

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: PAVING ASPHALT AC20
Product Description: Asphalt/Bitumen
Product Code: 101090202575, 280735-00, 97W505
Intended Use: Mainly used for road paving, Miscellaneous industrial applications

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency 609-737-4411

Transportation Emergency Phone 800-424-9300

ExxonMobil Transportation No. 281-834-3296

Product Technical Information 800-662-4525, 800-947-9147

MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material may be considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Thermal burn hazard - contact with hot material may cause thermal burns.

POTENTIAL HEALTH EFFECTS

Exposure to high fume concentrations from heated asphalt may cause eye and respiratory tract irritation. Low order of toxicity. Hydrogen sulfide, a highly toxic gas, may be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere.

NFPA Hazard ID: Health: 2 Flammability: 1 Reactivity: 0

HMIS Hazard ID: Health: 1 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

Inhalation

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. If burned by contact with hot material, molten material adhering to skin should be cooled as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Ingestion

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use dry chemical, carbon dioxide (CO₂), or a dry, noncombustible material such as, dry sand or earth, to extinguish flames.

Inappropriate Extinguishing Media: DO NOT USE WATER.

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Hydrogen Sulfide, Smoke, Fume, Aldehydes, Sulfur Oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >232C (450F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.5 UEL: 5.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

Notification Procedures

Product Name: PAVING ASPHALT AC20

Revision Date: 11 Aug 2009

Page 3 of 10

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Material will sink. Consult an expert.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid vapors from heated materials to prevent exposure to potentially toxic/irritating fumes. Hydrogen sulfide (H₂S) may be given off when this material is heated. Do not depend on sense of smell for warning. When heating to normal handling temperatures, avoid local overheating. Use only with adequate ventilation. Prevent small spills and leakage to avoid slip hazard.

Loading/Unloading Temperature: > 90°C (194°F)

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

Storage Temperature: < 190°C (374°F)

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard		NOTE	Source
Asphalt fumes [benzene solubles]	Inhalable fraction.	TWA	0.5 mg/m ³	N/A	ACGIH
Hydrogen Sulfide		Ceiling	20 ppm	N/A	OSHA Z2

Hydrogen Sulfide		Maximum concentration	50 ppm		N/A	OSHA Z2
Hydrogen Sulfide		STEL	15 ppm		N/A	ACGIH
Hydrogen Sulfide		TWA	10 ppm		N/A	ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

Personal Protection

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Positive-pressure, air-supplied respirator in areas where H₂S vapors may accumulate is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves.

Eye Protection: If contact with material may occur, safety glasses and face shield are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If product is hot, thermally protective, chemical resistant apron and long sleeves are recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Product Name: PAVING ASPHALT AC20

Revision Date: 11 Aug 2009

Page 5 of 10

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Solid

Color: black

Odor: Petroleum/Solvent

Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 1.01 - 1.05

Flash Point [Method]: >232C (450F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.5 UEL: 5.0

Autoignition Temperature: N/D

Boiling Point / Range: > 400C (752F)

Vapor Density (Air = 1): > 1 at 101 kPa

Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C

Evaporation Rate (N-Butyl Acetate = 1): N/A

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 6

Solubility in Water: Negligible

Viscosity: [N/A at 40 °C]

Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/A

Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: contact of hot product with water., Overheating.

MATERIALS TO AVOID: Contact with water. Halogens, Alkalies, Strong Acids, Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>

Inhalation	
Toxicity (Rat): Maximum attainable concentration.	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: Data available.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on test data for structurally similar materials.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on assessment of the components.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.

CHRONIC/OTHER EFFECTS

For the product itself:

Asphalt: May contain low levels of polycyclic aromatic compounds (PACs), some of which are suspected of causing cancer under conditions of poor industrial hygiene and prolonged repeated contact. These PACs may also be inhaled. Inhalation studies at high concentrations of fumes resulted in bronchitis, pneumonitis, fibrosis and cell damage. Avoid contact with the asphalt and inhalation of vapor or aerosol from it.

Contains:

HYDROGEN SULFIDE : Chronic health effects due to repeated exposures to low levels of H₂S have not been established. High level (700 ppm) acute exposure can result in sudden death. High concentrations will lead to cardiopulmonary arrest due to nervous system toxicity and pulmonary edema. Lower levels (150 ppm) may overwhelm sense of smell, eliminating warning of exposure. Symptoms of overexposure to H₂S include headache, fatigue, insomnia, irritability, and gastrointestinal problems. Repeated exposures to approximately 25 ppm will irritate mucous membranes and the respiratory system and have been implicated in some eye damage.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

Product Name: PAVING ASPHALT AC20

Revision Date: 11 Aug 2009

Page 7 of 10

SECTION 12

ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Majority of components -- Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Majority of components -- Expected to be persistent.

Atmospheric Oxidation:

More volatile component -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Majority of components -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13

DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14

TRANSPORT INFORMATION

LAND (DOT)

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S. (Asphalt)
Hazard Class & Division: 9
ID Number: 3257
Packing Group: III
ERG Number: 128
Label(s): 9
Transport Document Name: UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (ASPHALT), 9, PG III

Footnote: Material is not regulated when shipped at temperatures below 212 F and its flash point.

LAND (TDG)

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S. (Asphalt)
Hazard Class & Division: 9
UN Number: 3257
Packing Group: III

SEA (IMDG)

Proper Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S. (BITUMEN)
Hazard Class & Division: 9
EMS Number: F-A,S-P
UN Number: 3257
Packing Group: III
Label(s): 9 (ET)
Transport Document Name: UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen), 9, PG III,

AIR (IATA)

Proper Shipping Name: NOT STANDARD PRACTICE
Hazard Class & Division:
UN Number:
Packing Group: (N/A)
Label(s) / Mark(s):
Transport Document Name: NOT STANDARD PRACTICE,

[Footnote: Product classified as UN 3257 is forbidden by air transport but the product may be transported by air if its temperature is less than 100 deg. C (212 deg. F). If the product is offered for transport at less than 100 deg. C (212 deg. F), the transport classification is Not Regulated.]

SECTION 15

REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other

Product Name: PAVING ASPHALT AC20

Revision Date: 11 Aug 2009

Page 9 of 10

reporting requirements apply.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ASPHALT (PETROLEUM)	8052-42-4	1, 13, 16, 17, 18, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

PRECAUTIONARY LABEL TEXT:

Caution! Hot material may cause thermal burns and may emit hydrogen sulfide or asphalt fumes. Excessive exposure to these vapors / fumes may cause eye, nose, throat, or lung irritation, and in confined spaces, may be fatal. Use with adequate ventilation during heating conditions to keep airborne levels below recommended exposure limits. If inhaled and symptoms develop, remove to fresh air and get medical attention. Avoid contact with hot material and wash thoroughly after handling.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to

handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 1

PPEC: C

DGN: 2025961XUS (1010221)

Copyright 2002 Exxon Mobil Corporation, All rights reserved