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1. Identification

1.1. Product identifier

Product IdentityBulldog Liquid Binder #87Alternate NamesBulldog Liquid Binder #87

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended useSee Technical Data Sheet.Application MethodSee Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name Palmer Asphalt Company

196 West 5th St., P.O. Box 58

Bayonne, NJ 07002

Emergency Telephone No. (201) 339-0855

8:00a.m. - 5:00p.m. EST

After Hours CHEMTREC (800) 424-9300 (Domestic – No. America)

2. Hazard(s) Identification

2.1. Classification of the substance or mixture

Flam. Liq. 3;H226 Flammable liquid and vapor.

Skin Irrit. 3;H316 Causes mild skin irritation. (Not adopted by US OSHA)

Eye Irrit. 2;H319 Causes serious eye irritation.

STOT RE 1;H372 Causes damage to organs through prolonged or repeated exposure. Specific Target

Organs: (central nervous system)

Aquatic Chronic 2;H411 Toxic to aquatic life with long lasting effects.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.







Danger

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H226 Flammable liquid and vapor.

H316 Causes mild skin irritation.

H319 Causes serious eye irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P235 Keep cool.

P260 Do not breathe mist / vapors / spray.

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P314 Get Medical advice / attention if you feel unwell.

P331 Do NOT induce vomiting.

P332+313 If skin irritation occurs: Get medical advice / attention.

P337+313 If eye irritation persists: Get medical advice / attention.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

P391 Collect spillage.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

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3. Composition/Information on Ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes	
Asphalt (petroleum) CAS Number: 0008052-42-4	75 - 100	Not Classified	[1][2]	
Stoddard solvent CAS Number: 0008052-41-3	25 - 50	STOT RE 1;H372 Asp. Tox. 1;H304	[1][2]	
Asphaltum CAS Number: 0012002-43-6	25 - 50	Not Classified	[1]	
Alkyl amide CAS Number: Proprietary	1.0 - 10	Skin Irrit. 2;H315 Eye Dam. 1;H318 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1]	

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Composition Comments: The National Institute for Occupational Safety and Health (NIOSH) was unable to detect polynuclear aromatic hydrocarbons in Gilsocol™.

4. First Aid Measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person.

Inhalation Mineral Spirits and Aromatic Petroleum Distillate - excessive inhalation of vapors can

> cause irritation of nose or throat, dizziness, weakness fatique, nausea, headache, possible unconsciousness and even asphyxiation. Remove individual to fresh air. Avoid further

overexposure. If symptoms persist, get medical attention immediately.

Eyes Petroleum distillate (mineral spirits) and petroleum asphalt can cause severe irritation,

redness, tearing, and blurred vision. Flush immediately with running water for 15 minutes,

lifting the upper and lower lids occasionally. Get medical attention immediately.

Skin Petroleum Distillate and Asphalt - prolonged or repeated contact can cause moderate

irritation, defatting dermatitis. Remove contaminated clothing, thoroughly wash exposed area with hand cleaner followed by soap and water. If irritation or redness develops and

persists, get medical attention immediately.

Ingestion Aspiration hazard. DO NOT INDUCE VOMIT - transport to hospital immediately. GET

MEDICAL ATTENTION IMMEDIATELY. Note to Physician - perform gastric layage in

accordance with procedures for ingestion of petroleum products.

^[1] Substance classified with a health or environmental hazard.

^[2] Substance with a workplace exposure limit.

^[3] PBT-substance or vPvB-substance.
*The full texts of the phrases are shown in Section 16.

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4.2. Most important symptoms and effects, both acute and delayed

Overview

Emergency Overview: Silvery liquid. Can cause headache, dizziness, drowsiness, or irritation to the skin, eyes, and respiratory system. If inhaled, leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention immediately. **Potential Health Effect/Rate of Entry:**

Inhalation: Can cause headache, dizziness, nausea, drowsiness, stupor, irritation to

respiratory system.

Eyes: Can cause irritation.

Ingestion: Can cause gastrointestinal irritation.

Skin: Can cause irritation.

Aggravated Medical Conditions: Pre-existing eye, skin, liver, and respiratory disorders may be aggravated by exposure.

Acute Health Effects: See effects described above

Chronic Health Effects: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Prolonged or repeated skin contact with these products may result in irritation and dermatitis. Although a direct association between asphalt and cancer or other lung disease has not been established in man, asphalts contain variable amounts of polycyclic aromatic hydrocarbons and other volatiles which have been shown to cause cancer and respiratory damage in animals. Prolonged or repeated exposure to petroleum distillates (Petroleum naphtha, stoddard solvent, or mineral spirits) may cause the defatting, irritation, dermatitis, narcotic and CNS effects described above, liver effects, and jaundice. Kidney and lung effects have been noted in some animals.

Variability Among Individuals: Health studies have shown that individual sensitivities vary from person to person. As a precaution, exposure to vapors, liquids, mists, or fumes should be minimized.

