SAFETY DATA SHEET

Date Prepared : 5/11/2015
MSDS No : CWQB3000

QUIK BOND 3000

1. PRODUCT AND COMPANY IDENTIFICATION

MATERIAL: QUIK BOND 3000
GENERAL USE: Refractory insulation

MANUFACTURER
Allied Mineral Products, Inc.
2700 Scioto Parkway
Columbus, OH 43221
Emergency Phone: 1-614-876-0244 (US)
Telephone:: 1-614-876-0244
E-Mail of person responsible for SDS: sdsinfo@alliedmin.com
Allied Mineral Europe Products B.V.
Energieweg 5 4691 SE
Tholen, Netherlands
Telephone:: 31-16660-1200

24 HR. EMERGENCY TELEPHONE NUMBERS
U.S.: 1-614-876-0244

EU: National Poisons Information Centre (NVIC) 030-274 8888

2. HAZARDS IDENTIFICATION

GHS LABEL

Hazard labeling is not required for this product in the EU.

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: None Expected.

POTENTIAL HEALTH EFFECTS

EYES: Causes eye burns.

SKIN: May abrade skin.

INGESTION: Not a likely route of entry.

INHALATION: Do not breathe dust as it may cause permanent lung injury (Silicosis). The IARC has classified crystalline silica inhaled in the form of quartz or cristobalite carcinogenic to humans (Group I).

US GHS Carcinogen Classification:

WARNING
Carcinogen, Category 1
H350: May Cause Cancer (Inhalation)

P260: Do not breathe dust.

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P285: In case of inadequate ventilation wear respiratory protection.

P501: Dispose of contents/containers in accordance with local regulations.

MEDICAL CONDITIONS AGGRAVATED: The condition of individuals with lung disease (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) can be aggravated by exposure.

ROUTES OF ENTRY: Skin, eye contact.

TARGET ORGAN STATEMENT: Skin, eyes.

CANCER STATEMENT: IARC has listed crystalline silica from occupational sources as a Group I carcinogen. A Group I carcinogen is one in which there is sufficient evidence for carcinogenicity in humans. NTP has listed crystalline silica as reasonably anticipated to be a carcinogen.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS
Aluminum Silicate	40 - 60	1302-93-8
Silica, Crystalline quartz	25 - 45	14808-60-7
Proprietary Ingredient #20	N/A	Trade Secret

COMMENTS: NA

4. FIRST AID MEASURES

EYES: Flush eye with water for 15 minutes. Get medical attention.

SKIN: Wash with soap and water. Seek medical attention if irritation develops or persists.

INGESTION: Drink plenty of water. Consult a physician.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Causes eye irritation.

SKIN: Abrasions

INGESTION: Not a likely route of entry.

INHALATION: May include shortness of breath, wheezing, coughing, and sputum production.

ACUTE TOXICITY: Overexposure to dust may aggravate respiratory conditions.

CHRONIC EFFECTS: Prolonged or repeated overexposure may cause lung damage.

NOTES TO PHYSICIAN: Not Applicable

5. FIRE FIGHTING MEASURES

GENERAL HAZARD: This product is noncombustible and will not ignite or contribute to the intensity of a fire.

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EXTINGUISHING MEDIA: As appropriate for surrounding fire.

FIRE FIGHTING PROCEDURES: As appropriate for surrounding fire.

FIRE FIGHTING EQUIPMENT: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Vacuum or sweep up material and place in a disposal container. Avoid dust generation.

LARGE SPILL: Clean up using methods which avoid dust generation. Compressed air should not be used to clean up spills. Wear appropriate personal protective equipment. Collect material in a compatible and appropriately labeled container. Dispose of material from processing, installation, maintenance, or tear-out operations in accordance with applicable regulations.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Dusts of as-manufactured refractory product have a low order of aquatic toxicity, are insoluble, and are not very mobile. Based upon this information, it is not believed to be a significant threat to the environment if accidentally released into water.

LAND SPILL: Dusts of as-manufactured refractory product are not believed to be a significant threat to the environment if accidentally released on land. Dust and material generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals, respirable crystalline silica, alkaline materials). Evaluation of dust and material from specific processes should be performed to determine if an environmental threat exists in the case of a release.

AIR SPILL: Exhaust ventilation is recommended to maintain airborne dust concentrations below regulatory exposure levels. Consult individual operating permits for allowable air emissions.

SPECIAL PROTECTIVE EQUIPMENT: Personal Protective Equipment should be worn as indicated in Section 8.

7. HANDLING AND STORAGE

HANDLING: Steam spalling, which can lead to personal injury, may result from improper drying and firing procedures. For safest use and optimum performance, proper practices must be followed.

STORAGE: Store in a dry area.

