APUN High Performance Permanent Pavement Repair Material

Date Prepared: September 26, 2005
Reviewed: February 29, 2013

1.0 Chemical Product and Company Identification

Product Name(s): APUN High Performance Permanent Pavement Repair Material

Company: APUN LLC. 2130 E. Dimond Blvd. Anchorage AK 99507

Emergency Telephone Numbers:
(907) 336-7958 (8:00 am-4:30 pm Mon-Fri) - (800) 424-9300 CHEMTREC

2.0 Composition/Information on Ingredients

Ingredients	CAS Number	% By Weight
Aggregate	1317-65-3	91-97
Petroleum Asphalt Base	8052-42-4	2-8
Petroleum Solvent	68476-34-6	1-3
Additives		<1.0

3.0 Hazards Identification

Potential Health Effects and Symptoms of Exposure

Eyes: Severe irritation including redness, tearing and blurred vision.

Skin: Prolonged or repeated contact may cause skin irritation and/or dermatitis.

Swallowing: Swallowing these materials can cause irritation of the mouth, throat and stomach. Nausea, vomiting and diarrhea may result from ingestion. However, it is unlikely that people working with these materials would swallow them.

Inhalation: Breathing the fumes from these materials, particularly when they are heated and/or in an enclosed space may cause headache, nausea, and feeling of dizziness or weakness. Fumes from these materials can irritate the nose, throat and lungs. Prolonged exposure to high levels of fumes may result in loss of consciousness and in rare instances, death as a result of being unable to breathe.

Cancer Information: The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of asphalt fumes (refined bitumens) in experimental animal, but not in humans. (See Section 11.0 Toxicological Information).

Developmental and Reproductive Effects: Currently no information is available on the potential effects that exposure to these products may have on a person's ability to conceive a child or on the embryonic and fetal development of a child.

4.0 First Aid Measures

Eyes: If these materials get into the eyes, flush the person's eyes with large amounts of water for at least fifteen (15) minutes. Be certain to lift the upper and lower lids to ensure that all of the material is flushed out of the eyes. Contact a physician.

Skin: Immediately remove any contaminated clothing and wash the affected areas of skin with soap and water. Launder contaminated items of clothing before wearing. If skin irritation or redness persists or develops after exposure, contact a physician.

Inhalation: Move the individual to fresh air away from the fumes. If he/she is having difficulty breathing or is not fully conscious, administer oxygen and obtain immediate medical attention.

Swallowing: Do not induce vomiting. Vomiting can cause the material to be aspirated into the lungs, causing chemical pneumonitis. This can be fatal. Keep the person warm and quiet. Obtain immediate medical attention.

Note: Seek immediate medical attention for over-exposure.

5.0 Fire Fighting Measures

Flash Point: Greater than 200 ° F (Cleveland Tag Open Cup method)

Explosive Limit: Unknown **Flammable Limit:** Unknown

Extinguishing Media: Carbon dioxide foam, dry chemical and water fog.

Fire Fighting Instructions: A self-contained breathing apparatus with a full-face piece operating in a positive pressure mode may be required. Avoid using a water stream to prevent frothing. Water or foam may cause frothing which can be violent and may present a life-threatening situation. Frothing is most likely to occur when streams of water or foam are sprayed into hot or burning containers.

Fire and Explosion Hazards: Never use a welding or cutting torch on or near drums of this material (even empty drums) because the material can ignite explosively.
Hazardous Products of Combustion: Carbon monoxide and other organic compounds may be formed upon combustion.

6.0 Accidental Release Measures

Small Spill: Scoop up material into a suitable container. The material can be reused.
Large Spill: Same as for a small spill. The material can be reused.
Waste Disposal Method: Use old material as a base under fresh product.

7.0 Handling and Storage

Store in well-ventilated area away from heat and flame. Dispose of used containers according to local, state and federal requirements.

