

# MATERIAL SAFETY DATA SHEET

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## SECTION I: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT:** PelletPATCH™  
**IDENTIFICATION NUMBER:** PP200  
**PRODUCT USE / CLASS:** Asphalt Paving

**MANUFACTURED BY:** Phoenix Materials Technologies  
300 E Delhi Avenue  
North Las Vegas, NV 89032

**GENERAL INFORMATION:** (702) 893-0046

**REVISION DATE:** 3/11/2014  
**PREPARED BY:** K. Sockwell

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## SECTION II: COMPOSITION / INFORMATION ON INGREDIENTS

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**ITEM:** PelletPATCH™ **CHEMICAL NAME / SYNONYMS:** Rubberized Asphalt Binder  
**CAS NUMBER:** N/A **CHEMICAL FAMILY:** Mixture

<u>MATERIAL</u>	<u>CAS REGISTRY #</u>	<u>% (APPROX.)</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Petroleum Asphalt	8052-42-4	45-70	See Section X	See Section X
Ground Rubber	None	10-15	NE	NE
Portland Cement II	65997-15-1	30-40	See Section X	See Section X
Bitunite	12002-43-6	1-5	See Section X	See Section X

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## SECTION III: PHYSICAL DATA

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**BOILING POINT (F):** NE  
**FREEZING POINT (F):** NE  
**SPECIFIC GRAVITY (H2O=1 @ 39.2F):** 0.98-1.04  
**VAPOR PRESSURE:** NE  
**VAPOR DENSITY (AIR = 1.0):** NE  
**EVAPORATION RATE (BUTYL ACETATE = 1.0):** NE  
**SOLUABILITY IN WATER** Not Established  
**PH:** NO DATA  
**APPEARANCE AND ODOR:** Viscous black liquid (when heated) with petroleum odor (liquid component is volatile)

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## SECTION IV: FIRE AND EXPLOSION HAZARD DATA

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**FLASH POINT:** >450°F (>232°C) (Liquid Component is Combustible)  
**LOWER FLAME LIMIT:** NE  
**HIGHER FLAME LIMIT:** NE

<b>EXTINGUISH MEDIA:</b>	Dry Chemical, Carbon Dioxide or foam are preferred. Water Fog may be used on flat surfaces such as roads.
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	COMPLETELY IMMERSE IN WATER
<b>UNUSUAL FIRE HAZARDS AND EXPLOSIONS:</b>	Do not allow to heat above flash point. Volatile components can burn when supplied with an ignition source and can explode when concentrated above the LEL (e.g., in an enclosed environment). Never use welding or cutting torch on or near containers (especially empty) because vapors can ignite explosively. Contact with powerful oxidizing agents may cause fire and/or explosion.

**SECTION V: REACTIVITY DATA**

<b>CHEMICAL STABILITY:</b>	STABLE
<b>CONDITIONS TO AVOID:</b>	Keep away from ignition sources. Avoid contact with incompatible materials. Keep water out of hot asphalt.
<b>INCOMPATIBLE MATERIALS:</b>	May react with strong oxidizing agents. Contact with water may cause splashing of hot materials.
<b>DECOMPOSITION PRODUCTS:</b>	Normal combustion forms carbon dioxide and water vapor and may produce hydrogen sulfide and oxides of sulfur and nitrogen. Incomplete combustion may produce carbon monoxide.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur.
<b>CONDITIONS TO AVOID</b>	N/A

**SECTION VI: HEALTH AND HAZARD DATA**

**TLV AND SOURCE**..... NE

**SIGNS AND SYMPTOMS OF OVEREXPOSURE:**

- (1) **Acute Overexposure:** Irritation of the nose and throat, nausea, dizziness, eye irritation and dermatitis.
- (2) **Chronic Overexposure:** Repeated inhalation can cause sensitization to susceptible individuals.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** Exposure to fumes and/or vapors may aggravate existing respiratory, skin and/or eye conditions.

**PRIMARY ROUTE(S) OF EXPOSURE AND HEALTH HAZARDS:**

- EYE CONTACT: Heated materials can cause severe thermal burns. Asphalt fumes may cause eye irritation. Exposure to hydrogen sulfide at concentration above 4ppm may cause eye irritation.
- SKIN CONTACT: Heated material can cause severe thermal burns. Emissions may cause mild irritation. Chronic exposure to petroleum asphalt has caused skin disorders such as dermatitis, folliculitis, or oil acne. There may be an increased sensitivity to sunburn when the skin is exposed to petroleum asphalt and asphalt emissions (fumes and vapors). Cutback asphalt oil contains petroleum oils similar to ones categorized by the IARC as causing skin cancer in mice. Some trace components (e.g. naphthalene, n-hexane and toluene) may be skin absorbed.
- INGESTION: Direct contact with heated material can produce thermal burns on contacted tissues. Petroleum asphalt has a low toxicity when ingested. However, petroleum distillates may be absorbed from the gastrointestinal tract, with possible systemic effects (gastrointestinal irritation, vomiting, diarrhea, and CNS depression) and possible aspiration into the lungs. Aspiration of petroleum distillates has caused pulmonary edema and chemical pneumonitis.
- INHALATION: Petroleum asphalt emissions (fumes and vapors) may have an unpleasant odor, and may produce nausea and irritation of the upper respiratory tract. Elevated concentrations of thermal decomposition products may result in various health effects, including respiratory irritation (nitrogen oxides, sulfur oxides, hydrogen sulfide, hydrocarbons), CNS depression (hydrocarbons) and chemical asphyxiation (carbon monoxide, hydrogen sulfide). Systemic effects associated with trace components (less than 1%) are not anticipated during normal

use. Chronic exposure to elevated levels of asphalt emissions may result in chronic respiratory irritation and/or other lung disease.

