MATERIAL SAFETY DATA SHEET (MSDS) Please retain for your records.

September 18,1989 =7S035= "IAL INFORMATION BULLETIN oved - "Essentially Similar" to Form OSHA 20 & OSHA Material Safety Data Sheet)

IY (As Used on Label and List) Perma-Patch

Manufacturer's Name The National Paving and Contracting Company 4200 Manio Drive Baltimore, Maryland 21215 Emergency Phone: 1-301-435-7492 Telephone Number for Information: 1-301-764-7117

TYPICAL COMPOSITION Petroleum Asphalt with Petroleum Distillate Limestone Additives OSHA PEL ACGIH TLV None established 5 mg/cu.m. 15 mg/cu.m. None Established by OSHA

PHYSIOLOGICAL & HEALTH EFFECTS PROCEDURES

EYES Expected to cause no more than minor eye irritation. If irritation continues, see a doctor.

Expected to produce no more than minor skin irritation but prolonged or frequently repeated skin contact maybr hamful. See additional Health Data. ails from skin. Asphalt can be removed with vegetable oil or mineral oil.

INHALATION

Prolonged breathing of high vapor concentrations can cause central nervous system depression. See ial, move the person to fresh air. If any of these effects continue, see a doctor.

INGESTION

Not expected to be acutely toxic by ingestion. NDTE TO PHYSICAN: This material contains light hydro-reston liquid and an aspiration all a dector.

AL PROTECTIVE INFORMATION

retection: Avoid contact with Eye contact can be avoided by "Intemical safety goggles. "tection: Avoid prolonged or Jy repeated skin contact with terial. Skin contact can be zed by wearing impervious pro-e clothing including rubber es.

toring incruming reason it/res. Clean up spills as soon as Respiratory Protection: If opera-ting conditions create high airborne concentrations which exceed the ex-posure standard, the use of an

approved respirator is recommended. Hydrocarbon material such as Ventilation: Use adequate ventila-tion to keep the airborne concentra-tions of this material below the exposure standard. absorbent clay or diatoma-Other: If skin contact can occur, washing facilities for skin should be available nearby.

FIRE PROTECTION

Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set fire by many sources such as pict lights, weiding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 degrees F.

Petroleum Asphalt with Petroleum Distilate LIQUID ONLY Flash Point: (TOC) 150 degrees F (Min) Autoignition Temp: 480 degrees F (Min) Flammability Limits: (Asphalt) UEL 0.3 VFL 6 7

UEL 0.3 VEL 0.0 Extinguishing Media: CO2, Dry Chemical, Foam, Water Spray. vapor, and may produce oxides Special Fire Fighting Procedures: For fires involving this material, enter any enclosed or con-fire space without proper the enter any enclosed or con-diated breathing apparatus. szardous Decomposition Products.

EMERGENCY & FIRST AID

Wash eyes with fresh water for at least 15 minutes.

Remove heavily contaminated clothing and wash skin thoroughly with scap and water. DO NOT use solvents or thinners to remove mater-

If there are signs or systems, as described in this bulletin, due to breathing this mater-

If a large volume of this material is swallowed, give a large amount of water to drink, make person vomit, C Call a

ENVIRONMENTAL PROTECTION Doctor

Environmental Impact: This material is not expected to present any environmental problems.

Precaution if Material is Released or Spilled: Eliminate all open flames in vacinity of spill or released vapor.

possible, observing precau-tions in Special Protective Information and on product label. Place spilled mater-

ial in disposable containers. kerosene or minerial oil can be used to dissolve any re-maining material; and this material may be absorbed with

ceous earth.

Waste Disposal Methods:

Place contaminated materials in disposable containers and bury in an approved dumping area.

REACTIVITY DATA

Stability (Thermal, Light, etc.) Stable.

Incompatibility (Materials to Avoid): May react with strong oxidizing materials.

Hazardous Decomposition Pro-ducts: Normal combustion forms carbon dioxide and water of sulfur; incomplete combus-tion can produce carbon monoxide.

Hazardous Polymerization: Will not occur.

Read the entire bulletin. LIQUID ONLY

SPECIAL PRECAUTIONS halogenated hydrocarbons and See Page 4. and alcohols. Appearance (Color, Odor, etc.): Olly smelling, black viscous liquid.

Initial Boiling Point: 270 degrees F (Min.) Heiting Point: n/a Specific Gravity: 0.98 e 15.6/15.6.C Vapor Pressure: 2 mm Hg 0 100 degrees F Vapor Density: (Air = 1): NDA Percent Volatile (Volume 95): 254 Evaporation: (=1): n/a Viscosity: 250-500 cSt 2 140 degrees F

n/a = Not Applicable NDA = Ho Data Available

The above information is based on data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and

with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

ADDITIONAL HEALTH DATA

Signs and symptoms of ventral nervous system depression may include one of more of the following: headache, dizziness, loss of appetite, weakness and loss of coordination. Affected persons usually experience complete re-covery when removed from the exposure area.

No association has been established between industrial exposure to petroleum asphalt and cancer in humans. Asphalts contain small amounts ofpolynuclear aromatic hydrocarbons (PNS's) which, when concentrated, have been shown to cause skin cancer in mice after prolonged and frequent contact. Studies in which mice were exposed to a variety of whole asphalts did not result in any increased cancer rate. Brief or intermittant skin contact with this asphalt product is not expected to produce any serious effects. While normal handling of this product is not likely to cause cancer in humans, skin contact and breathing of mists, fumes or vapors should be reduced to a minimum. We strongly recommend that the precations outlined in this bulletin be followed when handling this material.

SPECIAL PRECAUTIONS

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

DO NOT USE OR STORE near flame, sparks or hot surfaces. USE ONLY IN WELL VENTILATED AREA.

PHYSICAL PROPERTIES

Solubility: Soluble in most benzene; insoluble in water