8.0 Exposure Controls/Personal Protection

Respiratory Protection: Respiratory protection should not be required when handling these products in the open air. However, if these materials are being handled in a confined area, wear a respirator with a NIOSH approved organic vapor respiratory cartridge, or NIOSH-approved air supplied breathing equipment to prevent inhaling fumes. A respirator is only required when working with this material in a confined or inadequately ventilated area. Provide sufficient ventilation (mechanical ventilation such as a general or local exhaust system) to prevent vapors from accumulating and to maintain exposure levels below TLV(s).

Eye and Skin Protection: Wear a face shield or safety glasses, impervious clothing, gloves and shoes.

Hygiene Practices: Wash hands thoroughly after working with this material. Remove and launder contaminated clothing before wearing.

Exposure Guidelines: The following occupational exposure guidelines are for the major ingredients in this material. The Permissible Exposure Limit (PEL) and the Threshold Limit Value (TLV) are expressed in parts per million (PPM) of the ingredient in the workplace air.

Ingredient	PEL	TLV
Petroleum Asphalt Base (as fumes)	5ppm	5ppm
Aggregate (Total Dust)	15 mg/cu.m.	15 mg/cu.m.
Petroleum Solvent	Not Established	Not Established
Additives		

9.0 Physical and Chemical Properties

Boiling Point: Not Applicable

Specific Gravity: Greater than water

Vapor Density: Heavier than air

Evaporation Rate: Slower than ether

Percent Volatile: 0-4% by volume

Solubility in Water: Negligible

Odor, Appearance and Color: Black, coated stone with petroleum odor.

10.0 Stability and Reactivity

Hazardous Polymerization: This material is not known to undergo hazardous polymerization.

Hazardous Decomposition: Carbon monoxide and other potentially hazardous organic compounds may be formed when this material burns.

Chemical Stability: Stable

Incompatibility: Avoid contact with strong acids, oxidizing agents and petroleum products to preserve the quality of this material.

11.0 Toxicological Information

The relevant toxicological information for the major components of UPM Cold Mix are summarized below.

Petroleum Asphalt: The International Agency for Research on cancer (IARC) has determined that there is sufficient evidence to classify extracts of bitumins (the primary components of asphalt) as carcinogenic in experimental animals. Studies on workers exposed to asphalt fumes have not produced conclusive evidence of an increased risk of cancer. Some epidemiologic studies have shown no increased risk of cancer among exposed workers, while other studies show a slightly increased risk of lung, other respiratory tract and gastrointestinal tract cancers. In those studies where an increased risk of cancer was reported, a number of the workers who were included in the studies also may have been exposed to coal tar products other than asphalt. Consequently, the increased risk may not be exclusively attributable to exposure to asphalt fumes.

Dermal applications of undiluted (hot) asphalt to experimental animals have reportedly produced tumors at the site of application. However, these findings should be interpreted with caution because

the applications may have produced burns and irritation that could have been related to tumor production. Solvent dilutions of different types of asphalt have been evaluated in chronic skin painting studies. Condensates of asphalt fumes diluted in solvent have been evaluated in skin painting studies. The conditions under which these studies were conducted may not be representative of the conditions to which people working with these materials are likely to be exposed. However, exposure to asphalt can produce skin irritation in people who get these materials on their skin.

Extracts of asphalt tested in modified Ames Assay gave negative or slightly positive findings (mutagenicity index <1.5). Fume condensates derived from heating asphalt to high temperatures (>450 ° F) were moderately mutagenic (mutagenicity index 4-9). By comparison, fumes generated by heating coal tar pitch were >1000 times more mutagenic in the Ames Assay than asphalt.

