



Blue Diamond Materials

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Rubberized Asphaltic Concrete
Trade Names: Rubberized Asphaltic Concrete
Common Names: Crum Rubber Asphalt, Rubberized Asphalt
Manufacturer: Blue Diamond Materials
1100 E. Orangethrope Ave., Suite 250
Anaheim, CA 92801
Tel: (714) 578-9600 (Monday – Friday 8:00am to 5:00pm PST)
For Emergency Information Call: 3E Company at 1-800-451-8346
(24 hours / day, 7 days / week)
Date Issued: August 3, 2009
Revision Number 1, General updates were made to the original MSDS.

SECTION 2: HAZARD IDENTIFICATION

Emergency Overview: This product is a black viscous, semi-solid with slight asphalt and tire rubber odors. Before placement/solidification temperatures range from 280-325°F and can cause severe thermal burns on direct contact. Some sensitive individuals can have mild irritation of the eyes, skin and respiratory tract from fumes. It is a combustible material. A single exposure to fumes at ambient temperatures will not result in serious adverse health effects. It is not considered a carcinogen by NTP, IARC, or OSHA but does contain chemical(s) known to the State of California to cause cancer.

NFPA Classification: Health: 1 Fire: 1 Reactivity: 0

Primary Routes of Entry: Inhalation of fumes or contact with the skin.

Primary Target Organs: Respiratory system and skin.

Potential Health Effects:

Inhalation: Emission from heated petroleum asphalt may have an unpleasant odor, and may produced nausea and irritation of the upper respiratory tract. Unconsciousness and asphyxiation may occur in poorly ventilated or confined spaces.

Skin Contact: Heated material can cause severe thermal burns on direct contact. Emissions may cause mild irritation. There may be increased sensitivity to sunburn when the skin is exposed to asphalt fumes.

Eye Contact: Direct contact can cause thermal burns. Emissions may be irritating.

Ingestion: Direct contact can cause thermal burns. Asphalt has low systemic toxicity when ingested. However, chewing asphalt has caused gastrointestinal effects. Gastric masses (Bezoars) and stomach (pyloric) obstructions have been in individuals who have chewed and swallowed asphalt. Aspiration of product into lungs may occur when vomiting, and possibly result in pulmonary edema and chemical pneumonia.

Signs and Symptoms of Exposure:



Eyes: Redness and irritation of the eye(s).

Skin: Redness and blisters from burns.

Inhalation: Nausea, headache, dizziness and irritation.

Medical Conditions Generally Aggravated by Exposure: Existing abnormal conditions of the skin and/or respiratory tract. Dust from disrupted hardened asphalt concrete may aggravate respiratory diseases or dysfunctions; and skin and eye conditions.

Carcinogenicity: This product is not on the NTP, IARC, or OSHA list of carcinogens. This product contains chemical(s) known to the state of California to cause cancer (Proposition 65).

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name, Chemical Compound	CAS Number	Typical % By Weight
Aggregate (i.e, Crushed Stone, Sand and Gravel)	Mixture	>90%
Asphalt Cement/Emulsion	8052-42-4	>5%
Ground Rubber	None	>1%

SECTION 4: FIRST AID MEASURES

Eyes: Flush eye (s) with plenty of water for 15 minutes, while holding eyelid (s) open. Beyond flushing, do not attempt to remove material from eye(s) except under medical supervision. Contact physician.

Inhalation: Remove to fresh air if breathing is difficult. Get prompt medical attention if breathing remains difficult or if irritation persists.

Skin: If hot, molten material contacts skin, immerse asphalt covered skin in cool water until material cools and hardens for at least 15 minutes. Asphaltic concrete contains rock and aggregate which may retain heat for extended periods of time. Do not remove rocks because this may result in further injury. When clothing becomes contaminated with asphalt, quickly remove the contaminated clothing. Do not attempt to brush off material with exposed hands as this may result in further injury.

DO NOT DELAY

DO NOT ATTEMPT TO REMOVE THE ASPHALT with products containing solvents or ammonia. Natural separation will occur in about 48-72 hours. If necessary, for early removal, soak bandage in mineral oil and place over affected area for 2 to 3 hours.

USE ANY AVAILABLE WATER THAT IS COOLER THAN BODY TEMPERATURE TO COOL THE ASPHALT AND AFFECTED PARTS OF THE BODY IMMEDIATELY.

Methods of cooling (in order of preference):

- Submerge affected area in ice water;
- Completely submerge affected area in tap water; and
- Place affected area under running water.

Once the asphalt is being cooled with water, then call a physician. Do not attempt to remove solidified product because removal may cause further tissue injury. Leave cooled asphalt on affected area.

- Do not use solvents or thinners to remove product from skin.
- Do not apply ice directly to affected area.

- Seek medical attention for extensive burns.

