

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 11/16/2018 Supersedes: 10/26/2015 Version: 1.2

| SECTION 1: Identification of the su | ubstance/mixture and of the company/undertaking | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1.1. Product identifier | | |
| Product name | : Asphalt (All Grades for paving and flux) | |
| Product form | : Mixture | |
| Formula | Petroleum Hydrocarbon, a complex combination of hydrocarbons having carbon numbers predominately higher than C25, and may contain hydrogen sulfide | |
| Other means of identification | : PG58-22, PG64-22, PG67-22, Asphalt Flux, Roofing Flux, Asphalt Blendstock | |
| 1.2. Relevant identified uses of the su | bstance or mixture and uses advised against | |
| Use of the substance/mixture | f the substance/mixture : For paving and flux | |
| 1.3. Details of the supplier of the safet Apex Oil Company, Inc. Clark Oil Trading Company Enjet, LLC 8235 Forsyth Boulevard, Suite 400 St. Louis, Missouri 63105 General Assistance 1-314-889-9600 | ty data sheet | |
| 1.4. Emergency telephone number | | |
| Emergency number | : Chemtrec: 1-800-424-9300 (Apex reference number: 225708) | |
| | | |

SECTION 2: Hazard identification

Classified Hazards No classified hazards

Other Hazards

Water contact with hot material can cause violent eruption Contact with hot product will cause thermal burns. May contain or release poisonous hydrogen sulfide gas.

Label Elements

WARNING

Water contact with hot material can cause violent eruption Contact with hot product will cause thermal burns. May contain or release poisonous hydrogen sulfide gas.

Avoid overheating to minimize fume production; Avoid breathing fumes from hot material

SECTION 3: Composition/information on ingredients

| Chemical Name | CASRN | Concentration ¹ |
|----------------------------------|-------------|----------------------------|
| Asphalt | 8052-42-4 | 100 |
| Hydrogen sulfide | 7783-06-4 | Variable (<1) |
| Polycyclic Aromatic Hydrocarbons | 130498-29-2 | <0.1 |

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

| SECTI | ON 4: First aid measures | |
|-----------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1. | Description of first aid measures | |
| First-aid | measures general | : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person. |
| First-aid | measures after skin contact | : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for a least 15 minutes. If irritation develops or persists, get medical attention. |
| First-aid | measures after eye contact | : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing. |
| First-aid | measures after ingestion | : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately. |

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| 4.2. Most important symptoms and | effects, both acute and delayed |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Symptoms/injuries | : May cause genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Direct contact with the eyes is likely to be irritating. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. |
| Chronic symptoms | : May cause genetic defects. May cause cancer. Causes damage to organs through prolonged or repeated exposure. |
| 4.2 Indication of any immediate m | |

4.3. Indication of any immediate medical attention and special treatment needed No additional information available.

SECTION 5: Firefighting measures

NFPA 704 Hazard Class

| Health: 0 | Flammability: 1 | Instability: 0 |
|-----------|-----------------|----------------|
|-----------|-----------------|----------------|



0 (Minimal) 1 (Slight) 2 (Moderate) 3 (Serious) 4 (Severe) ₩ (Unusual reactivity with water)

Extinguishing Media: Dry chemical, carbon dioxide, or alcohol-resistant foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters. Water fog may be used on flat surfaces such as roads. Do not use water on asphalt fire in tank or other containers since it may cause violent eruption and spreading of burning asphalt.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. When heated above its flash point, this material may release flammable vapors, which, if exposed to a source of ignition, can burn in the open or be explosive in confined spaces. Vapors released to atmosphere at these temperatures can cause flash fire. Hot asphalt may ignite flammable mixtures on contact. If water is applied to heated material, it can cause violent foaming and boil over. If container is not properly cooled, it can rupture in the heat of a fire. Hazardous combustion/decomposition products, including hydrogen sulfide, may be released by this material when exposed to heat or fire. Use caution and wear protective clothing, including respiratory protection.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Hydrogen sulfide and oxides of nitrogen and sulfur may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water or foam can cause frothing. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

| SECTION 6: Accidental release measures | |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.1. Personal precautions | , protective equipment and emergency procedures |
| General measures | : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8). |
| 6.1.1. For non-emergency p | ersonnel |
| Protective equipment | : Wear Protective equipment as described in Section 8. |
| Emergency procedures | : Evacuate unnecessary personnel. |
| 6.1.2. For emergency response | nders |
| Protective equipment | : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency. |
| 11/16/2018 | Apphalt (All Grades for paying and flux) 2/1 |