Petroleum Solvent: IARC has determined that Petroleum Solvent contains components that may be carcinogenic. Prolonged and repeated applications of petroleum solvent to the skin of laboratory animals have been shown to produce skin tumors. Tumors were produced in association with marked irritation. IARC has classified combustion products of petroleum solvent as probable human carcinogens. Lifetime exposure to these combustion products has been shown to cause cancer in laboratory animals. However, no combustion products are expected to be generated from the intended use of UPM Asphalt Cold Mix. Consequently, inhalation of petroleum solvent combustion products is not a relevant exposure for people working with these materials under normal conditions.

Limestone: Limestone (calcium carbonate) is not on the NTP, IARC or ASHA list of known or potential carcinogens. The potential health concern from the use of crushed limestone is from the dust that may be created. Calcium carbonate dust can cause coughing, sneezing and nasal irritation. Limestone dust may contain respirable silica particles that may cause silicosis if inhaled at high enough concentrations over a prolonged period of time.

12.0 Ecological Information

Although there is no evidence that the components of UPM Asphalt Cold Mix bioaccumulate in food chains, the heavier molecular weight components of asphalt and Petroleum Solvent may be persistent under some environmental conditions. Release of these products into surface waters should be avoided.

13.0 Disposal Considerations

Use old or contaminated material as a base for fresh product.

14.0 Transport Information

DOT Description:

Proper Shipping Name:	Not regulated by DOT as a hazardous substance
Hazard Class:	None
UN Number:	None
NA Number:	None

15.0 Regulatory Information

US Federal Regulations
OSHA Hazard Communication Standard (29 CFR 1910.1200):
This product is considered to be non-hazardous as defined in OSHA's Hazard Communication Standard.
EPA Toxic Substances Control Act, TSCA (40 CFR part 710):
All components of this product are in compliance with the inventory listing requirements of TSCA.
EPA SARA Title III (Superfund Amendments and Reauthorization Act) – Sections 302, 304, 311, 312, 313:
Section 302 – Extremely Hazardous Substances (40 CFR Part 355):

This product contains the following component(s) identified on Appendix A and B of the extremely hazardous substance list:

Reportable	Threshold Planning
--Component--	--Quantity (Lbs.)-- --Quantity (Lbs.)—

NONE

Section 304 – Emergency Release Notifications (40 CFR Part 355):

This product contains the following component(s) identified
Either as an extremely hazardous substance (see Section 302) or a CERCLA Hazardous Substance (40 CFR 302) which in the case of a spill or release may be subject to the reporting requirements under Section 304 of
Title III:

NONE

Sections 311 and 312 – Material Safety Data Sheet (MSDS) Requirements (40 CFR Part 370):

This product is not a hazardous chemical under 29 CFR 1910.1200 and therefore is not covered by Title III of SARA.
Section 313 – Toxic Chemical Release Reporting 940 CFR 372):
This material does not contain ingredients subject to Section 313 of SARA Title III.

Component State Right-to Know Laws:	subject to reporting:	CAS Number:	%Weight:
Connecticut	No component subject to reporting		
Florida	No component subject to reporting		
Illinois	No component subject to reporting		
Louisiana	No component subject to reporting		
Massachusetts	No component subject to reporting		
New Jersey	No component subject to reporting		
Pennsylvania	No component subject to reporting		

California Proposition 65 The required chemical analyses and risk assessments were performed on this product. Results indicate that there are no significant risks (or observable effects), as defined by this statute, associated with this product under conditions of normal use.

16.0 Other Information

NFPA Classification	HMIS Classification	Hazard Rating
Health: 1	Health: 1	0 - Least
Fire: 1	Fire: 1	1 - Slight
Reactivity: 0	Reactivity: 0	2 - Moderate
Other:	Personal Protection*	3 - High
		4 - Extreme

Comments:
* See Section 8 of this MSDS for guidance in selection of personal protective equipment.
The information contained in this MSDS is believed to be accurate as of the time that this document was prepared. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Final determination of suitability of the chemical(s) is the sole responsibility of the user. Users of any chemical should satisfy themselves that the conditions and methods of use assure that the chemical is used safely.

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