Effects of Overexposure: (Signs and symptoms of exposure) High vapor concentrations (>1000 ppm) are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death.

Nature of Hazard and Toxicity Information: Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis. However, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria. Product contacting the eyes may cause eye irritation. Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion may cause mild to severe pulmonary injury and possibly death.

Pre-existing Medical Conditions Which May be Aggravated by Exposure: Person with pre-existing central nervous system disease, skin disorders, or chronic respiratory disease should avoid exposure to this product.

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Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.

Eyes Causes serious eye irritation.

Skin Causes mild skin irritation. (Not adopted by US OSHA)

5. Fire-fighting Measures

5.1. Extinguishing media

If water fog is ineffective, use carbon dioxide, dry chemical or foam. DO NOT USE WATER.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Oxides of carbon, various hydrocarbon fragments

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Keep cool.

Ground / bond container and receiving equipment.

Use explosion-proof electrical / ventilating / light / equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe mist / vapors / spray.

Do not get in eyes, on skin, or on clothing.

5.3. Advice for fire-fighters

Avoid contact with skin, PPE should be worn and any breathing apparatus if necessary.

If the fire does not respond to above agents or they are not available, use foam or water FOG as a last resort. Water may also be used to cool exposed, but not burning, containers. These products may float and be re-ignited on top of water.

Closed containers may explode in a fire. Keep containers cool and remove to a safe location.

In a confined space, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face-piece and protective clothing. Persons without respiratory protection should leave area.

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6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Release Response Overview: Remove sources of ignition immediately. Ventilate to reduce the airborne contaminant concentration below the exposure limit in Section 2 of the MSDS. Absorb spill in sand, earth, or other suitable material. Transfer to appropriate container for disposal. ASSURE CONFORMITY WITH APPLICABLE GOVERNMENTAL REGULATIONS.

7. Handling and Storage

7.1. Precautions for safe handling

Keep dust to a minimum.

Keep containers tightly closed. Keep containers cool, dry, and away from sources of ignition. Use this product with adequate ventilation. Material is COMBUSTIBLE. Material requires electrical grounding during material transfer process. All electrical equipment in storage or handling areas should be installed per NFPA requirements. See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Store in closed container. Keep product and vapor away from heat, sparks and flame. Do not store in direct sunlight. Prevent inhalation of vapor, ingestion, and contact with skin and eyes. Keep container closed when not in use. Vapor may migrate to sources of ignition. Do not smoke, weld, generate sparks, or use flame near container. Change soiled work clothes frequently. Clean hands thoroughly after handling. To prevent gases, vapors or fumes from migrating into occupied sections of the building, close or cover all openings including windows, doors, and air intakes during and after application until gases, vapors or fumes dissipate. Precautions also apply to emptied containers.

Keep container closed when not in use. Store in a dry ventilated area. Maintain package labeling during storage. Incompatible materials: Strong oxidizing agents

"Empty" Container Warning: Dispose of in an environmentally safe manner and in accordance with governmental regulations. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. For work on tanks, refer to OSHA regulation ANSI Z49.1 and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations. See section 2 for further details. - [Storage]:

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7.3. Specific end use(s)

No data available.

8. Exposure Controls and Personal Protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
0008052-41-3 Stoddard solvent		OSHA	TWA 500 ppm (2900 mg/m3)
		ACGIH	TWA: 290 mg/m3STEL: 580 mg/m3
		NIOSH	TWA 350 mg/m3 C 1800 mg/m3 [15-minute]
		Supplier	No Established Limit
0008052-42-4	Asphalt (petroleum)	OSHA	No Established Limit
		ACGIH	TWA: 0.5 mg/m32B
	NIOSH	Ca C 5 mg/m3 [15-minute]	
	Supplier	No Established Limit	
0012002-43-6 Asphaltum		OSHA	No Established Limit
		ACGIH	No Established Limit
	NIOSH	No Established Limit	
	Supplier	No Established Limit	
Proprietary Alkyl amide	OSHA	No Established Limit	
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

Carcinogen Data

CAS No.	Ingredient	Source	Value
0008052-41-3 Stoddard solvent		OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0008052-42-4	Asphalt (petroleum)	OSHA	Select Carcinogen: No
			Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: No; Group 4: No;
0012002-43-6 Asphaltum		OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
	IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;	
Proprietary Alkyl amide		OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

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8.2. Exposure controls

Respiratory If irritation occurs or when the airborne contaminant level (s) exceed the

exposure limits indicated on the MSDS, wear appropriate, properly fitted, NIOSH/MSHA approved respirator. Follow respirator manufacturer's directions for respirator use. Use respiratory protection under your company's respiratory protection program, local regulations or OSHA

regulations under 29 CFR 1910.134.

Eyes Use safety glasses, chemical goggles or face shield.

Skin Protective clothing as necessary to prevent wetting of the skin. Use chemical

resistant gloves, if needed, to avoid prolonged or repeated skin contact.