For Minor Asphalt Cement Burns: Follow the above procedure to treat minor burns. Medical treatment should be sought if there is injury to the head, face, or extremities; injury when large amounts of asphalt cement are involved or in the evidence of nausea or faintness.

Treatment for Shock

In the event shock occurs, do the following:

- Keep victim lying down and quiet.
- Keep victim covered with a blanket to keep body temperature at normal 98.6°F.
- Keep victim's head lower than feet to promote blood supply to head and chest.

*****Note to Physicians***** Cooled asphalt may adhere so tenaciously to the skin that attempted removal may cause severe distress to patient. Covering the affected area using commercially available preparations containing the emulsifying agent polysorbate or an antibiotic cream in a polysorbate base, is the most effective method to dissolve the solidified asphalt. Asphalt can also be slowly dissolved with vegetable oil, baby oil or mineral oil.

SECTION 5: FIRE FIGHTING MEASURES

Flashpoint: Greater than 470 °F (method COC, asphalt cement)

Flammable Limits: None Available

Extinguishing Media: Agents approved for Class B hazards (e.g. dry chemical, carbon dioxide, halogenated agents, foam, steam), and water fog. Avoid use of straight-steam water. Use water to keep fire exposed containers cool.

Special Fire Fighting Procedures: Caution is recommended in the use of water in closed containers since the resulting steam pressure can cause violent eruptions. Follow established confined entry procedures/precautions. (NFPA 1500/OSHA 29 CFR 1910.146).

Unusual Fire and Explosion Hazards: Do not heat above flash point. Petroleum asphalt fumes can explode when concentrated in an enclosed environment and supplied with an ignition source. Never use welding or cutting torch on or near containers (especially empty) because vapors can ignite explosively.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Use shovels or other equipment to clean up debris and place in acceptable containers for recycle or disposal. Use effective housekeeping to prevent HMA materials from entering streams, drainage or sewer. See personal protective equipment (PPE) specified in SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION.

Waste Disposal Methods: This product is not a hazardous waste and should be disposed of in accordance with federal, state and local regulations. See SECTION 13.

SECTION 7: HANDLING AND STORAGE

Precautions During Handling and Use: Use control measures and appropriate PPE as discussed in SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION. Use caution when handling hot material and avoid contact with skin. Wash clothing that has come in contact with asphalt. Follow confined space regulations for entry into areas



qualifying as confined space under OSHA 29 CFR 1910.147. Avoid contact with eyes.

Storage Requirements: Do not store near food and beverages or smoking materials.

Special Sensitivity or Incompatibility: None. See SECTION 10: STABILITY AND REACTIVITY.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering and Administrative Controls: Use general dilution and local exhaust ventilation as required to maintain exposure below appropriate exposure limits. A fresh water supply should be available for first aid and washing facilities should be readily available. A safe oil-dissolving skin cleanser and cold packs should be available.

Tripping accidents sometimes occur due to build-up of HMA on the bottom of shoes and boots. Frequent removal of the buildup can assist in the prevention of accidents. Do not use solvents or thinners to clean footwear.

Respiratory Protection: Respiratory protection is not normally required under normal use and working conditions because of low exposures and use of engineering controls. In the unlikely event that air contaminant concentrations exceed, or will likely exceed, applicable TLV's, use NIOSH approved purifying respirator or positive pressure self-contained breathing apparatus. Follow all respirator use standards and regulations including OSHA 29 CFR 1910.134

Eye Protection: Wear safety glasses with side shields that comply with ANSI Standard 287.1 as minimal protection when eye exposure to airborne particles exists.

Skin Protection: Non-synthetic long pants and appropriate boots should be used to prevent burns. When the handling of Rubberized Asphaltic Concrete increases the likelihood of burns to the hands, arms or face then protective gloves, non-synthetic long-sleeved shirts and/or a face shield may be required.

Hygiene: Normal hygiene practices are recommended.

Ventilation: Use general dilution and local exhaust ventilation as required to maintain exposure below appropriate exposure limits. Consult NIOSH Engineering Control Guidelines for more information on engineering controls for pavers.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (at 1 atm):	> 700 °F
Specific Gravity (H ₂ O = 1):	Asphalt Rubber-0.96-1.03; Product not available
Vapor Pressure (at 300°F):	2.1 mm Hg @ 20°C
% Volatility by Volume at 68°F:	<1
Solubility in Water:	Negligible
Appearance:	Black viscous, semi-solid
Odor:	Slight asphalt and tire rubber
Taste:	None

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable



- Incompatibility: Strong oxidizers may react with diesel fuel or kerosene. Contact with fluorine may cause burning or explosion. Adding water to hot asphalt may present an explosion hazard.
- Hazardous Polymerization: Not known to occur.
- Hazardous Decomposition: Carbon monoxide and other compounds (such as aldehydes, amines, nitrogen dioxide, sulfur dioxide, ozone, hydrogen sulfide, and various hydrocarbons) may be released by thermal decomposition. Hazardous vapors may collect in enclosed vessels or areas if not properly ventilated. If hydrogen sulfide is present, the flammable limits can be from 4.3 to 45.5% by volume and its presence may promote the formation of pyrophoric (spontaneously igniting) iron compounds. (See 29 CFR 1910.146)

