



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

DEC 28 2004

Mr. Denis Sapiro
Karden Associates, Inc.
3241 44th Ave. SW
Seattle, WA 98116-3324

Ref. No.: 04-0276

Dear Mr. Sapiro:

This is in response to your December 2, 2004 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask if asphalt is subject to the HMR in the following scenario:

Hot asphalt is loaded into a bulk container at a shipper's facility. The asphalt is allowed to cool to a temperature below 37.8 °C. Finally, the material is offered into transportation at a temperature below the flash point of the asphalt and 100 °C. In addition, the asphalt does not meet the definition of any hazard class listed in § 173.2.

Asphalt must be classed as a flammable liquid (Class 3; see § 173.120) if:

- (1) The flash point of the material is not more than 60.5 °C (141 °F), or
- (2) The material is in a liquid phase with a flash point at or above 37.8 °C (100 °F) and is intentionally heated and offered for transportation or transported at or above its flash point in a bulk packaging.

Asphalt meets the definition of an "elevated temperature material" (see § 171.8) if it is offered into transportation or transported in a bulk packaging and any of the following conditions are met:

- (1) The material is in a liquid phase and transported at a temperature at or above 100 °C;
- (2) The material is in a liquid phase with a flash point at or above 37.8 °C and is intentionally heated and offered for transportation or transported at or above its flash point; or
- (3) The material is in a solid phase and transported at a temperature at or above 240 °C.



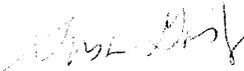
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172.101

According to the scenario you described, the asphalt offered into transportation does not meet the definition of a Class 3 (flammable liquid) or an "elevated temperature material" when it is offered into transportation. In addition, it does not meet the definition of any other hazard class listed in § 173.2. Therefore, the asphalt does not meet the definition of a hazardous material in § 171.8 and is not subject to the HMR.

I hope this information is helpful. Please contact us if you require additional assistance.

Sincerely,



John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

KARDEN ASSOCIATES, INC.

3241 - 44th Ave. SW, Seattle, WA, 98116-3324, Fax (206) 937-0846, (206) 932-7698, d.sapiro@worldnet.att.net

Mr. Edward Mazullo
Director of Hazmat Standards
US DOT/RSPA (DHM-10)
400 - 7th Street SW
Washington DC 20590

Eichenlaub
§172.101
Applicability
04-0276

Dear Mr. Mazullo:

Karden Associates, Inc. hereby asks for a formal interpretation on the proper shipping of bulk containers of asphalt below elevated temperatures.

Question: Is asphalt that was poured hot into bulk containers, and then allowed to cool below 100 ° C, below its flashpoint and below 37.8° C, and below 240°C and then offered for transportation no longer regulated by the Hazardous Materials regulations in 49 CFR Parts 100 - 185? The material does not meet any other definition of hazardous materials and will be transported by both truck and vessel.

Background: A typical asphalt material safety data sheet is attached and states that the material is regulated as an elevated temperature material.

In 49 CFR 172.101 asphalt has two listings:

Proper Shipping Name	Asphalt, <i>at or above its flash point</i>	Asphalt, cut back , <i>see</i> Tars, Liquid, <i>etc.</i> Tars, Liquid <i>including road asphalt and oils, bitumen and cut backs</i>
Hazard class or Division	3	3
Identification Number	NA 1999	UN1999
Packaging Group	III	II

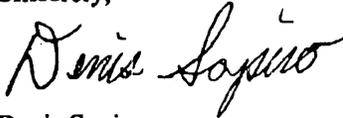
The asphalt is poured into bulk tanks at the shipper's facility, allowed to cool and shipped to a tug and barge facility for shipment to Alaska. The bulk containers are not specification portable tanks and they do not have pressure relief valves. These containers do meet the packaging requirements of 49 CFR 130.21. The material is currently not handled as a hazardous material.

