



# Material Safety Data Sheet

According to 2001/58/EF

## Silicon Nitride-bonded Silicon Carbide Brick

March 2011  
Rev. 09

### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

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<b>MANUFACTURERS:</b> Tangshan Hexagon Silicon Carbide Co., Ltd., China Tangshan Strong Refractories Co., Ltd., China	
<b>TRADE NAME:</b> SICAL-78  <b>CHEMICAL NAME:</b> Silicon Nitride-Bonded Silicon Carbide Brick	<b>SYNONYMS:</b> Silicon carbide mixture
<b>PREPARED BY:</b> Skamol A/S  <b>APPROVED BY:</b> Clayton Group	<b>DATE OF ISSUE / REVISION:</b> March 2011

### 2. INGREDIENTS

<u>Component</u>	<u>CAS Number</u>	<u>Percent</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Units</u>
Silicon carbide	409-21-2	< 78	10*, A4	15*, 5**	mg/m <sup>3</sup>
Silicon nitride	12033-60-2	< 18	NE	NE	--
Silicon	7440-21-3	0.5	10*	15*, 5**	mg/m <sup>3</sup>
Silicon oxide nitride	11105-01-4	trace	NE	NE	--
Iron (III) oxide	1309-37-1	0.2	5, A4	10	mg/m <sup>3</sup>
Aluminum oxide	11092-32-3	0.2	10*, A4	15*, 5**	mg/m <sup>3</sup>
Calcium oxide	1305-78-8	0.2	5	2	mg/m <sup>3</sup>
Iron silicide	12022-99-0	0.2	NE	NE	--

< means "less than"

\* means total dust

A4 means not classifiable as a human carcinogen

\*\* means respirable dust

mg/m<sup>3</sup> means milligrams of contaminant per cubic meter of sampled air, on a weight-to-volume basis

NE means "not established"



### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Odorless, grey bricks. Dusts generated during sawing, cutting, or abrasion of product may cause irritation of the eyes, skin, mucous membranes, and respiratory tract. Use appropriate personal protective equipment. Keep unnecessary personnel out of the area when working with the product.

#### POTENTIAL HEALTH EFFECTS:

Eye Contact: Dusts may cause irritation.

Skin Contact: Dusts may cause irritation.

Skin Absorption: Not known to be absorbed through intact skin.

Inhalation: Dusts may cause respiratory tract and mucous membrane irritation.

Ingestion: Not expected to be a significant route of entry into the body. Ingestion of large amounts of the product may cause irritation of the mouth, esophagus, and stomach.

#### CHRONIC AND CARCINOGENIC HEALTH EFFECTS:

The International Agency for Research on Cancer (IARC) in Monograph 68 indicates that iron oxide is not classifiable as a carcinogen in humans. Pre-existing lung and skin conditions may be aggravated by prolonged exposure to high concentrations of dust while sawing, cutting, or abrading the product.

### 4. FIRST AID MEASURES

Inhalation: Remove exposed person to fresh air. If breathing is difficult, oxygen may be administered. If breathing has stopped, artificial respiration should be started immediately. Seek medical attention.

Eyes: Flush with tepid water for at least 20 minutes while holding the eyelids wide open. Seek medical attention if irritation persists.

Skin: Wash thoroughly with mild soap and water. Seek medical attention if irritation persists. Launder contaminated clothing before reuse.

Ingestion: Not expected to be a significant route of entry into the body. If large amounts of the product are ingested, seek medical attention.

### 5. FIREFIGHTING MEASURES

**FLASH POINT:** None

**LEL:** None

**UEL:** None

**AUTOIGNITION TEMPERATURE:** None

Product will not burn in air. Use firefighting methods suitable for other materials present in the surrounding fire.

A self-contained breathing apparatus operating in positive-pressure mode and full firefighting gear should be worn for combating fires.



## 6. ACCIDENTAL RELEASE MEASURES

Clean up area using methods that avoid dust generation such as a high-efficiency particulate air (HEPA) vacuum, wet dust mop, or wet clean-up. Use an appropriate National Institute of Occupational Safety and Health (NIOSH)-approved respirator whenever airborne concentrations of hazardous components exceed exposure limits listed in Section 2. Although the product is not classified as a hazardous material under EPA and DOT regulations, material collected during cleanup may be contaminated with hazardous materials. If there is a potential for contamination with hazardous materials, material collected during cleanup should be treated as hazardous until specific testing, including TCLP, shows the material to be non-hazardous.

