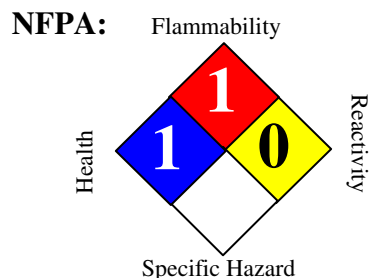


# Material Safety Data Sheet

## Asphalt



**HMIS III:**

|              |          |
|--------------|----------|
| HEALTH       | <b>2</b> |
| FLAMMABILITY | <b>1</b> |
| PHYSICAL     | <b>0</b> |

0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

|                                |   |  |                                     |   |                |
|--------------------------------|---|--|-------------------------------------|---|----------------|
| <b>Product name</b>            | : | Asphalt  |                                     |   |                |
| <b>Synonyms</b>                | : | Pitch, Paving Asphalt, Performance Graded Asphalt, (PG) PG 52-28, PG 58-22, PG 64-25, 888100004477 |                                     |   |                |
| <b>MSDS Number</b>             | : | 888100004477   | <b>Version</b>                      | : | 1.12           |
| <b>Product Use Description</b> | : | Construction material  |                                     |   |                |
| <b>Company</b>                 | : | For: Tesoro Refining & Marketing Co.<br>19100 Ridgewood Parkway, San Antonio, TX 78259             |                                     |   |                |
| <b>Tesoro Call Center</b>      | : | (877) 783-7676   | <b>Chemtrec (Emergency Contact)</b> | : | (800) 424-9300 |

### SECTION 2. HAZARDS IDENTIFICATION

#### Emergency Overview

|                          |   |  |
|--------------------------|---|--|
| <b>Regulatory status</b> | : | This material is considered hazardous by the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).  |
| <b>Signal Word</b>       | : | WARNING  |
| <b>Hazard Summary</b>    | : | Hot material can cause severe eye and skin burns on contact. Hydrogen sulfide from heated material can accumulate in vapor space of tanks and containers. Contact between heated material and water can cause a violent eruption. Fumes from heated material can cause irritation to the eyes, skin, and respiratory system, and can increase susceptibility to sunburn. |

#### Potential Health Effects

|                   |   |   |
|-------------------|---|---|
| <b>Eyes</b>       | : | Hot material can cause burns to the eyes. Mists, vapors or fumes from this material can cause eye irritation with tearing, redness, or a stinging or burning feeling.   |
| <b>Skin</b>       | : | Hot material can cause burns to the skin. May cause skin irritation with redness, an itching or burning feeling, and swelling of the skin. Exposure to sunlight and to asphalt vapors may amplify tendency for sunburns. Skin contact may cause harmful effects in other parts of the body. |
| <b>Ingestion</b>  | : | Contact with hot material may cause burns. If swallowed at ambient temperatures, no significant adverse health effects are anticipated. If swallowed in large quantities, this material can obstruct the intestine.   |
| <b>Inhalation</b> | : | No significant adverse health effects are expected to occur upon short-term   |

exposure to this product at ambient temperatures. Asphalt fumes have been associated with irritation of eyes nose and throat. Also, lower respiratory effects have been reported. Hydrogen sulfide (H<sub>2</sub>S) can evolve when this product is stored or handled at elevated temperatures. H<sub>2</sub>S can cause respiratory irritation and hypoxia. At low concentrations, H<sub>2</sub>S has an odor of rotten eggs. At higher concentrations, H<sub>2</sub>S odor is not apparent. DO NOT use odor as an indicator of exposure to H<sub>2</sub>S.

**Target Organs** : Eyes, Skin, Respiratory system, Kidney, Liver

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component        | CAS-No.   | Weight % |
|------------------|-----------|----------|
| Asphalt          | 8052-42-4 | 100%     |
| Hydrogen Sulfide | 7783-06-4 | Trace    |

**SECTION 4. FIRST AID MEASURES**

**General advice** : Remove from exposure, lie down. Take off all contaminated clothing immediately. When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

**Inhalation** : Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention immediately.

**Skin contact** : Cool skin rapidly with cold water after contact with molten material. Take off all contaminated clothing immediately. Wash off with soap and water but do not attempt to remove asphalt that adheres to skin before obtaining medical assistance. Wash contaminated clothing before re-use. If symptoms persist, seek medical attention immediately.

**Eye contact** : Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, seek medical attention.

**Ingestion** : Do NOT induce vomiting. Seek medical attention immediately. Clean mouth with water and drink afterwards plenty of water. If a person vomits when lying on his back, place him in the recovery position.

