



# Material Safety Data Sheet

MSDS ID NO.: 0140MAR019  
Revision date: 01/24/2012

## 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product name:** Marathon Slow Cure Asphalt  
**Synonym:** Slow Cure Cutback Asphalt; Slow Cure Asphalt; SC-30; SC-70; SC-250; SC-800; SC-3000;  
**Chemical Family:** Asphalt  
**Formula:** Mixture

**Manufacturer:**  
Marathon Petroleum Company LP  
539 South Main Street  
Findlay OH 45840

**Other information:** 419-421-3070  
**Emergency telephone number:** 877-627-5463

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Slow Cure Asphalt is an asphalt mixed with varying proportions of No. 2 fuel oil, Heavy catalytic cracked distillate and/or No. 6 fuel oil. Composition varies depending on source of crude and specifications of final product. May contain minor amounts of sulfur, nitrogen and oxygen containing compounds. Different asphalt grades may also contain an anti-strip additive.

### Product information:

| Name                       | CAS Number | Weight % | ACGIH Exposure Limits:     | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|----------------------------|------------|----------|----------------------------|---|--------|
| Marathon Slow Cure Asphalt | Mixture    | 100      | =0.5 mg/m <sup>3</sup> TWA |   |        |

### Component Information:

| Name           | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|----------------|------------|----------|------------------------|---|--------|
| No. 6 Fuel Oil | 68553-00-4 | 0-100    |                        |   |        |

| Name                                | CAS Number | Weight %  | ACGIH Exposure Limits:  | OSHA - Vacated PELs - Time Weighted Ave  | Other:  |
|-------------------------------------|------------|-----------|---|--|---|
| Asphalt                             | 8052-42-4  | 0-100     | 0.5 mg/m <sup>3</sup> TWA   |  | (inhalable fraction, as benzene-soluble aerosol)          |
| Distillate, Catalytic Cracked Heavy | 64741-61-3 | 0-50      |   |  |   |
| No. 2 Fuel Oil                      | 64741-44-2 | 0-25      |   |  |   |
| Sulfur Compounds                    | Mixture    | 0-5       |   |  |   |
| Anti-Stripping Additive             | Mixture    | 0-1.5     |   |  |   |
| Naphthalene                         | 91-20-3    | 0.01-0.13 | Skin - potential significant contribution to overall exposure by the cutaneous route<br>10 ppm TWA<br>15 ppm STEL | = 10 ppm TWA<br>= 50 mg/m <sup>3</sup> TWA<br>= 15 ppm STEL<br>= 75 mg/m <sup>3</sup> STEL |   |
| Hydrogen Sulfide                    | 7783-06-4  | 0-0.1     | 1 ppm TWA<br>5 ppm STEL   | = 10 ppm TWA<br>= 14 mg/m <sup>3</sup> TWA<br>= 15 ppm STEL<br>= 21 mg/m <sup>3</sup> STEL | Marathon Exposure Guideline:<br>10 ppm TWA<br>15 ppm STEL |

**Notes:**

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

DANGER!

HOT PRODUCT CAN CAUSE BURNS TO SKIN.

CONTAINS HYDROGEN SULFIDE GAS. MAY BE FATAL IF INHALED.

GAS MAY EVOLVE FROM THIS MATERIAL AND ACCUMULATE IN CONFINED SPACES.

FUMES FROM HOT PRODUCT CAN CAUSE IRRITATION TO THE EYES, SKIN AND RESPIRATORY SYSTEM.

WATER CONTACT CAN CAUSE VIOLENT ERUPTION OF HOT ASPHALT.

SUSPECT CANCER HAZARD.

POTENTIAL REPRODUCTIVE HAZARD

SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION.

COMBUSTIBLE LIQUID

STABLE

#### Inhalation:

May release hydrogen sulfide gas which is highly toxic.

Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions.

Fumes or vapors from the heated material may be irritating to the respiratory tract.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information."

#### Ingestion:

Contact with hot material may cause thermal burns. If swallowed at ambient temperature no significant adverse effects are expected. May cause irritation of the mouth, throat and gastrointestinal tract. Ingestion of large amounts may cause gastrointestinal blockage.