STORAGE TEMPERATURE: Not Applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)							
		EXPOSURE LIMITS					
		OSHA PEL		ACGIH TLV		SupplierOEL	
Chemical Name		**ppm**	**mg/m³**	**ppm**	**mg/m³**	**ppm**	**mg/m³**
Aluminum Silicate	**TWA**		5.0		5.0		NA
Silica, Crystalline quartz	**TWA**	[1]	0.1 [1]	[2]	0.025 [2]		NA

OSHA TABLE COMMENTS:
1.
OSHA has issued a proposed silica standard lowering the PEL to 0.05 mg/m^3 for silica, crystalline quartz - respirable fraction. The proposed standard maintains the PEL for cristobalite at 0.05 mg/m^3.
2. Silica exposure limits listed are for respirable fractions.

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits during the use of this product.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles) and a face shield.

SKIN: Use rubber gloves. Wash thoroughly after handling.

RESPIRATORY: If it is not possible to reduce airborne exposure levels to below the exposure limits with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the exposure limits.

The assigned protection factor (APF) is the minimum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m^3, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m^3.

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Assigned Protection Factor	Type of Respirator
10	Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. Appropriate filtering facepiece respirator. Any air-purifying full facepiece respirator equipped with appropriate type of particulate filter. Any negative pressure (demand) supplied-air respirator equipped with a half-mask.
25	Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter. Any continuous flow supplied-air respirator equipped with a hood or helmet.
50	Any air-purifying full facepiece respirator equipped with N-100, R-100, or P-100 filter(s). Any powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and a high-efficiency filter. Any negative pressure (demand) supplied-air respirator equipped with a full facepiece. Any continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece). Any negative pressure (demand) self-contained respirator equipped with a full facepiece.
1000	Any pressure-demand supplied-air respirator equipped with a half-mask.

PROTECTIVE CLOTHING: Wear clothing which minimizes skin contact or exposure.

WORK HYGIENIC PRACTICES: Use good personal hygiene when handling this product. Wash hands after use, before smoking, or before using the toilet.

OTHER USE PRECAUTIONS: Recommend chest X-rays and yearly vital capacity tests for employees regularly exposed to silica for early detection of silicosis. Comply with all guidelines for crystalline silica exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Damp Mix

ODOR: No Odor

APPEARANCE: Granular to fine material.

pH: 9 to 11

PERCENT VOLATILE: Not Applicable

FLASHPOINT AND METHOD: Not Applicable

FLAMMABLE LIMITS: Not Applicable

VAPOR PRESSURE: Not Applicable

VAPOR DENSITY: Not Applicable

BOILING POINT: Not Applicable

FREEZING POINT: Not Applicable

MELTING POINT: Reference product literature.

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SOLUBILITY IN WATER: < 6%

EVAPORATION RATE: Not Applicable

SPECIFIC GRAVITY: 2.5 to 3.500 g/cc

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

STABILITY: Stable.

CONDITIONS TO AVOID: Not Applicable

INCOMPATIBLE MATERIALS: Strong acids, bases, oxidizing agents.

11. TOXICOLOGICAL INFORMATION

ACUTE

NOTES: Acute silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period.

CHRONIC: SILICOSIS- The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), and accelerated (or acute). Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple Silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function, or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated Silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production. Complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (corpulmonale). Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of the initial exposure. The progression can be rapid. Accelerated Silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid. Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough, and weight loss. Acute silicosis is fatal.

SCLERODERMA- There is evidence that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of scleroderma, an immune system disorder manifested by a fibrosis (scarring) of the lungs, skin, and other internal organs. Recently, the American Thoracic Society noted that "there is persuasive evidence relating scleroderma to occupational silica exposures in settings where there is appreciable silicosis risk". The following may be consulted for additional information on silica, silicosis, and scleroderma (also known as progressive systemic sclerosis): Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

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TUBERCULOSIS- Individuals with silicosis are at increased risk to develop tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

NEPHROTOXICITY- There are several recent studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of kidney disorders. The following may be consulted for additional information on silica, silicosis, and nephrotoxicity: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Ramond (1994). "Further evidence of human silica nephrotoxicity in occupationally exposed workers", British Journal of Industrial Medicine, Vol 50, No. 10, pp. 907-912 (1993). "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997).

ARTHRITIS- There are recent studies suggesting that exposure to respirable crystalline silica or that the disease silicosis is associated with the increased incidence of arthritis. The following may be consulted for additional information on silica exposure and arthritis: American Journal of Industrial Medicine, Volume 35, pp. 375-381 "Connective Tissue Disease and Silicosis", Rosenman KD; Moore-Fuller M.; Reilly MJ. (1999). Environmental Health Perspective, Volume 107, pp. 793-802 "Occupational Exposure to Crystalline Silica and Autoimmune Disease", Parks CG, Conrad K, Cooper GS. (1999).