**SECTION 5. FIRE-FIGHTING MEASURES**

**Form** : Solid form, viscous liquid when heated

**Flash point** : > 218 °C (> 424 °F)

**Lower explosive limit** : 0.9 % (V)

**Upper explosive limit** : 7 % (V)

**Suitable extinguishing media** : SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO<sub>2</sub>, water spray, fire fighting foam, or Halon.  
LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

**Specific hazards during fire** : Isolate area around container involved in fire. Cool tanks, shells, and containers

- fighting** : exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.
- Special protective equipment for fire-fighters** : Use NIOSH/MSHA approved positive pressure self-contained breathing apparatus and fully protective clothing such as bunker gear if needed to prevent exposure. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines.
- Further information** : Vapors may form explosive mixture with air. Flammable vapor production at ambient temperature in the open is expected to be minimal unless the oil is heated above its flash point. When heated above flash point and mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions** : ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN. Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Response and clean-up crews must be properly trained and must utilize proper protective equipment.
- Environmental precautions** : Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. Authorities should be notified if reportable quantity release occurs.
- Methods for cleaning up** : Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Handling** : Use only in well-ventilated areas.
- Advice on protection against fire and explosion** : Do not smoke near areas where material is handled or stored. The product should only be used in areas where electrical classification meets the product rating for this product, i.e. intrinsically safe. Use only in area provided with appropriate exhaust ventilation. Vapors may form explosive mixtures with air.
- Dust explosion class** : Not applicable
- Requirements for storage areas and containers** : Product is generally transported and stored hot (typically at temperatures above 110°F and below 350 °F). Handle as a combustible liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Consult API Recommended Practice 2023 for additional guidance. Store distant from fire and ignition sources. No smoking near areas where material is stored or used.
- Advice on common storage** : Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty

product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

Hydrogen sulfide may accumulate in tanks and bulk transport compartments. Consider appropriate respiratory protection (see Section 8). Stand upwind. Avoid vapors when opening hatches and dome covers. Confined spaces should be ventilated prior to entry.

**Other data** : Stable under normal conditions.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

| List  | Components       | CAS-No.   | Type: | Value     |
|-------|------------------|-----------|-------|-----------|
| OSHA  | Hydrogen Sulfide | 7783-06-4 | STEL  | 20 ppm    |
| ACGIH | Asphalt          | 8052-42-4 | TWA   | 0.5 mg/m3 |
|       | Hydrogen Sulfide | 7783-06-4 | TWA   | 1 ppm     |
|       |                  | 7783-06-4 | STEL  | 5 ppm     |

- Engineering measures** : Engineering controls are normally required when handling hot materials. Use process enclosures, local exhaust ventilation, or other controls to maintain airborne levels below recommended exposure limits (see below). Engineering controls should meet applicable requirements of the National Electrical Code (NEC) Standards. Ensure that an emergency eye wash station and safety shower is located near the work-station.
- Eye protection** : Use a full-face shield and chemical safety goggles if handling heated material. With product at ambient temperatures, safety glasses equipped with side shields are recommended as minimum protection in industrial settings. An eye wash station immediately available to the work area.
- Hand protection** : When handling product at elevated temperatures, use long-cuffed leather or heat-resistant gloves. When product is at ambient temperatures, use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected.
- Skin and body protection** : Use insulated, heat-resistant clothing when handling heated material. Use a full-body heat-resistant or internally cooled suit when work conditions dictate.
- Respiratory protection** : Contaminant air concentrations determine the level of respiratory protection required. Use only NIOSH-approved respiratory equipment within the limits of the protection factors for that equipment. Use supplied air respirators when H2S concentrations are expected to exceed applicable workplace exposure levels. Do not use air purifying respiratory equipment when considering elevated H2S concentrations. Respiratory equipment must be selected on the basis of the maximum expected air concentration.

**Hygiene measures** : Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. DO NOT use gasoline, kerosene, solvents, or harsh abrasive skin cleaners to clean skin. Prevent skin contact when handling heated material. Use insulated, heat-resistant clothing when handling heated material. Use a full-body heat-resistant or internally cooled suit when work conditions dictate.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form** : Solid form, viscous liquid when heated

**Appearance** : Brown to black

**Odor** : Characteristic sour, tar-like odor

**Flash point** : > 218 °C (> 424 °F)

**Thermal decomposition** : No decomposition if stored and applied as directed.

**Lower explosive limit** : 0.9 % (V)

**Upper explosive limit** : 7 % (V)

**pH** : Not applicable

**Freezing point** : No data available

**Boiling point** : 343 °C (649 °F)

**Vapor Pressure** : No data available

**Density** : 0.9 – 1.05 g/mL

**Viscosity, kinematic** : No data available

**Percent Volatiles** : Negligible volatility

## SECTION 10. STABILITY AND REACTIVITY

**Conditions to avoid** : Heat, flames and sparks.

**Materials to avoid** : Strong acids and oxidizing agents

**Hazardous decomposition products** : In case of fire hazardous decomposition products may be produced such as: Carbon oxides Hydrogen sulfide and other sulfur-containing gases can evolve from this product particularly at elevated temperatures. No decomposition products in case of appropriate storage / handling / transport.