#### Skin contact:

Contact with hot material may cause thermal burns. Contact may cause reddening, itching and inflammation. Skin contact may cause harmful effects in other parts of the body.

#### Eye contact:

Exposure to hot material can cause thermal burns. Vapors may cause eye irritation and sensitivity to light. Effects may become more serious with repeated or prolonged contact.

#### Carcinogenic Evaluation:

##### Product information:

| Name                                  | IARC<br>Carcinogens: | NTP<br>Carcinogens: | ACGIH -<br>Carcinogens: | OSHA - Select<br>Carcinogens: |
|---------------------------------------|----------------------|---------------------|-------------------------|-------------------------------|
| Marathon Slow Cure Asphalt<br>Mixture | NE                   |                     |                         |                               |

#### Notes:

The International Agency for Research on Cancer (IARC) has not evaluated this product.

#### Component Information:

| Name | IARC<br>Carcinogens: | NTP<br>Carcinogens: | ACGIH -<br>Carcinogens: | OSHA - Select<br>Carcinogens: |
|------|----------------------|---------------------|-------------------------|-------------------------------|
|------|----------------------|---------------------|-------------------------|-------------------------------|

| Name                   | IARC<br>Carcinogens:  | NTP<br>Carcinogens:  | ACGIH -<br>Carcinogens:   | OSHA - Select<br>Carcinogens: |
|------------------------|---|--|---|-------------------------------|
| Asphalt<br>8052-42-4   | Emissions of oxidized asphalt from roofing operations - Probable Human carcinogen (2A); Emissions of straight-run asphalt from paving operations - Possible Human carcinogen (2B) | Reasonably Anticipated To Be A Human Carcinogen  | A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free) | Present                       |
| Naphthalene<br>91-20-3 | Monograph 82 [2002]   | Reasonably Anticipated To Be A Human Carcinogen<br>male rat-clear evidence;<br>female rat-clear evidence;<br>male mice-no evidence;<br>female mice-some evidence | A4 - Not Classifiable as a Human Carcinogen                       | Present                       |

**Notes:**

The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of diesel fuel/fuel oil in humans. IARC determined that there was limited evidence for the carcinogenicity of marine diesel fuel in animals. Distillate (light) diesel fuels were not classifiable as to their carcinogenicity to humans (Group 3A)

The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of untreated vacuum distillates, acid-treated oils, and aromatic oils, including extracts from solvent treatment of distillates and the high boiling fraction of catalytically cracked oils in animals.

The International Agency for Research on Cancer (IARC) has determined that there is sufficient evidence for the carcinogenicity of residual (heavy) fuel oil in animals.

The International Agency for Research on Cancer (IARC) and the Environmental Protection Agency (EPA) have determined that naphthalene is a possible human carcinogen.

The International Agency for Research on Cancer (IARC) concluded that occupational exposures to oxidized asphalt and their emissions during roofing operations are "probably carcinogenic to Humans" (Group 2A). IARC concluded that occupational exposures to hard asphalts and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposures to straight-run asphalts and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).

## 4. FIRST AID MEASURES

### Eye Contact:

If hot material comes in contact with eyes hold the eyelids apart and flush the eye with a large amount of cool water for at least 15 minutes. GET IMMEDIATE MEDICAL ATTENTION.

### Skin Contact:

If hot material gets on skin, immediately flush affected area with large amounts of cool water. Do not attempt to remove the material from the skin, or to remove contaminated clothing. Get immediate medical attention. For cold material, immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Discard contaminated leather goods.

### Ingestion:

Do not induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

### Inhalation:

Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear and give oxygen. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

### NOTES TO PHYSICIAN:

INHALATION: Inhalation exposure can produce toxic effects. Treat intoxications as hydrogen sulfide exposures. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis.

SKIN: Hot material may cause skin burns. Immerse skin covered with hot material in cool water to limit tissue damage and prevent spread of liquid material. Consider leaving cooled material on skin unless contraindicated by contamination or potential for tattooing. If removal is necessary, mineral oil may be of assistance in minimizing skin loss when removing cool, hardened asphalt.

EYES: Hot material may cause burns to the eyes. Early ophthalmologic evaluation is recommended.