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be

achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must

be worn.

Other Work Practices Minimize breathing vapor or mist. Avoid prolonged or repeated contact with

skin. Remove contaminated clothing; launder or dry clean before reuse. Remove contaminated shoes and thoroughly clean and dry before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before

reuse.

See section 2 for further details. - [Prevention]:

9. Physical and Chemical Properties

AppearanceSilvery LiquidOdorPetroleum solvent

Odor thresholdNot MeasuredpHNot applicableMelting point / freezing pointNot applicable

Initial boiling point and boiling range 300°F IBP (ASTM D 86), Mineral Spirits

Flash Point (minimum) 100°F TCC (Mineral Spirits) ASTM D 3143

Evaporation rate (Ether = 1) Not available
Flammability (solid, gas) Not Applicable

Upper/lower flammability or explosive limits Lower Explosive Limit: 0.7%

Upper Explosive Limit: 6%

Vapor pressure (Pa) Approximately 2.9 mm Hg @ 20°C, Mineral Spirits

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Vapor Density Approximately 4.9 (air = 1.0), Mineral Spirits

Specific Gravity Greater than 1.00

Solubility in Water Negligible
Partition coefficient n-octanol/water (Log Kow) Not Measured

Auto-ignition temperature Greater than 400°F, ASTM E 659

Decomposition temperatureNot availableViscosity (cSt)Not availableVOC ContentNot available% VolatileLess than 40

9.2. Other information

No other relevant information.

10. Stability and Reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.

10.2. Chemical stability

Stable under normal circumstances.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Excessive heat and open flame.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Oxides of carbon, various hydrocarbon fragments

11. Toxicological Information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

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Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Asphalt (petroleum) - (0008052-42-4)	No data available	No data available	No data available	No data available	No data available
Stoddard solvent - (0008052-41-3)	> 5,000.00, Rat - Category: NA	No data available	No data available	5.50, Rat - Category: NA	No data available
Asphaltum - (0012002-43-6)	No data available	No data available	No data available	No data available	No data available
Alkyl amide - (Proprietary)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)		Not Applicable
Acute toxicity (dermal)		Not Applicable
Acute toxicity (inhalation)		Not Applicable
Skin corrosion/irritation	3	Causes mild skin irritation. (Not adopted by US OSHA)
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization		Not Applicable
Skin sensitization		Not Applicable
Germ cell mutagenicity		Not Applicable
Carcinogenicity		Not Applicable
Reproductive toxicity		Not Applicable
STOT-single exposure		Not Applicable
STOT-repeated exposure	1	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard		Not Applicable

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12. Ecological Information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Asphalt (petroleum) - (0008052-42-4)	Not Available	Not Available	Not Available
Stoddard solvent - (0008052-41-3)	Not Available	Not Available	Not Available
Asphaltum - (0012002-43-6)	Not Available	Not Available	Not Available
Alkyl amide - (Proprietary)	Not Available	Not Available	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal Considerations

13.1. Waste treatment methods

Bury in an approved landfill according to federal, state, and local regulations. Empty containers that have been completely emptied and the residue allowed to dry are not considered hazardous waste.

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14. Transport Information

DOT (Domestic Surface

IMO / IMDG (Ocean

ICAO/IATA

14.1. UN number

Transportation)Not Applicable

Transportation) N/A

N/A

14.2. UN proper shipping

N/A

N/A

N/A

14.3. Transport hazard

DOT Hazard Class:

IMDG: N/A Sub Class: N/A Air Class: N/A

class(es)

name

14.4. Packing group NONE

14.5. Environmental hazards

IMDG Marine Pollutant: Yes (Alkyl amide)

14.6. Special precautions for user

No further information

15. Regulatory Information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected

regulations are represented.

Toxic Substance

All components of this material are either listed or exempt from listing on the TSCA

Control Act (TSCA)
WHMIS Classification

Inventory. B3 D2A

US EPA Tier II Hazards

Fire: Yes

Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): Yes Delayed (Chronic): Yes

EPCRA 311/312 Chemicals and RQs:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

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Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):

Asphalt (petroleum)

Stoddard solvent

Pennsylvania RTK Substances (>1%):

Asphalt (petroleum)

Stoddard solvent

16. Other Information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

This is the first version in the GHS SDS format. Listings of changes from previous versions in other formats are not applicable.

The information and recommendations contained herein are the best of PALMER ASPHALT COMPANY'S knowledge and belief, accurate, and reliable as of the date issued. PALMER ASPHALT COMPANY does not warrant or guarantee their accuracy or reliability, and PALMER ASPHALT COMPANY shall not be liable for any loss or damage arising out of the use thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for this particular use. The Environmental Information included under Section 12 hereof as well as the Hazardous Material Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by PALMER ASPHALT COMPANY in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with PALMER ASPHALT COMPANY'S interpretation of the available data.

End of Document