Current practices: Current handling has been based on a letter of clarification dated June 12, 1995 from US DOT RSPA Deputy Director, Office of Hazardous Materials Standards, Thomas

G. Allan to James C. Finlay, Amoco Chemical Company, Chicago, Illinois. This letter dealt with "when offered for transportation" as it applies to elevated temperature material (ETM) as defined in 49 CFR 171.8. Further the material does not appear to meet the definition of "Hazardous Material" given in 49 CFR 171.8 as it does not match the description in 172.101 or hazard class and division in 49 CFR 173.

Thank you in advance for your time and consideration. If you need further information please call or email at the numbers given above.

Sincerely,



Denis Sapiro
President

MAR-23-2004 15:28

HMIC

U.S. Department
of TransportationResearch and
Special Programs
AdministrationDepartment Street, S.W.
Washington, D.C. 20590

JUN 12 1995

Mr. James C. Finlay
Amoco Chemical Company
Post Office Box 87759
Chicago, Illinois 60680-0759

Dear Mr. Finlay:

This is in response to your letter concerning clarification of the phrase "when offered for transportation" as it applies to elevated temperature material (ETM), as defined in 49 CFR 171.8. I apologize for the delay in responding, and hope it has not caused any inconvenience.

You stated that your company was informed that for a material described as ETM the temperature must be taken immediately prior to being offered for transportation. If this understanding is correct, you requested that "storage tank temperature" be considered and approved as the reference temperature for ETM, as proposed in the two (2) alternatives suggested in your letter.

The phrase "when offered for transportation" as it applies to ETMs means when a package is loaded or filled with a material that is heated and offered at or above its flashpoint, is in a liquid phase and at a temperature at or above 100°C (212°F), or is in a solid phase and at a temperature at or above 240°C (464°F), it is regulated as an ETM. If a material is loaded at a temperature at or above 212°F, but is allowed to cool to a temperature below 212°F before being offered for transportation, it would not meet the definition of an elevated temperature material.

The Hazardous Materials Regulations do not require an offeror "to take the temperature of a product designated as an ETM immediately prior to its release from the property." In fact, there is no absolute requirement that an offeror ever determine the actual temperature of an ETM. It is enough, simply to make a determination of whether a material meets the criteria for an ETM by using any available data that supports the offeror's determination. For example, consider a material that passes from a solid phase to a liquid phase at 150°C. If that material is loaded and transported in its liquid state, then clearly it meets the criteria for an ETM and there is no need to determine the actual temperature. Similarly, process-control information, such as that discussed in your proposed alternatives, may be used by an offeror in making a determination of whether certain products meet the criteria for an ETM.

I hope this information is helpful. If I can be of further assistance, please contact me.

Sincerely,

Thomas G. Allan
Deputy Director, Office of
Hazardous Materials Standards

172.101(E)

U. S. OIL & REFINING CO.

MATERIAL SAFETY DATA SHEET

Page 1 of 6

PG 58-28	MSDS No. 511413
Revised 9/12/01	

U. S. OIL & REFINING CO.
 3001 Marshall Ave.
 Tacoma, WA 98421

EMERGENCY ASSISTANCE:
 COMPANY: (253) 383-1651
 CHEMTREC: (800) 424-9300

IMPORTANT: Read this MSDS before handling or disposing of this product.
 Pass this information on to employees, customers and product users.