## 7. HANDLING AND STORAGE

Wear appropriate personal protective equipment cited in Section 8 during handling. Good housekeeping practices should be employed to prevent generation and accumulation of dusts.

After handling product, wash face and hands before eating, drinking, or smoking.

## 8. EXPOSURE CONTROL - PERSONAL PROTECTION

### ENGINEERING CONTROLS:

Use adequate local exhaust (preferably) or general ventilation to ensure that concentrations of dusts or fumes do not exceed exposure limits cited in Section 2.

### PERSONAL PROTECTION:

Wear safety glasses with side shields when sawing, cutting, or abrading this product.

Use a NIOSH-approved respirator with HEPA cartridges whenever airborne concentrations of hazardous components exceed exposure limits listed in Section 2. Employees who use respiratory protection must be included in a respiratory protection program that conforms to the requirements of OSHA standards or corresponding state laws and regulations.

Wear protective gloves and clothing to prevent skin contact with dusts. See Section 3 for specific health hazards.

Soiled work clothing and personal protective equipment should be thoroughly cleaned before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE AND PHYSICAL STATE:** Grey solid

**ODOR:** None

**VAPOR DENSITY (AIR=1):** Not applicable

**VAPOR PRESSURE:** Not applicable

**BOILING POINT:** Not applicable

**EVAPORATION RATE:** Not applicable

**pH:** Not applicable

**MELTING POINT:** Not applicable

**% VOLATILES BY VOLUME:** Not volatile

**% SOLUBILITY IN WATER:** Not soluble

**SPECIFIC GRAVITY/BULK DENSITY:**  
Bulk density 2.65 g/cm<sup>3</sup>

**OCTANOL/WATER PARTITION COEFFICIENT:**  
Not applicable



## 10. STABILITY AND REACTIVITY

**STABILITY (CONDITIONS TO AVOID):** None known. Product is stable.

**INCOMPATIBILITIES:** No known chemical incompatibilities.

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known.

**HAZARDOUS POLYMERIZATION:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

The International Agency for Research on Cancer (IARC) in Monograph 68 lists iron oxide as Category 3, not classifiable as a human carcinogen.

## 12. ECOLOGICAL INFORMATION

Detailed studies on the environmental fate of the product have not been conducted.

## 13. DISPOSAL CONSIDERATIONS

This product is not classified as a hazardous waste under current EPA regulations. Disposal at an EPA-approved landfill is recommended. If product may be contaminated with other materials, testing, including TCLP, should be performed to determine the hazard characteristics. It is the user's responsibility to dispose of all wastes in accordance with local, state, and federal regulations.

## 14. TRANSPORTATION INFORMATION

**DOT Classification:** Not currently regulated under U.S. Department of Transportation rules.

## 15. REGULATORY INFORMATION

### OSHA:

This product is not hazardous using the criteria in the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). However, dust generated while using this product may be hazardous as noted in Sections 2 and 3.

### TSCA:

Components of this product are listed on the TSCA inventory.

### SARA:

The listed components of this product are not subject to the requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986.

### State Regulatory Information:

Components of this product are not listed in California Proposition 65 as known cancer-causing agents.



## 16. OTHER INFORMATION

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**IMPORTANT SAFETY NOTICE:** The information in the Material Safety Data Sheet relates only to the specific material described herein and does not relate to use in combination with any other material or substance or in any process. We believe that the information contained herein is current as of the date of issue of this Material Safety Data Sheet.

Because the use of this information and the conditions of use of this product are not within the control of Skamol A/S and Skamol Americas, Inc., it is the user's obligation to determine the conditions of safe use of this product.

Users of this product should study this Material Safety Data Sheet and become aware of the product hazards and safety information before using the product. Users should also notify their employees, agents, and contractors regarding information contained in this Material Safety Data Sheet and any product hazards and safety information in order to provide for safe use of this product.