**CARCINOGENICITY:** Petroleum asphalt and the asphalt additives in this product are not listed on the NTP, IARC, or OSHA lists of carcinogens. The IARC has determined that there is sufficient evidence for the carcinogenicity of extracts of steam-refined bitumens, air refined bitumens and pooled mixtures of steam- and air-refined bitumens in experimental animals. Further, IARC has determined that there is limited evidence for the carcinogenicity of diluted steam-refined bitumens in experimental animals. Also, IARC determined that there is inadequate evidence that bitumens alone are carcinogenic to humans. Some possible trace components (e.g. benzene, <0.1%) may be carcinogenic.

**FIRST AID PROCEDURES:**

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

**SKIN CONTACT:** **Hot Material-** remove contaminated clothing and immediately flush in cool water for at least 15 minutes. Apply iced water or cold packs to burned area if burned area is less than 10% of the body surface. Do not attempt to remove material from a burn. Get prompt medical attention.

**Cold Material-** Clean exposed skin with oil-dissolving skin cleaner. Do not use solvents or thinners to remove material from skin.

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

**INGESTION:** Do not induce vomiting. If conscious, give large amounts of water. Contact a physician immediately.

**HYGENIC PRACTICES:** Use GMP and housekeeping. Minimize dust generation. Personnel should be evaluated for sensitivity prior to work assignments.

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**SECTION VII: PRECAUTIONS FOR SAFE HANDLING AND USE**

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Personally involved in cleanup processes should implement controls as In Section VIII as appropriate. Keep all ignition sources at least 50 feet away. Avoid personal contact with heated material. Prevent materials from entering streams, drainages, or sewers. Spills entering surface waters (or any other watercourse or sewers entering/leading to surface waters) that cause a sheen must be reported to the National Response Center (800) 424-8802. None of the components in these products are subject to the reporting requirements of Title III of SARA, 1986, and 40 CFR 372.

**WASTE DISPOSAL METHOD:** Dispose of waste material only in accordance with applicable federal, state, and local laws and regulations.

**STORAGE AND HANDLING PRECAUTIONS:** Store away from all ignition sources and open flames, in accordance with applicable laws and regulations. Storage containers should be ventilated to reduce fire and explosion hazard, and possible overexposure of personnel to fumes and vapors. Do not weld, heat, or drill container. Emptied container may contain hazardous material which may ignite explosively if heated sufficiently. Do not store near food and beverages or smoking material. Avoid incompatible materials. When petroleum asphalt products are heated, potentially irritating emissions (fumes, mists, and vapors) may be released. Tripping accidents have occurred because asphalt buildup on bottoms of shoes and boots. Materials should be removed regularly to prevent such accidents. See Section VIII for additional information.

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**SECTION VIII: PERSONAL PROTECTION AND CONTROL MEASURES**

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**RESPIRATORY PROTECTION:** Not required under normal use and working conditions. For air contaminant concentrations which exceed or are likely to exceed applicable exposure limits, use a NIOSH-MSHA approved, contaminant-specific, air-purifying respirator. If such concentrations are sufficiently high that the air-purifying respirator is inadequate, or if oxygen adequate to sustain life is not present, use a positive pressure self-contained breathing apparatus. Consult an industrial hygienist for evaluation of exposures. Follow all applicable MSHA or OSHA respirator use, fitting, and training standards and regulations.

**VENTILATION:** Use only in well-ventilated areas. Natural ventilation generally adequate to maintain exposures below appropriate exposure limits under anticipated use conditions.

**PROTECTIVE GLOVES:** Chemical resistant gloves for direct contact with product.

**EYE PROTECTION:** Safety glasses with side shields should be worn as minimum protection. As needed, wear chemical safety goggles to prevent eye contact with product.

**OTHER PROTECTIVE EQUIPMENT:** Protective clothing should be worn to prevent skin contact.

**OTHER CONTROL MEASURES:** A fresh water supply for emergency first aid and washing facilities should be readily available. An oil-dissolving skin cleaner should be available. Workers should station themselves on the windward side of asphalt emissions when possible. Asphalt emission levels should be monitored as needed to evaluate exposures during handling and use of product, including activities which generate dust from hardened asphalt concrete. Exposures in excess of the PEL should be reduced to the lowest feasible level through engineering and administrative controls (such as source control, ventilation and/or work practice changes); respiratory protection should be used only where exposures continue to exceed applicable PEL(s).