### Medical Conditions Aggravated By Exposure:

pregnancy, skin, lungs, respiratory system, gastrointestinal tract, liver, bladder, immune system,

## 5. FIRE FIGHTING MEASURES

## 5. FIRE FIGHTING MEASURES

### Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO<sub>2</sub> or dry chemical can be used. For large fires use water spray or fog. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

### Specific hazards:

This product has been determined to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

### Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep run-off water out of sewers and water sources.

### Flash point:

>150 F

### Autoignition temperature:

No data available.

### Flammable limits in air - lower (%):

1.0

### Flammable limits in air - upper (%):

6.0

### NFPA rating:

Health: 2

Flammability: 2

Instability: 1

Other: -

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return product to source.

## 7. HANDLING AND STORAGE

### Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition.

Significant concentrations of hydrogen sulfide (H<sub>2</sub>S) gas can be generated and accumulate in storage tanks and bulk transport compartments which may require additional precautions and procedures during loading/unloading. When opening covers and outlet caps on storage tanks, use face shield and gloves to avoid possible injury from pressurized product. Stay upwind and vent open hatches before unloading. Keep heating coils and flues in storage tanks, trucks and kettles covered with product (8"). Do not overheat.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

Increased fire hazard occurs when transported or applied at temperatures near or above the flash point.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
- Respiratory protection:** Where there is potential for airborne exposure to hydrogen sulfide (H<sub>2</sub>S) above exposure limits, a NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used. When H<sub>2</sub>S vapors exceed permissible limits, i.e., in confined spaces or bulk transport loading/unloading, a positive-pressure atmosphere supplying respirator is recommended. Self-contained breathing apparatus should be used for fire fighting.
- Provided hydrogen sulfide (H<sub>2</sub>S) is not detected: if there is potential to exceed the exposure limits for asphalt fumes a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters with R or P95 filters should be used. A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed when conditions warrant the use of a respirator.
- Note: Air purifying respirators are not to be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient atmospheres, (less than 19.5 percent oxygen) or under conditions that are immediately dangerous to life and health (IDLH).
- Skin and body protection:** Insulated gloves when handling hot material.
- Eye protection:** Goggles and faceshield when handling hot material.
- Hygiene measures:** Rubberized suits or coats may be needed for some maintenance operations with hot material.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

|   |                                 |
|---|---------------------------------|
| <b>Appearance:</b>                              | Black-brown Solid Or Semi-solid |
| <b>Physical state (Solid/Liquid/Gas):</b>       | Liquid                          |
| <b>Substance type (Pure/Mixture):</b>           | Mixture                         |
| <b>Color:</b>                                   | Black-Brown                     |
| <b>Odor:</b>                                    | Tar                             |
| <b>Molecular weight:</b>                        | Not determined.                 |
| <b>pH:</b>                                      | Neutral                         |
| <b>Boiling point/range (5-95%):</b>             | >550 F                          |
| <b>Melting point/range:</b>                     | >80 F                           |
| <b>Decomposition temperature:</b>               | Not applicable.                 |
| <b>Specific gravity:</b>                        | 0.95-1.05                       |
| <b>Density:</b>                                 | 7.9-8.7 lbs/gal                 |
| <b>Bulk density:</b>                            | No data available.              |
| <b>Vapor density:</b>                           | No data available.              |
| <b>Vapor pressure:</b>                          | 1-10 mm Hg @ 100 F              |
| <b>Evaporation rate:</b>                        | No data available.              |
| <b>Solubility:</b>                              | Negligible                      |
| <b>Solubility in other solvents:</b>            | No data available.              |
| <b>Partition coefficient (n-octanol/water):</b> | No data available.              |
| <b>VOC content(%):</b>                          | No data available.              |
| <b>Viscosity:</b>                               | No data available.              |

## 10. STABILITY AND REACTIVITY

|  |   |
|--|---|
| <b>Stability:</b>                        | The material is stable at 70 F, 760 mm pressure.  |
| <b>Polymerization:</b>                   | Will not occur.   |
| <b>Hazardous decomposition products:</b> | Combustion produces toxic oxides of sulfur, carbon monoxide, sulfur dioxide, hydrogen sulfide and hydrocarbons. |
| <b>Materials to avoid:</b>               | Strong oxidizers such as nitrates, chlorates, peroxides.  |
| <b>Conditions to avoid:</b>              | Excessive heat, sources of ignition, open flame.  |