 1. MATERIAL IDENTIFICATION

Trade Name: ASPHALT CEMENT, PG 58-28

Chemical Family: HYDROCARBON

Generic Name: ASPHALT

DOT Shipping Name: ELEVATED TEMPERATURE MATERIAL, LIQUID, N.O.S., 9,
 NA/UN3257, III (ASPHALT PG 58-28)

NFPA Hazard Rating: HEALTH: 1
 FIRE: 1
 REACTIVITY: 0
 SPECIAL:

 2. PRODUCT COMPONENTS

Component	CAS Number	Percent
PETROLEUM ASPHALT	8052-42-4	90-100 (AP)
ANTI-STRIPPING ADDITIVE		0-1 (AP)
POLYMER ADDITIVE		0-10 (AP)
HYDROGEN SULFIDE	7783-06-04	TR

 3. OCCUPATIONAL EXPOSURE LIMITS

Substance	Value	Time/Type	Date	Source
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Flash point (method): GT 316°C (COC)

ASPHALT FUMES	5 MG/M ³	8 Hr PEL	1980	OSHA
	10 MG/M ³	15 Min STEL	1980	OSHA
HYDROGEN SULFIDE	10 PPM	8 Hr PEL	1989	OSHA
	15 PPM	15 Min STEL	1989	OSHA

PG 58-28

Page 2 of 6

4. HEALTH INFORMATION

Effects of Overexposure:

INHALATION OF HIGH CONCENTRATIONS MAY CAUSE EYE AND RESPIRATORY IRRITATION, HEADACHES, DIZZINESS OR NAUSEA, UNCONSCIOUSNESS AND POSSIBLY DEATH. PROLONGED OR REPEATED CONTACT WITH PRODUCT AT WARM OR NEAR AMBIENT TEMPERATURE MAY CAUSE SKIN IRRITATION. CAUTION: PRODUCT NORMALLY SHIPPED HOT (APPROXIMATELY 310-360°F)

SKIN CONTACT WITH HOT PRODUCT MAY CAUSE THERMAL BURNS. PROLONGED OR REPEATED CONTACT WITH THIS PRODUCT AT WARM OR AMBIENT TEMPERATURES MAY CAUSE SKIN IRRITATION AND DERMATITIS; HOWEVER, BASED ON HUMAN EXPERIENCE THIS PRODUCT IS JUDGED TO BE NEITHER CORROSIVE NOR AN IRRITANT BY OSHA CRITERIA.

EYE CONTACT WITH HOT PRODUCT MAY CAUSE THERMAL BURNS. CONTACT WITH THIS PRODUCT AT WARM OR AMBIENT TEMPERATURES MAY CAUSE EYE IRRITATION BUT WILL NOT DAMAGE EYE TISSUE.

CAUTION: UNDER CERTAIN CIRCUMSTANCES SULFUR COMPOUNDS IN HOT PRODUCT MAY FORM HYDROGEN SULFIDE (H₂S) GAS. COOLING PRODUCT MAY CONTINUE TO EMIT TRACES OF H₂S TEMPORARILY FROM ENTRAPPED OR DISSOLVED GASES. H₂S IS A COLORLESS, TOXIC AND EXTREMELY FLAMMABLE GAS WITH AN ODOR AT LOW CONCENTRATIONS CHARACTERISTIC OF ROTTEN EGGS AND SWEETISH AT HIGH CONCENTRATIONS. ODOR CANNOT BE RELIED UPON AS A MEANS OF DETECTION BECAUSE THE SENSE OF SMELL RAPIDLY BECOMES INEFFECTIVE TO H₂S, AND THE H₂S ODOR MAY BE MASKED BY THE GENERAL ODOR OF HOT PRODUCT. BECAUSE THE H₂S MAY ACCUMULATE IN TANKS AND BULK TRANSPORT COMPARTMENTS, PERSONNEL SHOULD STAND UPWIND, KEEP THEIR FACES AT LEAST TWO FEET FROM COMPARTMENT OPENINGS, AND AVOID BREATHING VAPORS WHEN OPENING HATCHES AND DOME COVERS.

PROLONGED BREATHING OF 50 TO 100 PPM OF H₂S MAY PRODUCE EYE AND RESPIRATORY TRACT IRRITATION, HEADACHE, NERVOUSNESS AND NAUSEA, AND ONLY A FEW BREATHS OF HIGH CONCENTRATIONS (700 - 1000 PPM) MAY LEAD TO UNCONSCIOUSNESS AND COULD BE FATAL. NIOSH-APPROVED RESPIRATORY EQUIPMENT SHOULD BE USED WHEN PERMISSIBLE CONCENTRATIONS ARE EXCEEDED.

