

Material Safety Data Sheet

SKAMOL VIP-12 HS Vermiculite Block Insulation

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

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|---|--------------------------------------|---|--|
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| TRADE NAME: Skamol VIP-12 HS CHEMICAL NAME: Mixture of exfoliated vermiculite and potassium silicate binder | | SYNONYMS: Vermiculite boards | |
| PREPARED BY: Clayton Environmental Consultants, Inc. | REVISED BY: Skamol A/S | DATE OF ISSUE/REVISION: April 2013 | |

2. INGREDIENTS

| <u>Component</u> | <u>CAS Number</u> | <u>Percent</u> | <u>ACGIH TLV</u> | <u>OSHA PEL</u> | <u>Units</u> |
|--------------------|-------------------|----------------|--------------------|---|--|
| Vermiculite | 1318-00-9 | <60 | 10* 3** | 15* 5** | mg/m ³ mg/m ³ |
| Fireclay | 130498-21-4 | <60 | | | |
| Potassium silicate | 1312-76-1 | <25 | 10* 3** | 15* 5** | mg/m ³ mg/m ³ |
| Quartz | 14808-60-7 | 1.25 | 0.1*** | $\frac{10}{\% \text{ Quartz} + 2}$ ** | mg/m ³ |
| Cristobalite | 14808-60-7 | 1.0 | 0.05**** | $\frac{5}{\% \text{ Cristobalite} + 2}$ ** | mg/m ³ |
| | | * Total dust | ** Respirable dust | *** Respirable quartz **** Respirable cristobalite | |

The ACGIH TLVs and OSHA PELs listed for vermiculite and potassium silicate are 1995-1996 TLVs for "particulates, not otherwise classified" and the 1996 OSHA PELs for "particulates not otherwise regulated." The OSHA PEL for respirable quartz/cristobalite is



calculated from the percentage of quartz/cristobalite in the respirable dust. The TLV and PELs listed are 8-hour time-weighted average exposure limits.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Product is blocks or boards having yellow color and no odor. 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. Inhalation of quarts can cause lung damage, silicosis and/or cancer.

Ingestion: Not expected to be an important 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 states: *There is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources.*

Pre-existing lung and skin conditions possibly may be aggravated by prolonged exposure to high concentrations of 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 develops.

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

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



5. FIRE FIGHTING MEASURES

FLASH POINT: None

LEL: None

UEL: None

AUTOIGNITION TEMPERATURE: None

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

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

6. ACCIDENTAL RELEASE MEASURES

Pick up released product using appropriate implements and place in appropriate containers for disposal. Appropriate personal protective equipment cited in Section 8 should be worn during cleanup operations. Although the product itself 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 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: Sufficient ventilation should be provided as needed to maintain exposures below the limits cited in Section 2. Design details for ventilation systems can be found in the most recent edition of *Industrial Ventilation – A Manual of Recommended Practice*, published by the American Conference of Governmental Industrial Hygienists, P.O. Box 16153, Lansing, MI 48910. The need for ventilation should be evaluated by a professional industrial hygienist. Ventilation systems should be designed by a professional engineer.

RESPIRATORY PROTECTION: If exposures may exceed the limits cited in Section 2, use, as a minimum, a NIOSH-approved half-facepiece respirator with cartridges approved for particulates having an exposure limit of not less than 0.05 mg/m³. If exposures may exceed 10 times the limits cited in Section 2, consult respiratory protective equipment suppliers or a professional industrial hygienist for assistance in selection of proper respiratory protective equipment. The evaluation of a need for respiratory protective equipment should be made by a professional industrial hygienist. 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.

EYE PROTECTION: Safety glasses with side shields should be worn when working with this product. Goggles should be worn while the product is being sawed or ground. Do not wear contact lenses when working with this product.

SKIN PROTECTION: Use of protective gloves is recommended to prevent possible irritation while working with this material. Leather gloves or polymeric materials such as polyvinyl chloride are suggested to minimize scratching or abrasion of the skin. A polymer-coated apron is recommended where there is a possibility that work clothing may become heavily contaminated with dust from working with this product. Soiled work clothing and personal protective equipment should be thoroughly cleaned before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND PHYSICAL STATE: Yellow solid

MELTING POINT: 2,480°F (1,360 °C)

VAPOR DENSITY (AIR=1): Not applicable

OCTANOL/WATER PARTITION COEFFICIENT: Not applicable

VAPOR PRESSURE: Not Applicable

EVAPORATION RATE: Not applicable

ODOR: None

SPECIFIC GRAVITY/BULK DENSITY:
Bulk density 75 lbs/cu.ft. (1200 kg/m³)

% VOLATILES BY VOLUME: Not volatile

BOILING POINT: Not determined

% SOLUBILITY IN WATER: 2

pH: (in mixture with water) 8.5

10. STABILITY AND REACTIVITY

STABILITY (CONDITIONS TO AVOID): None known

INCOMPATIBILITIES: No known chemical incompatibilities.

HAZARDOUS DECOMPOSITION PRODUCTS: None known. Product is stable at service temperatures up to 2102°F (1,150 °C)

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

The International Agency for Research on Cancer (IARC) in Monograph 68 states: *There is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources.*

12. ECOLOGICAL INFORMATION

Detailed studies on the environmental fate of the product have not been conducted. However, it is not expected that the product would present a hazard to aquatic and terrestrial flora and fauna.

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 regulated

15. REGULATORY INFORMATION

The vermiculite component of this product may contain small amounts (1% or less) of crystalline silica (quartz/cristobalite). Quartz/cristobalite is listed in the State of Massachusetts as an Extraordinarily Hazardous Substance and carcinogen, when present in dust-producing material, but is exempt if particulates are not present and cannot be substantially generated through use of the product. Crystalline silica whose particle size is in the respirable range has been listed by the State of California as a compound known to cause cancer.

This product is not regulated under SARA Title III, Section 313. It may be reportable under SARA Title III, Sections 311 and 312.

OSHA Hazard Communication Categories: Irritant, Skin Hazard, Lung Hazard

WHMIS Classification: D2A.

16. OTHER INFORMATION

U.S. CONTACT: Skamol Americas, Inc.
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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, 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.