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity:

### Product information:

| Name                       | CAS Number | Inhalation:       | Dermal:           | Oral:             |
|----------------------------|------------|-------------------|-------------------|-------------------|
| Marathon Slow Cure Asphalt | Mixture    | No data available | No data available | No data available |

### Toxicology Information:



**PETROLEUM ASPHALT:** Eye and upper respiratory tract irritation has been reported in some asphalt workers (paving and roofing operations) but they are typically mild and transient. Some studies indicate that asphalt paving workers may experience lower respiratory tract symptoms (e.g., coughing, wheezing, and shortness of breath) and pulmonary function changes. Other studies of asphalt workers found no consistent relationship between exposure to asphalt fumes and pulmonary function. Increased levels of 1-hydroxypyrene (a marker for exposure to polycyclic aromatic hydrocarbons) have been observed in the urine of asphalt workers. Genotoxicity studies (e.g., DNA adducts in the urine) of asphalt workers have been largely inconclusive.

A slight increase in lung cancer mortality was reported in a study of European workers exposed to paving and mastic asphalt, but conclusions were equivocal. A follow-up case-control epidemiology study of asphalt paving workers sponsored by the International Association for Research in Cancer (IARC) concluded that there was no evidence that asphalt exposure was linked to lung cancer.

An increase in skin tumors was observed in lifetime studies of laboratory rodents exposed to extracts of asphalt (bitumen). The relevance of these studies to humans is not clear. No increase in skin tumors was observed in a lifetime bioassay where laboratory mice were treated with paving fume condensates. No increase in lung or other tumors were observed in a lifetime inhalation study in laboratory rats exposed to fumes from paving asphalt.

**ASPHALTS USED IN ROOFING OPERATIONS:** Some asphalts including roofing flux are further processed (oxidized) by the user or customer before use. An increased incidence of skin tumors was observed in a mouse skin carcinogenicity study where animals were exposed to condensed fumes collected from an oxidized roofing asphalt (BURA Type III) at above 450°F. Additional studies where mice were exposed to oxidized roofing asphalt fume condensates both as a tumor initiator and as a tumor promoter indicate that roofing fume condensate caused tumors as a result of initiation.

**HYDROGEN SULFIDE:** Hydrogen sulfide gas has an unpleasant odor that diminishes with increased exposure. Eye irritation may occur at levels above 4 ppm. Olfactory fatigue occurs rapidly at levels of 50 ppm or higher. Odor is not a reliable warning property. Respiratory effects include irritation with possible pulmonary edema at levels above 50 ppm. At 500 ppm immediate loss of consciousness and death can occur. NIOSH has determined that 100 ppm hydrogen sulfide is immediately dangerous to life and health (IDLH).

**CATALYTICALLY CRACKED CLARIFIED OIL:** Genotoxicity: Findings from in vitro and in vivo studies of this material have been both negative and positive, but the overall weight of evidence suggests this material is genotoxic. Studies of repeated, prolonged dermal exposure in rodents have demonstrated evidence of skin cancer, liver and thymus damage, and anemia. Fetal death and fetal malformations were observed in pregnant rodents following dermal exposure. These findings indicate components of this material may be absorbed through the skin and cause adverse systemic effects. This material may be described as a high-boiling fraction of catalytically cracked petroleum. The International Agency for Research on Cancer (IARC) has identified high-boiling fractions of catalytically cracked petroleum streams as "untreated or mildly-treated oils" and has classified these oils as Group 1, Carcinogenic to Humans.