PRODUCT HAS A LOW ORDER OF ACUTE ORAL AND DERMAL TOXICITY, BUT MINUTE AMOUNTS ASPIRATED INTO THE LUNGS DURING INGESTION OR VOMITING MAY CAUSE MILD TO SEVERE PULMONARY INJURY AND POSSIBLY DEATH.

5. FIRE AND EXPLOSION

Flash Point (Method): GT 316°C (COC)

Autoignition Temperature (Method): AP 485°C (EST.)

Flammable Limits (% Vol. in air) LOWER: ND/A
at Normal Atmospheric Temperature UPPER: ND/A
and Pressure

Unusual Fire and Explosion Hazards:

AT ELEVATED TEMPERATURES, VOLATILE HYDROCARBONS MAY FORM IN THE VAPOR SPACE OF CONTAINERS AND MAY EXPLODE OR IGNITE UPON EXPOSURE TO A SOURCE OF IGNITION. STUDIES HAVE SHOWN THAT RELATIVELY LOW FLASH POINT SUBSTANCES SUCH AS H₂S AND LOW-BOILING HYDROCARBONS, MAY ACCUMULATE IN THE VAPOR SPACE OF HO ASPHALT TANKS AND BULK TRANSPORT COMPARTMENTS. SUCH VAPORS MAY EXHIBIT FLAMMABILITY CHARACTERISTICS OF A SIGNIFICANTLY LOWER FLASH PRODUCT. AS A PRECAUTION KEEP IGNITION SOURCES AWAY FROM VENTS AND OPENINGS.

Extinguishing Media:

USE WATER SPRAY, DRY CHEMICAL, FOAM OR CARBON DIOXIDE TO EXTINGUISH THE FIRE. WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURES. MINIMIZE BREATHING OF GASSES, VAPOR, FUME OR DECOMPOSITION PRODUCTS. FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER. IMPROPER USE OF WATER AND EXTINGUISHING MEDIA CONTAINING WATER MAY CAUSE FROTHING WHICH CAN SPREAD THE FIRE OVER A LARGER AREA.

6. EMPLOYEE PROTECTION

- Respiratory:** NONE IS NEEDED UNDER NORMAL CONDITIONS WITH ADEQUATE VENTILATION. IF EXPOSURE EXCEEDS THE CONTROL LIMITS, NIOSH APPROVED RESPIRATORY EQUIPMENT MUST BE WORN.
- Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OF SPRAYING LIQUID.
- Skin:** WHEN SKIN CONTACT IS POSSIBLE, AND ESPECIALLY WHEN HANDLING HOT MATERIAL, PROTECTIVE CLOTHING SUCH AS GLOVES, IMPERVIOUS APRON, LONG-SLEEVES, BOOTS AND FACIAL PROTECTION MUST BE WORN.
- Other:** EMERGENCY EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE IN THE VICINITY OF ANY POTENTIAL EXPOSURE.

7. EMERGENCY AND FIRST AID

Inhalation: IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.

Eye Contact: FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.

Skin Contact: REMOVE CONTAMINATED CLOTHING. WIPE EXCESS OIL OFF WITH A DRY CLOTH. WASH AFFECTED AREA WELL WITH A WATERLESS CLEANSER FOLLOWED BY SOAP AND WATER. HOT LIQUID MAY CAUSE BURNS; FLUSH WITH COOL LOW-PRESSURE WATER AND GET MEDICAL TREATMENT.

Ingestion: DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.