SECTION 11: TOXICOLOGICAL INFORMATION

Asphalt (Bitumen) Fumes

OSHA TLV = 5 mg/m³

ACGIH TLV= .5 mg/m³

ACUTE TOXICITY:

Rubberized Asphaltic Concrete is typically at temperatures in the range of 280-325 °F which can cause severe thermal burns. Working in close proximity to the product has been reported to cause mild irritation of the eyes, skin, and respiratory tract of some sensitive individuals. American Journal of Industrial Medicine 20:737-744 (1991).

A more recent study of acute effects relating to petroleum asphalt fume exposure concluded, "There were no practically significant findings from these data to relate any of the symptoms to any of the measure exposure to asphalt fumes with the use of any of the statistical methods." (Gamble, Scand. J. Work Environ Health 1999, vol. 25, no. 3, p. 202).

CHRONIC TOXICITY:

Rubberized Asphaltic Concrete should not be confused with "tar" products, which are derived from coal. Rubberized Asphaltic Concrete is not on the NTP, IARC, or OSHA list of carcinogens.

California Proposition 65: This product contains chemical(s) known to the State of California to cause cancer.

Recycling processing operations and other destructive operations to Rubberized Asphaltic Concrete pavements may create respirable dust. This dust may contain trace amounts of crystalline silica which has been designated by OSHA as a cause of silicosis. While engineering controls are typically applied at the point of destruction, prudence is called for. For respirable quartz levels that exceed, or are likely to exceed an 8-hour TWA of 0.1mg/m³, the appropriate NIOSH/Mine Safety and Health Administration (MSHA) approved air-purifying respirator must be worn (NIOSH Guide to Industrial Respiratory Protection, NIOSH (1982a), Pub. No. 87-116). If respirable levels exceed, or are likely to exceed an 8-hour TWA of 5 mg/m³, a NIOSH/MSHA approved, positive pressure, full-face respirator is required. Respirator use must comply with applicable OSHA standards. Including 29 CFR 1910.134 and 1926.103.



SECTION 12: ECOLOGICAL INFORMATION

This product is not known to be ecotoxic (i.e. there is no data which suggests that this product is toxic to birds, fish, invertebrates, microorganisms or plants).

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Avoid skin contact with heated materials. Recycle materials as appropriate. Materials should be disposed of according to all applicable federal, state, and local laws and regulations.

SECTION 14: TRANSPORT INFORMATION

US DOT Shipping Name: Not Regulated **DOT LABEL:** None **UN/NA Number:** None

This product not listed as a hazardous substance by U.S. Department of Transportation. Label as required by the OSHA Hazard Communication Standard [29 CFR 1910.1200 (f)] and applicable state and local laws and regulations.

SECTION 15: REGULATORY INFORMATION

OSHA Regulatory Status: Respirable crystalline silica is an OSHA carcinogen.

TSCA/CEPA Status: Components of this product is included in the TSCA and CEPA Chemical Inventories.

CERCLA: N/A

RCRA: N/A

NTP: N/A

California Proposition 65: This product contains chemical(s) known to the state of California to cause cancer.

SARA Title III:

Section 302 Extremely Hazardous: N/A

Section 311/312 Hazard Categories: Reportable as a hazardous substance. Check with your Local Emergency Planning Committee for reportable quantities.

Section 313 Toxic Chemicals: N/A

SECTION 16: DISCLAIMER

Blue Diamond Materials believes the information contained herein is accurate; however, Blue Diamond Materials Co. makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein is not intended to be and should not be construed as legal advice or as ensuring compliance with any federal, state, local laws and regulations. Any party using this product should review all such laws, rules or regulations prior to use.

No warranty is made, express or implied, of merchantability, fitness for particular purpose or otherwise.

SECTION 17: OTHER INFORMATION

Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	N/A	Not Applicable
ANSI	American National Standards Institute	NFPA	National Fire Protection Association



atm	atmospheres	NIOSH	National Institute for Occupational Safety and Health
CAS	Chemical Abstract Service	NTP	National Toxicology Program
CEPA	Canadian Environmental Protection Act	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	PPE	Personal Protective Equipment
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
HMA	Hot Mix Asphalt	SARA	Superfund Amendments and Reauthorization Act
DOT	Department of Transportation	TLV	Threshold Limit Value
IARC	International Agency for Research on Cancer	TSCA	Toxic Substance Control Act
mmHg	Millimeters Mercury	TWA	Time Weighted Average (8 hour)
MSDS	Material Safety Data Sheet	UN/NA	United Nations/North America Hazardous Materials Code
MSHA	Mine Safety and Health Administration		