**POLYCYCLIC AROMATIC HYDROCARBONS (PAHs):** Cancer is the most significant endpoint for PAHs. Certain PAHs are weak carcinogens which become carcinogenic after undergoing metabolism. Chronic or repeated exposure increases the likelihood of tumor initiation. Increased incidence of tumors of the skin, bladder, lung and gastrointestinal tract have been described in individuals overexposed to certain PAHs. Overexposure to PAHs has also been associated with photosensitivity and eye irritation. Inhalation overexposure of PAHs has been associated with respiratory tract irritation, cough, and bronchitis. Dermal overexposure has been

associated with precancerous lesions, erythema, dermal burns, photosensitivity, acneiform lesions and irritation. Oral overexposure to PAHs has been associated with precancerous growths of the mouth (leukoplakia). Mild nephrotoxicity, congestion and renal cortical hemorrhages and elevated liver function tests, changes in the immune system and other effects have been observed in rats exposed to high levels of PAHs by ingestion. The International Agency for Research on Cancer (IARC) has concluded that some PAHs are probably carcinogenic to humans.

**NAPHTHALENE:** Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from overexposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have been reported in persons overexposed to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect. Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro. Naphthalene has been classified as Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

**MIDDLE DISTILLATES, PETROLEUM:** Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

**TARGET ORGANS:**

central nervous system, respiratory system, lungs, skin, blood, eyes, immune system, thymus, spleen, liver, kidney, reproductive organs, testes,

## 12. ECOTOXICOLOGICAL INFORMATION

**Mobility:**

Not likely to move rapidly with surface or groundwater flows because of its low water solubility.

**Ecotoxicity:**

Practically non-toxic to the aquatic environment.

**Bioaccumulation:**

May bioaccumulate in aquatic organisms.

**Persistence/Biodegradation:**

Not readily biodegradable.

## 13. DISPOSAL CONSIDERATIONS

### 13. DISPOSAL CONSIDERATIONS

#### Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

### 14. TRANSPORT INFORMATION

#### 49 CFR 172.101:

#### DOT:

**Transport Information:** This material when transported via US commerce would be regulated by DOT Regulations.

**Proper shipping name:** Tars, Liquid  
**UN/Identification No:** UN 1999  
**Hazard Class:** 3  
**Packing group:** II  
**DOT reportable quantity (lbs):** Not applicable.

Comments: For domestic shipments only, the Proper Shipping Name "Asphalt, Cut Back" may be used.

#### TDG (Canada):

**Proper shipping name:** Tars, Liquid  
**UN/Identification No:** UN 1999  
**Hazard Class:** 3  
**Packing group:** II

### 15. REGULATORY INFORMATION

#### US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

#### EPA Superfund Amendment & Reauthorization Act (SARA):

#### SARA Section 302:

This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

| Name           | CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs |
|----------------|---|
| No. 6 Fuel Oil | NA  |

| Name                                | CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs |
|-------------------------------------|---|
| Asphalt                             | NA  |
| Distillate, Catalytic Cracked Heavy | NA  |
| No. 2 Fuel Oil                      | NA  |
| Sulfur Compounds                    | NA  |
| Anti-Stripping Additive             | NA  |
| Naphthalene                         | NA  |
| Hydrogen Sulfide                    | = 500 lb TPQ  |

**SARA Section 304:**

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

| Name                                | CERCLA/SARA - Hazardous Substances and their Reportable Quantities |
|-------------------------------------|--|
| No. 6 Fuel Oil                      | NA   |
| Asphalt                             | NA   |
| Distillate, Catalytic Cracked Heavy | NA   |
| No. 2 Fuel Oil                      | NA   |
| Sulfur Compounds                    | NA   |
| Anti-Stripping Additive             | NA   |
| Naphthalene                         | = 100 lb final RQ<br>= 45.4 kg final RQ                            |
| Hydrogen Sulfide                    | = 100 lb final RQ<br>= 45.4 kg final RQ                            |

**SARA Section 311/312**

The following EPA hazard categories apply to this product:

Acute Health Hazard  
Chronic Health Hazard  
Fire Hazard

**SARA Section 313:**

This product contains the following components, which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

| Name                                | CERCLA/SARA 313 Emission reporting: |
|-------------------------------------|-------------------------------------|
| No. 6 Fuel Oil                      | None                                |
| Asphalt                             | None                                |
| Distillate, Catalytic Cracked Heavy | None                                |
| No. 2 Fuel Oil                      | None                                |
| Sulfur Compounds                    | None                                |
| Anti-Stripping Additive             | None                                |
| Naphthalene                         | = 0.1 % de minimis concentration    |
| Hydrogen Sulfide                    | None                                |