**Thermal decomposition** : No decomposition if stored and applied as directed.

**Hazardous reactions** : Stable under normal conditions of use; however, incompatible with strong acids and strong oxidizers. Keep away from oxidizing agents, and acidic or alkaline products. Do not allow molten products to contact water or liquids as this can cause violent eruptions. Hydrogen Sulfide from the product can react with iron in asphalt storage tank to form iron sulfide, a pyrophoric (a material which ignites spontaneously in air below 130 °F) material.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Carcinogenicity

- NTP** : This product, Asphalt (CAS-No.: 8052-42-4), may contain trace amounts of benzene a chemical known to cause cancer.
- IARC** : Asphalt (CAS-No.: 8052-42-4)
- OSHA** : This product, Asphalt (CAS-No.: 8052-42-4), may contain trace amounts of benzene a chemical known to cause cancer.
- CA Prop 65** : WARNING! This product contains a chemical known to the State of California to cause cancer.  
Asphalt (CAS-No.: 8052-42-4)
- Skin irritation** : Result: Mild skin irritation  
Prolonged skin contact may cause skin irritation and/or dermatitis.
- Eye irritation** : Result: Mild eye irritation  
Contact with eyes may cause irritation.
- Further information** : Certain preparations of this material are classified as carcinogenic by OSHA, NTP, or IARC. See section entitled: Carcinogenicity: of this MSDS for additional information concerning the carcinogenic potential of this product.

**Component:**

|         |           |  |
|---------|-----------|--|
| Asphalt | 8052-42-4 | <u>Acute oral toxicity:</u> LD50 rat<br>Dose: 5,001 mg/kg<br><br><u>Acute dermal toxicity:</u> LD50 rat<br>Dose: 2,001 mg/kg |
|---------|-----------|--|

**SECTION 12. ECOLOGICAL INFORMATION**

- Additional ecological information** : This product is estimated to have a slow rate of biodegradation. This product is not expected to bioaccumulate through food chains in the environment. Analysis for ecological effects has not been conducted on this product. Spills into water ways may be harmful to organisms and bottom feeders.

**SECTION 13. DISPOSAL CONSIDERATIONS**

- Disposal** : Recover as much spilled material as possible for reuse or recycling. Disposal of waste material must be conducted in accordance with RCRA regulations (see 40CFR 260 through 40 CFR 271).

**SECTION 14. TRANSPORT INFORMATION**

|            |   |
|------------|---|
| <b>CFR</b> | Proper shipping name : Elevated temperature liquid, n.o.s.<br>UN-No. : 3257<br>Class : 9<br>Packing group : III<br>Hazard inducer : (Asphalt) |
| <b>TDG</b> | Proper shipping name : Elevated temperature liquid, n.o.s.<br>UN-No. : UN3257<br>Class : 9  |

Packing group : III  
 Hazard inducer : (Asphalt)

**IATA Cargo Transport**

UN-No. : UN3257  
 Class : 9  
 Not permitted for transport

**IATA Passenger Transport**

UN-No. : UN3257  
 Class : 9  
 Not permitted for transport

**IMDG-Code**

UN-No. : UN 3257  
 Description of the goods : Elevated temperature liquid, n.o.s.  
 (Asphalt)  
 Class : 9  
 Packaging group : III  
 IMDG-Labels : 9  
 EmS Number : F-A S-P  
 Marine pollutant : No

**SECTION 15. REGULATORY INFORMATION**

OSHA Hazards : Moderate skin irritant  
 Moderate eye irritant  
 Toxic by inhalation.  
 Possible carcinogen.

**CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)**

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

TSCA Status : On TSCA Inventory  
 DSL Status : All components of this product are on the Canadian DSL list.  
 SARA 311/312 Hazards : Acute Health Hazard  
 PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

| <u>Components</u> | <u>CAS-No.</u> |
|-------------------|----------------|
| <b>Asphalt</b>    | 8052-42-4      |

MASS RTK US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

| <u>Components</u> | <u>CAS-No.</u> |
|-------------------|----------------|
| <b>Asphalt</b>    | 8052-42-4      |

NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Components**CAS-No.**Asphalt**

8052-42-4

**hydrogen sulfide**

7783-06-4

California Prop. 65

: WARNING! This product contains a chemical known to the State of California to cause cancer.

Asphalt

8052-42-4

**SECTION 16. OTHER INFORMATION**Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Template** : GWU mbH  
**Prepared by** : Birkenbacher Str. 18  
D-57078 Siegen  
  
Germany  
  
Telephone: +49-(0)271-88072-0

**Revision Date** : 11/29/2010

---

147, 148, 149, 150, 151, 156, 157, 158, 298, 299, 302, 313, 314, 324, 325, 515, 1596