



# **Bentonite Material Safety Data Sheet**

## HAZARDS IDENTIFICATION

EYE: Abrasion injuries possible if safety glasses are not worn. Eye contact with mineral sands may cause irritation with discomfort, tearing, and blurring of vision.

SKIN: Abrasion injuries possible during blasting operations or similar exposure, with high velocity direct exposure to skin. INGESTION: N/A

INHALATION: The product, as shipped, does not pose any inhalation health hazard because it contains essentially no particles in the respirable size ranges. However, if during handling or use, the particles are broken down to a size that can be inhaled, the dusts may be harmful to the respiratory system.

MSDS: DuPont StarBlast Ultra Blasting Abrasive: Page 2 of 4

CHRONIC EFFECTS: The predominant effect of overexposure to airborne quartz in humans is silicosis. Silicosis is a chronic disease characterized by the formation of silica-containing scar tissue in the lungs with symptoms of coughing, dyspnea, wheezing and nonspecific respiratory ailments. Very high short exposures to crystalline silica may lead to fatality from gross overexposure. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures. Several recent epidemiology studies have shown, that in addition to silicosis, there is limited evidence of an excess of lung cancer in occupations involving exposures mainly to crystalline silica, such as stone cutters and granite industry workers. Occupational exposures at the recommended AEL of 0.1 mg/m<sup>3</sup> should protect workers from silicosis and lung tumors. Respiratory illness as a result of long-term exposure to particulates is possible. NIOSH-approved particulate respirators should be used during blasting operations. CARCINOGENICITY INFORMATION: The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens.

## FIRST AID MEASURES

SIGNS AND SYMPTOMS OF EXPOSURE EYE: Irritation with discomfort, tearing and blurring of vision SKIN: Abrasion, redness INGESTION: N/A INHALATION: Coughing, shortness of breath FIRST AID PROCEDURES

EYE: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN: Follow procedures appropriate to abrasion injuries. The compound is not hazardous by skin contact, but removal of particles and cleansing the skin after use is advisable.

INGESTION: No specific intervention is indicated as the compound is not hazardous by ingestion. However, if symptoms occur, consult a physician.

INHALATION: If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

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# آدرس:تهران، سعادت آباد،خ علامه شمالی، برج علامه (پلاک ۵۵)، طبقه دوم، واحد E تلفن:۲۲۰۹۳۲۷ / ۲۲۰۹۳۱۳۱ / ۲۲۰۹۳۲۷ / ۲۲۰۹۲۰۵۷

فكس: ۸۹۷۷۴۹۹۲

کدپستی : ۱۹۹۷۸۵۵۴۴۹ www.mineralco.net info@mineralco.net

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www.rockstone.biz info@rockstone.biz

#E, 2nd Floor No.55, Allameh Tower, North Allameh St, Saadat-Abad Ave, Tehran, Iran. Post code: 1997855449 Tel: +9821-22092057-22092060 Fax: +9821-89774992





#### FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Nonflammable FLASH POINT / METHOD USED: None AUTOIGNITION: None FLAMMABILITY LIMITS (% by volume in air): LEL: N/A UEL: N/A EXTINGUISHING MEDIA: As appropriate for combustibles in area. NFPA RATINGS: Health 0; Flammability 0; Reactivity 0. FIRE FIGHTING INSTRUCTIONS: None COMBUSTION PRODUCTS: None

## **ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTIONS: Respiratory protection: NIOSH-approved respiratory equipment for abrasive blast environments or when handling respirable dust. Personal protection: NIOSH-approved garments and head gear during blasting operations. See Section 8. Wash thoroughly after handling. Note: Review FIRE FIGHTING MEASURES (Section 5) and HANDLING AND STORAGE (Section 7) before proceeding with clean up. Use appropriate personal protective equipment during clean-up. CLEANUP MEASURES: Sweep up spillage.

#### HANDLING AND STORAGE

NORMAL STORAGE: General dry storage, ambient air temperature and pressure.

HANDLING: Avoid breathing dust. Wash thoroughly after handling. If handling respirable dust (flour), use of gloves and washing before eating, drinking, applying cosmetics or smoking is advisable to minimize dust inhalation from hands.

## **EXPOSURE CONTROLS / PERSONAL PROTECTION**

ENGINEERING CONTROLS: Use sufficient ventilation to keep employee exposure below recommended limits. If using this product as an abrasive blast agent in confined areas, airborne dust levels should be controlled by physical enclosure of the abrasive blasting operation. The enclosure should be exhaust ventilated in accordance with 29 CFR 1910.94 Ventilation (a) Abrasive Blasting. RESPIRATORY PROTECTION: A NIOSH / MSHA approved air purifying respirator with particulate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a NIOSH / MSHA approved positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. For abrasive blasting use a continuous flow airline respirator covering head, neck, and shoulders to provide protection from rebound abrasive per 29 CFR 1910.94 (a) (5).