**State and Community Right-To-Know Regulations:**

The following component(s) of this material are identified on the regulatory lists below:

**No. 6 Fuel Oil**

|   |             |
|---|-------------|
| Louisiana Right-To-Know:                            | Not Listed  |
| California Proposition 65:                          | Not Listed  |
| New Jersey Right-To-Know:                           | Not Listed. |
| Pennsylvania Right-To-Know:                         | Not Listed. |
| Massachusetts Right-To Know:                        | Not Listed. |
| Florida substance List:                             | Not Listed. |
| Rhode Island Right-To-Know:                         | Not Listed  |
| Michigan critical materials register list:          | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed  |
| California - Regulated Carcinogens:                 | Not Listed  |

No. 6 Fuel Oil

|   |            |
|---|------------|
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed |
| New Jersey - Special Hazardous Substances:                                | Not Listed |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed |
| Illinois - Toxic Air Contaminants   | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |

Asphalt

|   |                          |
|---|--------------------------|
| Louisiana Right-To-Know:  | Not Listed               |
| California Proposition 65:  | Not Listed               |
| New Jersey Right-To-Know:   | sn 0170                  |
| Pennsylvania Right-To-Know:   | Present                  |
| Massachusetts Right-To Know:  | Present                  |
| Florida substance List:   | Not Listed.              |
| Rhode Island Right-To-Know:   | Toxic; Flammable         |
| Michigan critical materials register list:                                | Not Listed.              |
| Massachusetts Extraordinarily Hazardous Substances:                       | Not Listed               |
| California - Regulated Carcinogens:                                       | Not Listed               |
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed               |
| New Jersey - Special Hazardous Substances:                                | flammable - third degree |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed               |
| Illinois - Toxic Air Contaminants   | Present                  |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed               |

Distillate, Catalytic Cracked Heavy

|   |             |
|---|-------------|
| Louisiana Right-To-Know:  | Not Listed  |
| California Proposition 65:  | Not Listed  |
| New Jersey Right-To-Know:   | Not Listed. |
| Pennsylvania Right-To-Know:   | Not Listed. |
| Massachusetts Right-To Know:  | Not Listed. |
| Florida substance List:   | Not Listed. |
| Rhode Island Right-To-Know:   | Not Listed  |
| Michigan critical materials register list:                                | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances:                       | Not Listed  |
| California - Regulated Carcinogens:                                       | Not Listed  |
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed  |
| New Jersey - Special Hazardous Substances:                                | Not Listed  |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed  |
| Illinois - Toxic Air Contaminants   | Not Listed  |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed  |

No. 2 Fuel Oil

|                              |             |
|------------------------------|-------------|
| Louisiana Right-To-Know:     | Not Listed  |
| California Proposition 65:   | Not Listed  |
| New Jersey Right-To-Know:    | Not Listed. |
| Pennsylvania Right-To-Know:  | Not Listed. |
| Massachusetts Right-To Know: | Not Listed. |

No. 6 Fuel Oil

|   |             |
|---|-------------|
| Florida substance List:   | Not Listed. |
| Rhode Island Right-To-Know:   | Not Listed  |
| Michigan critical materials register list:                                | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances:                       | Not Listed  |
| California - Regulated Carcinogens:                                       | Not Listed  |
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed  |
| New Jersey - Special Hazardous Substances:                                | Not Listed  |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed  |
| Illinois - Toxic Air Contaminants   | Not Listed  |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed  |

Sulfur Compounds

|   |             |
|---|-------------|
| Louisiana Right-To-Know:  | Not Listed  |
| California Proposition 65:  | Not Listed  |
| New Jersey Right-To-Know:   | Not Listed. |
| Pennsylvania Right-To-Know:   | Not Listed. |
| Massachusetts Right-To Know:  | Not Listed. |
| Florida substance List:   | Not Listed. |
| Rhode Island Right-To-Know:   | Not Listed  |
| Michigan critical materials register list:                                | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances:                       | Not Listed  |
| California - Regulated Carcinogens:                                       | Not Listed  |
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed  |
| New Jersey - Special Hazardous Substances:                                | Not Listed  |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed  |
| Illinois - Toxic Air Contaminants   | Not Listed  |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed  |