**SECTION IX: SPECIAL PRECAUTIONS**

**DOT HAZARD CLASS:** NONE

**PLACARD REQUIRED:** NONE

**LABEL REQUIRED:** If the shipping temperature of a solid equals or exceeds 464 °F, D.O.T. regulations classify the solid as an “Elevated Temperature Material”, and a “HOT” label is required. Label as required by the OSHA and MSHA Hazard Communication standards [29 CFR 1910.1200 (f) and 30 CFR Part 42], and applicable state and local regulations.

**SECTION X: EXPOSURE LIMITS**

Petroleum Asphalt (Asphalt Fumes)		<u>MSHA PEL</u>	<u>OSHA PEL</u>	<u>NIOSH REL</u>	<u>ACGIH TLV</u>
		TWA	NE	NE	NE
	STEL	NE	NE	5 mg/m <sup>3</sup>	NE
	C	NE	NE	NE	NE
	IDLH	NE	NE	NE	NE
<b>OTHER EXPOSURE LIMITS:</b> Cal/OSHA PEL - 5 mg/m <sup>3</sup> (TWA)					
Petroleum Distillates		<u>MSHA PEL</u>	<u>OSHA PEL</u>	<u>NIOSH REL</u>	<u>ACGIH TLV</u>

<b>(NAPHTHA)</b>	<b>TWA</b>		NE	500ppm	350 mg/m <sup>3</sup>	400ppm
	<b>STEL</b>		NE	NE	NE	NE
	<b>C</b>		NE	NE	1800mg/m <sup>3</sup>	NE
	<b>IDLH</b>		NE	NE	1100ppm	NE
	<b>OTHER EXPOSURE LIMITS: Cal/OSHA PEL - 300ppm (TWA), 400ppm (STEL)</b>					
<b>Petroleum Distillites (Oil Mist)</b>			<u><b>MSHA PEL</b></u>	<u><b>OSHA PEL</b></u>	<u><b>NIOSH REL</b></u>	<u><b>ACGIH TLV</b></u>
	<b>TWA</b>		NE	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	NE
	<b>STEL</b>		NE	NE	10 mg/m <sup>3</sup>	NE
	<b>C</b>		NE	NE	NE	NE
	<b>IDLH</b>		NE	NE	2500 mg/m <sup>3</sup>	NE
<b>OTHER EXPOSURE LIMITS: Cal/OSHA PEL - 5 mg/m<sup>3</sup> (TWA)</b>						
<b>Petroleum Distillites (Kerosene, Diesel)</b>			<u><b>MSHA PEL</b></u>	<u><b>OSHA PEL</b></u>	<u><b>NIOSH REL</b></u>	<u><b>ACGIH TLV</b></u>
	<b>TWA</b>	Diesel -	NE	NE	100 mg/m <sup>3</sup>	100 mg/m <sup>3</sup>
	<b>TWA</b>	Kerosene-	NE	NE	NE	200 mg/m <sup>3</sup>
	<b>STEL</b>		NE	NE	NE	NE
	<b>C</b>		NE	NE	NE	NE
	<b>IDLH</b>		NE	NE	NE	NE
<b>OTHER EXPOSURE LIMITS: Cal/OSHA PEL-NE</b>						
<b>Portland Cement Type II</b>			<u><b>MSHA PEL</b></u>	<u><b>OSHA PEL</b></u>	<u><b>NIOSH REL</b></u>	<u><b>ACGIH TLV</b></u>
	<b>TWA</b>	Dust-	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>	NE	10 mg/m <sup>3</sup>
	<b>TWA</b>	Respirable-	NE	5 mg/m <sup>3</sup>	NE	1 mg/m <sup>3</sup>
	<b>STEL</b>		NE	NE	NE	NE
	<b>C</b>		NE	NE	NE	NE
	<b>IDLH</b>		NE	NE	NE	NE
<b>Bitunite</b>			<u><b>MSHA PEL</b></u>	<u><b>OSHA PEL</b></u>	<u><b>NIOSH REL</b></u>	<u><b>ACGIH TLV</b></u>
	<b>TWA</b>		NE	5 mg/m <sup>3</sup>	NE	5 mg/m <sup>3</sup>
	<b>STEL</b>		NE	NE	NE	10 mg/m <sup>3</sup>
	<b>C</b>		NE	NE	NE	NE
	<b>IDLH</b>		NE	NE	NE	NE

**NOTES:**

PEL – Permissible exposure limit

REL – recommended exposure limit

TLV – threshold limit value

%SiO<sub>2</sub> – percent silicone dioxide (silica) in dust

TWA – 8-hour time-weighted average

STEL – short-term exposure limit (15-minute average)

C – Ceiling (peak exposure)

IDLH – immediately dangerous to life or health

ppm – parts per million in air

mg/m<sup>3</sup> – milligrams per cubic meter of air

N/A = Not Applicable

NE = Not Established

While this company believes that the data contained herein are factual and the opinions expressed here are based on tests and data believed to be reliable, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by other is beyond our control, no guarantee, expressed or implied, is made by this company as to the effects of such use, the results to be obtained, or the safety and toxicity of the product, nor does this company assume any liability arising out of use, by others, of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or governmental regulations.

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