EYE AND FACE PROTECTION: Wear safety glasses with side shields.

SKIN AND HAND PROTECTION: In handling, gloves as desired by user. In use, wear impervious clothing, such as gloves, apron, boots or whole-body suit, as appropriate.

## PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Reddish brown solid, free-flowing sand ODOR: Odorless FLASH POINT: None VAPOR PRESSURE (mm Hg): Not volatile VAPOR DENSITY (AIR = 1): Not volatile BOILING POINT: N/A EVAPORATION RATE (BUTYL ACETATE = 1): Not volatile MELTING POINT: 1370°C (2500°F) SOLUBILITY: Insoluble in water SPECIFIC GRAVITY ( $H_2O = 1$ ): 3.7 pH: N/A

## آدرس: تهران، سعادت آباد، خ علامه شمالي، برج علامه (پلاک ۵۵)، طبقه

دوم، واحد E تلفن:۲۲۰۹۲۱۲۱ / ۲۲۰۹۹۱۳۱ / ۲۲۰۹۲۰۲ / ۲۲۰۹۲۰۷

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In The Name Of God

## STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable CONDITIONS TO AVOID: None INCOMPATIBILITY WITH OTHER MATERIALS: None reasonably foreseeable HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition will not occur HAZARDOUS POLYMERIZATION: Polymerization will not occur

#### **TOXICOLOGICAL INFORMATION**

CARCINOGENICITY: If during handling or use, the particles are broken down to a size that can be inhaled, the dusts may be harmful to the respiratory system. Staurolite products may contain up to 5% quartz. The predominant effect of overexposure to airborne respirable quartz in humans is silicosis. Silicosis is a chronic fibrotic lung disease characterized by the formation of silica-containing scar tissue in the lungs with symptoms of coughing, dyspnea, wheezing and nonspecific respiratory ailments. Gross acute overexposures to quartz by inhalation may cause fatality. Epidemiological studies show that in addition to silicosis there is limited evidence of excess lung cancer in occupations involving exposures mainly to respirable quartz, such as stone cutters and granite industry workers.

LISTED CARCINOGEN BY: IARC, NTP

ANIMAL DATA: Quartz: Oral ALD: >11,000 mg/kg in male rats.

Quartz is not a skin irritant or a skin sensitizer in animals, but is a mild eye irritant. Single doses of 50 mg quartz administered by intratracheal instillation have resulted in pulmonary fibrosis at 60- and 120-days post exposure in rats. Repeated and chronic exposures as low as 0.7 mg instillation and 12 mg/m<sup>3</sup> by inhalation resulted in pulmonary fibrosis, inflammation, edema and emphysema in animals exposed to quartz. Lung tumors were observed in rats exposed for up to two years by inhalation to 12.4 or 51.6 mg/m<sup>3</sup> quartz. Lung tumors were also observed in rats exposed to quartz by intratracheal instillation. Silica was positive in mammalian cell cultures for cell transformation and chromosomal effects. It was negative in cell culture assays for gene mutation in bacteria and DNA damage in mammalian cells and in a whole animal assay for chromosomal effects. No animal test reports are available to define developmental, or reproductive toxicity.

#### **DISPOSAL CONSIDERATIONS**

Treatment, storage, transportation, and disposal must be in accordance with applicable federal, state/provincial and local regulations. If approved, may be transferred to a land disposal site. If the spent grit contains contaminates at levels above those specified under RCRA, then the waste is defined as hazardous and must be managed per federal or state regulations governing hazardous waste.

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info@mineralco.net

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#### TRANSPORT INFORMATION:

 Bentonite is not classified as dangerous for transportation. Bentonite may be transported in accordance with the standard local authority regulations.

 PRODUCT RQ: N/A

 U.S. DOT:
 U.S. DOT CLASS: Not regulated.

 CANADIAN TRANSPORT:
 TDGR CLASS: Not regulated.

 SEA TRANSPORT:
 IMDG CLASS: Not regulated.

 AIR TRANSPORT:
 ICAO CLASS: Not regulated.

#### Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Bentonite Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). Other Classifications: p. 5 WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC). DSCL (EEC): R36- Irritating to eyes. HMIS (U.S.A.): Health Hazard: 2 Fire Hazard: 0 Reactivity: 0 **Personal Protection: E** National Fire Protection Association (U.S.A.): Health: 2 Flammability: 0 Reactivity: 0 **Specific hazard: Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles. Other Information References: Not available. Other Special Considerations: Not available. Created: 10/10/2005 08:14 PM Last Updated: 06/11/2012 12:00 PM The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for الدرس تهران سعادت آباد، خ علامه شمالي، برج علامه (بلاک ۲۵) or for ion includental, consequential or exemplary damages, howsoever arising, even if lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if has been advised of the possibility of such damages.

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