8. SPILL AND DISPOSAL

Actions if Material is Spilled or Leaked:

SHUT AND ELIMINATE ALL SOURCES OF IGNITION. KEEP PEOPLE AWAY. RECOVER FREE PRODUCT. ADD SAND, EARTH, OR OTHER SUITABLE ABSORBENT TO SPILL AREA. MINIMIZE SKIN CONTACT. HOT PRODUCT WILL SOLIDIFY WHEN COOLED. KEEP PRODUCT OUT OF SEWERS AND WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE AUTHORITIES IF PRODUCT HAS ENTERED SEWERS OR WATERCOURSES. ASSURE CONFORMITY WITH APPLICABLE GOVERNMENTAL REGULATIONS.

Waste Disposal Methods:

MAXIMIZE PRODUCT RECOVERY FOR REUSE PRIOR TO DISPOSAL. USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS.

9. PHYSICAL AND CHEMICAL DATA

Specific Gravity (H₂O = 1 @ 39.2°F): AP 0.98 TO 1.3

Viscosity Units, Temp. (Method): AP 330 CST @ 135°C (D445)

Volatile Characteristics: SLIGHT

Appearance and Odor: BLACK COLORED VISCOUS LIQUID;
SLIGHTLY CRACKED OR BURNT TO ASPHALTIC ODOR. SOLID AT
AMBIENT TEMPERATURE.

Conditions to Avoid: EXTREME HEAT AND OPEN FLAME

Materials to Avoid: REACTS WITH STRONG ACIDS, OXIDIZING MATERIALS AND
ALKALIES.

Hazardous Decomposition Products: BURNING OR EXCESSIVE HEATING MAY
PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING
OXIDES AND/OR OTHER COMPOUNDS OF SULFUR.

10. REGULATORY INFORMATION

REPORTABLE QUANTITY (RQ), EPA 40 CFR 302 (CERCLA SECTION 102)
NO RQ FOR PRODUCT OR ANY CONSTITUENT GREATER THAN 1% OR 0.1%
(CARCINOGEN)

Toxic Chemicals for Emission Reporting, (SARA SECTION 313):
NO TOXIC CHEMICAL IS PRESENT GREATER THAN 1% OR 0.1% (CARCINOGEN)

Threshold Planning Quantify (TPQ), (SARA 301 - 304):
NO TPQ FOR PRODUCT OR ANY CONSTITUENT GREATER THAN 1% OR 0.1%
(CARCINOGEN)

EPA Hazard Classification, (SARA 311 - 312):
Acute Health Hazard:
Chronic Health Hazard:
Fire Hazard:
Pressure Hazard:
Reactive Hazard:
Not Applicable: X

11. ADDITIONAL PRECAUTIONS

Handling & Storage:

PARTS AND EQUIPMENT USING OR CONTAINING THIS MATERIAL MUST BE STEAM-CLEANED PRIOR TO ALL MAINTENANCE PROCEDURES. ALL MATERIAL SAMPLING SHOULD BE CONDUCTED IN A MANNER WHICH AVOIDS VAPOR INHALATION OR SKIN CONTACT. SPECIAL CARE AND LABELING MUST BE PROVIDED DURING TRANSPORTATION/HANDLING OF LABORATORY SAMPLES. USE GOOD PERSONAL HYGIENE PRACTICES. WASH HANDS WITH PLENTY OF SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USE OF TOILET FACILITIES. DO NOT USE SOLVENTS (GASOLINE, KEROSENE, ETC.) OR ABRASIVE SKIN CLEANERS TO REMOVE PRODUCT FROM SKIN. OIL-SOAKED CLOTHING MUST BE PROMPTLY REMOVED AND LAUNDERED BEFORE REUSE. DISCARD CONTAMINATED LEATHER GOODS.

General Comments:

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-----NOTE-----Qualifications

EQ = Equal	AP = Approximately	N/AV = Not Available
LT = Less Than	UK = Unknown	N/AP = Not Applicable
GT = Greater than	TR = Trace	N/DA = No Data Available

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