US GHS Carcinogen Classification

IARC: The International Agency for Research on Cancer ("IARC") concluded that there was "sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite". The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group I)". The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstance studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs". For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates..." (1997). (Emphasis added).

NTP: Crystalline Silica (respirable) - NTP reports may reasonably be anticipated to be a carcinogen.

OSHA: Crystalline silica (quartz) is not regulated by the U.S. Occupational Safety and Health Administration as a carcinogen. There is substantial literature on the issues of the carcinogenicity of crystalline silica, which the reader should consult for additional information. A summary of the literature is set forth in "Exposure to crystalline silica and risk of lung cancer; the epidemiological evidence", Thorax, Volume 51, pp. 97-102 (1996). The official statement of the American Thoracic Society on the issue of silica carcinogenicity was published in "Adverse Effects of Crystalline Silica Exposure", American Journal of Respiratory and Critical Care Medicine, Volume 155, pp. 761-765 (1997). The official statement concluded that "The available data support the conclusion that silicosis produces increased risk for bronchogenic carcinoma. The cancer risk may also be increased by smoking and other carcinogens in the workplace. Epidemiologic studies provide convincing evidence for increased cancer risk among tobacco smokers with silicosis. For workers with silicosis, the risks for lung cancer are relatively high and consistent among various countries and investigators. Silicosis should be considered a condition that predisposes workers to an increased risk of lung cancer". Id. at 763.

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TARGET ORGANS: SILICOSIS- caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), and accelerated (or acute). Chronic or Ordinary Silicosis is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Simple Silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function, or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated Silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough, and sputum production.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: None Known

BIOACCUMULATION/ACCUMULATION: Not Applicable

DISTRIBUTION: Not Applicable

CHEMICAL FATE INFORMATION: Not Applicable

GENERAL COMMENTS: Dusts of as-manufactured refractory product have a low order of aquatic toxicity, are insoluble, and are not very mobile. Based upon this information, it is not believed to be a significant threat to the environment if accidentally released on land or into water. However, dust and material generated during maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals, respirable crystalline silica,alkaline materials). Evaluation of dust and material from specific processes should be performed to determine if an environmental threat exists in the case of release.

13. DISPOSAL CONSIDERATIONS

PRODUCT DISPOSAL:

The as-manufactured refractory product or refractory dust is not considered a hazardous waste. Dust and material generated during use, maintenance and tear-out operations may be contaminated with other hazardous substances (e.g., metals, respirable crystalline silica, alkaline materials) from a particular application. Additionally, the spent refractory could contain reaction products not originally present in the supplied refractory material. Contaminants or reaction products have the potential to cause the refractory waste to exhibit hazardous waste characteristics. It is the responsibility of the user to consult applicable regulations prior to disposal of any industrial product to ensure waste disposal compliance. Waste analysis and characterization may be necessary to determine proper waste disposal. Waste Management: Dusts could contain respiratory hazards such as respirable crystalline silica. To prevent waste materials becoming airborne during waste generation, storage, transportation, and disposal, proper dust control measures are recommended.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

ROAD AND RAIL (ADR/RID)

PROPER SHIPPING NAME: Not Regulated for Transport

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UN NUMBER: N/A

PACKING GROUP: N/A

SPECIAL PROVISIONS: Not Applicable

AIR (ICAO/IATA)

SHIPPING NAME: Not Regulated

PRIMARY HAZARD CLASS/DIVISION: Not Applicable

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Regulated

MARINE POLLUTANT #1: Not Applicable

15. REGULATORY INFORMATION

UNITED STATES

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All ingredients in this mixture are in compliance with TSCA.

CALIFORNIA PROPOSITION 65: WARNING: This product contains crystalline silica, a chemical known to the State of California to cause cancer.

RCRA STATUS: Not regulated

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This product is a WHMIS controlled substance.

COMMENTS This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the SDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

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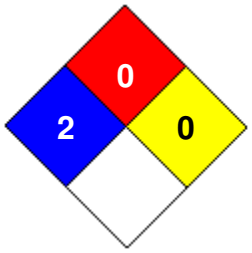
HMIS RATING

HEALTH	*	2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		

NFPA CODES



ADDITIONAL MSDS INFORMATION:

Abbreviations and acronyms:

CAS = Chemical Abstract Service
EINECS = European Inventory of Existing Chemical Substances

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MSHA = Mine Safety Health Administration
NIOSH = National Institute of Occupational Safety & Health
OEL = Occupational Exposure Limit
TLV = Threshold Limit Value
Wt.% = Weight Percent

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