			10 - 20

\*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. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

### 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 warm. Keep victim under observation. Symptoms may be delayed.

### General information

If concerned: Get medical advice. 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. Show this safety data sheet to the doctor in attendance.

## 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. 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**

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

**Environmental precautions**

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

**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 taste or swallow. 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. Avoid release to the environment. 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****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value	Form
Titanium Dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

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

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.15 mg/m3	Total dust.
		0.05 mg/m3	Respirable.
		1.2 mppcf	Respirable.
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Silicon Dioxide (CAS 7631-86-9)	TWA	0.8 mg/m3	
		20 mppcf	

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	0.025 mg/m3	Respirable fraction.
Ethane-1,2-diol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Kaolinite (CAS 1318-74-7)	TWA	1 mg/m3	Respirable fraction.
Kyanite (CAS 1302-76-7)	TWA	1 mg/m3	Respirable fraction.
Mullite (CAS 1302-93-8)	TWA	1 mg/m3	Respirable fraction.
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m3	

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

Components	Type	Value	Form
Cristobalite (CAS 14464-46-1)	TWA	3 fibers/cm3	Fiber.
		3 fibers/cm3	Dust.
		5 mg/m3	Fiber, total
		5 mg/m3	fibers, total dust

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

Components	Type	Value	Form
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	TWA	0.05 mg/m <sup>3</sup>	Respirable dust.
Silicon Dioxide (CAS 7631-86-9)	TWA	6 mg/m <sup>3</sup>	
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).		
<b>Exposure guidelines</b>	Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Occupational Exposure Limits are not relevant to the current physical form of the product.		
<b>Appropriate engineering controls</b>	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.		
<b>Individual protection measures, such as personal protective equipment</b>			
<b>Eye/face protection</b>	If contact is likely, safety glasses with side shields are recommended.		
<b>Skin protection</b>			
<b>Hand protection</b>	Wear appropriate chemical resistant gloves.		
<b>Other</b>	Use of an impervious apron is recommended.		
<b>Respiratory protection</b>	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.		
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.		
<b>General hygiene considerations</b>	Keep away from food and drink. 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**

<b>Physical state</b>	Solid.
<b>Form</b>	Solid Paste.
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.

<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

## 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>	Fluorine. Chlorine. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure. Contact your sales representative for clarification.
<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>	Harmful if swallowed.

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

### Information on toxicological effects

<b>Acute toxicity</b>	Harmful if swallowed.
<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.

**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 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 Carcinogenicity

Cristobalite (CAS 14464-46-1)	1 Carcinogenic to humans.
Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	1 Carcinogenic to humans.
Silicon Dioxide (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

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

Cristobalite (CAS 14464-46-1)	Known To Be Human Carcinogen.
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Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)

Reasonably Anticipated to be a Human Carcinogen.  
Known To Be Human Carcinogen.

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

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects.

## 12. Ecological information

<b>Ecotoxicity</b>	Toxic to aquatic life with long lasting effects.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	
<b>Partition coefficient n-octanol / water (log Kow)</b>	
Ethane-1,2-diol	-1.36
<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>	Not applicable.
<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 applicable.

## 15. Regulatory information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. One or more components are not listed on TSCA. 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>	
Ethane-1,2-diol (CAS 107-21-1)	Listed.
<b>SARA 304 Emergency release notification</b>	Not regulated.
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

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

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Ethane-1,2-diol	107-21-1	1 - 2.5

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Ethane-1,2-diol (CAS 107-21-1)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Cristobalite (CAS 14464-46-1)  
 Ethane-1,2-diol (CAS 107-21-1)  
 Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)  
 Silicon Dioxide (CAS 7631-86-9)  
 Titanium Dioxide (CAS 13463-67-7)

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

Cristobalite (CAS 14464-46-1)  
 Ethane-1,2-diol (CAS 107-21-1)  
 Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)  
 Silicon Dioxide (CAS 7631-86-9)  
 Titanium Dioxide (CAS 13463-67-7)

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

Cristobalite (CAS 14464-46-1)  
 Ethane-1,2-diol (CAS 107-21-1)  
 Quartz (SiO<sub>2</sub>) (CAS 14808-60-7)  
 Silicon Dioxide (CAS 7631-86-9)  
 Titanium Dioxide (CAS 13463-67-7)

**US. Rhode Island RTK**

Ethane-1,2-diol (CAS 107-21-1)

**US. California Proposition 65**

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

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

Quartz (SiO <sub>2</sub> ) (CAS 14808-60-7)	Listed: October 1, 1988
Titanium Dioxide (CAS 13463-67-7)	Listed: September 2, 2011

**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)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
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

Country(s) or region	Inventory name	On inventory (yes/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	No

\*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** 03-12-2015

**Revision date** 06-29-2015

**Version #** 02

**Disclaimer** This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Revision Information** Product and Company Identification: Product Codes  
Hazard(s) identification: Supplemental information  
Transport Information: Material Transportation Information