

Material Safety Data Sheet

HMIS

Health Hazard	1*
Fire Hazard	0
Reactivity	0

*Indicates a chronic health hazard.

1 Product & Company Identification

Manufacturer's Name:	Alsey Refractories Company	Product Name (Product Type)
	Highway 106	Smithfield Unbranded (Medium Duty Refractory Brick)
	Alsey, IL 62610	JET DP (High Duty Refractory Brick)
	Phone: 314-963-7900	Pilot D.P. (Super Duty Refractory Brick)

2 Hazards Identification

Potential Health Effects	Acute	Chronic
Eyes	Dust or chips can cause mechanical irritation.	None known.
Skin	Can cause cuts or abrasions.	None known.
Inhalation	Dust, if present, may cause upper respiratory irritation	Long-term exposure to dust may cause lung damage.*
Ingestion	Unknown. An unlikely route of exposure.	Unknown.

*According to Group 1 of the International Agency for Research on Cancer (IARC), there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the form of quartz or cristobalite from occupational sources.

3 Composition/Information of Ingredients

Chemical Name	CAS-No	Weight %
Silica (total)		57-64%
crystalline silica (total)		20-36%
Cristobalite**	14464-46-1	
Quartz**	14808-60-7	
Aluminum oxide	1344-28-1	33-45%
Iron oxide	1309-37-1	1-4%

** Not mechanically separate from each other or other mineralogical phases in product as supplied.

4 First Aid Measures

Eye Contact:	Flush with clean water for 15 minutes. If irritation occurs, consult physician.
Skin Contact:	Wash with soap and water. If irritation occurs, consult physician.
Inhalation:	Remove to fresh air. Seek medical attention.
Ingestion:	Contact physician immediately. Do not induce vomiting unless instructed to do so by physician. Product is non-toxic as supplied, but its abrasive nature could damage internal organs.

5 Fire Fighting Measures

Flammable Properties:	None.
Suitable extinguishing agents:	Use fire fighting measures that suit the environment.
Extinguishing Media:	Not combustible.
Protective equipment:	No special measures required.
Precautions for Firefighters:	Firefighters should wear NIOSH approved, positive pressure, self contained breathing apparatus and full protective clothing where appropriate.
Unusual Fire & Explosion Hazards:	None.

6 Accidental Release Measures

Personal Precautions:	Not required.
Small/Large Spill:	For broken shapes or fragments, sweep, shovel, or pickup and place in a container for disposal.
Methods for Clean Up:	Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.

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7 Handling and Storage

Handling: Prevent formation of dust. Ensure proper ventilation. Keep respiratory protective device available.

Storage: Store in a dry place away from extreme heat. Product is non-flammable.

8 Exposure Controls and Personal Protection

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL
crystalline silica (cristobalite) 14464-46-1	0.025 R mg/m ³ Respirable Dust	½ the value calculated from the respirable dust formulae for Quartz
crystalline silica (quartz) 14808-60-7	0.025 R mg/m ³	10mg/m ³ % SiO ₂ +2 = STEL/CEIL (C) (respirable dust)
titanium dioxide 13463-67-7	10 mg/m ³	15* mg/m ³ *Total dust
iron oxide 1309-37-1	5 R mg/m ³	10 mg/m ³ Fume

Engineering Measures: General mechanical ventilation is usually adequate.

Eye/Face Protection: Goggles or safety glasses with side shields should be worn.

Skin and Body Protection: Impervious gloves and long-sleeved and long-legged clothing should be worn to prevent skin contact. Safety shoes should be worn to prevent foot injury from accidentally dropped bricks.

Respiratory Protection: Use a NIOSH approved respirator when working around material and when removing this product after service. A respiratory protection program should be implemented if exposures exceed OSHA PELs.

Work/Hygienic Practices: Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating or drinking.

9 Physical and Chemical Properties

Appearance:	Buff to brown	Auto ignition:	Product is not self igniting.
Physical State:	Solid	Odor:	None.
pH:	7	Water Solubility:	Insoluble.
Flash Point:	Not applicable.	Explosion Limits:	Product does not present an explosion hazard.
Boiling Point/Range:	Not Applicable.	Melting Point/Range:	Not Applicable.
Specific Gravity:	2.10-2.25 g/cc		

10 Stability and Reactivity

Stability: Product is stable under normal conditions of use, storage, and transportation.

Incompatible Products: Product can react with concentrated acids.

Conditions to Avoid: Avoid dust formation. 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.

11 Toxicological Information

Acute Toxicity-- Product Information: No data for LD50 or LC50 for oral, dermal or inhalation routes of administration.

Chronic Toxicity: Irritant to skin and mucous membranes. Carcinogenicity: Carcinogenic if inhaled.

Chemical Name	Carcinogenicity Category
crystalline silica (cristobalite) 14464-46-1	IARC-1, MAK-1, NIOSH-Ca, NTP-K, TLV-A2
crystalline silica (quartz) 14808-60-7	IARC-1, MAK-1, NIOSH-Ca, NTP-K, TLV-A2
Silica, vitreous 60676-86-0	IARC-3, NIOSH-Ca
titanium dioxide 13463-67-7	IARC-2B, MAK-3A, NIOSH-Ca, TLV-A4
iron oxide 1309-37-1	IARC-3, TLV-A4

Target Organ Effects: Lungs, Eyes, Respiratory system, Skin.

12 Ecological Information

Ecotoxicological/chemical fate information: not available.

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13 Disposal Considerations

Disposal of Product: As supplied, product may be disposed of in an approved landfill, in accordance with federal, state, and local regulations. Dust created during demolition of used product may contain crystalline silica.

Packaging Disposal: Reuse, recycle or treat as industrial waste.

14 Transport Information

U.S.A. DOT: Not Regulated. Canadian TDG: Not Regulated.

Additional information: Not dangerous according to available information.

15 Regulatory Information

International Inventories

TSCA: This substance or all the ingredients of this product are on the Chemical Substances Inventory of the Toxic Substances Control Act (TSCA Inventory). The presence on this list does not require any legal reporting. All Components Listed.

DSL: All Components Listed.

U.S. Federal Regulations

SARA 313: No material listed in the components in Section 3 of this MSDS is on the SARA 313 list.

California: California Proposition 65: This product contains crystalline silica, chemical known to the State of California to cause cancer.

Other States: Crystalline silica products are not known to be regulated by states other than California; however, state and local OSHA and EPA regulations may apply to these products. Contact your local agency if in doubt.

WHMIS Hazard Class

Class D - Division 2 - Sub Division A: Untested mixture containing a very toxic material

Class D - Division 2 - Sub Division B: Untested mixture containing a toxic material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16 Other Information

MSDS Status: Replaces all prior MSDS. Note: This material safety data sheet contains confidential proprietary information and is not to be disclosed to the general public or to competition except as required by law. The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with Alsey Refractories Co. or not. This information is offered solely for use in your evaluation of this product in respect to safety, health, and environmental hazards.

End of MSDS