Anti-Stripping Additive

|   |             |
|---|-------------|
| Louisiana Right-To-Know:  | Not Listed  |
| California Proposition 65:  | Not Listed  |
| New Jersey Right-To-Know:   | Not Listed. |
| Pennsylvania Right-To-Know:   | Not Listed. |
| Massachusetts Right-To Know:  | Not Listed. |
| Florida substance List:   | Not Listed. |
| Rhode Island Right-To-Know:   | Not Listed  |
| Michigan critical materials register list:                                | Not Listed. |
| Massachusetts Extraordinarily Hazardous Substances:                       | Not Listed  |
| California - Regulated Carcinogens:                                       | Not Listed  |
| Pennsylvania RTK - Special Hazardous Substances:                          | Not Listed  |
| New Jersey - Special Hazardous Substances:                                | Not Listed  |
| New Jersey - Environmental Hazardous Substances List:                     | Not Listed  |
| Illinois - Toxic Air Contaminants   | Not Listed  |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed  |

**No. 6 Fuel Oil****Naphthalene**

Louisiana Right-To-Know: Not Listed  
 California Proposition 65: carcinogen, initial date 4/19/02

New Jersey Right-To-Know: sn 1322  
 Pennsylvania Right-To-Know: Environmental hazard  
 Massachusetts Right-To Know: Present

Florida substance List: Not Listed.  
 Rhode Island Right-To-Know: Toxic; Flammable  
 Michigan critical materials register list: Not Listed.  
 Massachusetts Extraordinarily Hazardous Substances: Not Listed  
 California - Regulated Carcinogens: Not Listed  
 Pennsylvania RTK - Special Hazardous Substances: Not Listed  
 New Jersey - Special Hazardous Substances: carcinogen

New Jersey - Environmental Hazardous Substances List: SN 1322 TPQ 500 lb  
 Illinois - Toxic Air Contaminants: Present  
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 1 lb RQ land/water  
 = 100 lb RQ air

**Hydrogen Sulfide**

Louisiana Right-To-Know: Not Listed  
 California Proposition 65: Not Listed  
 New Jersey Right-To-Know: sn 1017  
 Pennsylvania Right-To-Know: Environmental hazard  
 Massachusetts Right-To Know: Extraordinarily hazardous  
 Florida substance List: Not Listed.  
 Rhode Island Right-To-Know: Toxic; Flammable  
 Michigan critical materials register list: Not Listed.  
 Massachusetts Extraordinarily Hazardous Substances: extraordinarily hazardous  
 California - Regulated Carcinogens: Not Listed  
 Pennsylvania RTK - Special Hazardous Substances: Not Listed  
 New Jersey - Special Hazardous Substances: flammable - fourth degree  
 New Jersey - Environmental Hazardous Substances List: SN 1017 TPQ 500 lb  
 Illinois - Toxic Air Contaminants: Not Listed  
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: = 100 lb RQ air  
 = 100 lb RQ land/water

**Canadian Regulatory Information:**

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

| Name             | Canada - WHMIS: Classifications of Substances: | Canada - WHMIS: Ingredient Disclosure: |
|------------------|--|--|
| Naphthalene      | B4, D2A  | 1 %                                    |
| Hydrogen Sulfide | A, B1, D1A, D2B                                | 1 %                                    |

**NOTE:** Not Applicable.

## 16. OTHER INFORMATION

**Additional Information:**

The pronounced and easily-recognized rotten egg odor of hydrogen sulfide gas (H<sub>2</sub>S) can be detected at concentrations as low as 0.003-0.13 ppm. Since higher H<sub>2</sub>S concentrations (100-200 ppm) cause olfactory fatigue and other hydrocarbon odors can "mask" H<sub>2</sub>S, the sense of smell cannot be used as a reliable indicator of H<sub>2</sub>S exposure.

**Prepared by:**

Diana Samples-Caudill, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Petroleum Company LP (MPC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. MPC assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

**End of Safety Data Sheet**