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

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6.2. Environmental precautions

| Prevent entry to sewers and public waters. Notify | authorities if liquid enters sewers or public waters. Avoid release to the environment. |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.3. Methods and material for containment | nt and cleaning up |
| For containment | : Stop leak if safe to do so. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. |
| Methods for cleaning up | : Eliminate ignition sources. Wear suitable respiratory protective equipment. Ventilate area. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation. |
| 6.4. Reference to other sections | |
| See Sections 8 and 13. | |
| SECTION 7: Handling and storage | |

7.1. Precautions for safe handling

| Precautions for safe handling | : Handle in accordance with good industrial hygiene and safety procedures. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Use appropriate personal protection equipment (PPE). Immediately rinse contaminated clothing thoroughly with water. Use only in well-ventilated areas. Avoid breathing vapors, mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use explosion-proof equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.2. Conditions for safe storage, i | ncluding any incompatibilities |

Storage conditions

: Store in a dry, cool and well-ventilated place. Keep the container tightly closed. Store in original container. Keep away from ignition sources. Ground and bond all transfer and storage equipment.

SECTION 8: Exposure controls/personal protection

| Chemical Name | ACGIH | OSHA | Other |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------|
| Asphalt | TWA: 0.5 mg/m ³ as benzene soluble inhalable aerosolTWA: 0.5 mg/m ³ as benzene soluble inhalable aerosol | | |
| Hydrogen sulfide | STEL: 5 ppm TWA: 1 ppm | Ceiling: 20 ppm | TWA: 5 ppm 8hr TWA: 2.5 ppm 12hr STEL: 15 ppm (Phillips 66 Guidelines) |

8.2. Exposure controls

Personal protective equipment

Appropriate engineering controls

: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

: Gloves. Protective goggles. Wear chemically impervious apron over labcoat and full coverage clothing.



: Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. . Suitable gloves for this specific application can be recommended by the glove supplier.

: Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

: Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Skin and body protection

Eye protection

Hand protection

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Respiratory protection

: Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

| 9.1. Information on basic physical and | chemical properties |
|--------------------------------------------|----------------------------------------------------------|
| Physical state | : Liquid |
| Appearance | : Viscous semi-solid to solid at room temperature. |
| Color | : Black. |
| Odor | : Hydrocarbon-asphaltic. |
| Odor Threshold | : Asphaltic odor at use temperatures (> 149 °C (300 °F)) |
| рН | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : 232 - 538 °C (450 - 900 °F) |
| Flash point | 218 - 288 °C (450 - 550 °F) |
| Auto-ignition temperature | : > 427 °C (800 °F) |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : < 5.17 mm Hg (0.1 psi) |
| Relative vapor density at 20 °C | : > 5 (air = 1) |
| Relative density | : 1 - 1.1 @ 15.5 °C (60 °F) |
| Solubility | : Negligible. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : 0.9 - 7 vol % |
| 9.2. Other information | |
| No additional information available | |

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid contact with : Ignition sources. Heat. Sparks. Open flame. Incompatible materials.

10.5. Incompatible materials

Oxidizing agent. Strong acids. caustic materials. Halogens.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides (CO, CO₂). Sulfur oxides. Hydrocarbons.

SECTION 11: Toxicological information

| 11.1. Information on toxicological effects | |
|--------------------------------------------|-----------------------|
| Acute toxicity | : Not classified |
| Asphalt (8052-42-4) | |
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |
| Benzene (71-43-2) | |
| LD50 dermal rabbit | > 8200 mg/kg |
| LC50 inhalation rat (mg/l) | 44.66 mg/l/4h (vapor) |

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|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Distillates, petroleum, petroleum residues va | cuum (68955-27-1) |
| LD50 oral rat | 4320 mg/kg |
| LD50 dermal rabbit | > 2000 |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Not classified |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : May cause genetic defects. |
| Carcinogenicity | : May cause cancer. |
| Asphalt (8052-42-4) | |
| IARC group | 2B - Possibly carcinogenic to humans |
| | |
| Benzene (71-43-2) | 1 - Carcinogenic to humans |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |
| | |
| Ethylbenzene (100-41-4) | 2D. Dessibly exprises and to hymony |
| IARC group | 2B - Possibly carcinogenic to humans |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Causes damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | : Not classified |
| Symptoms/injuries after inhalation | : May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Direct contact with the eyes is likely to be irritating. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. |
| Chronic symptoms | : May cause genetic defects. May cause cancer. Causes damage to organs through prolonged |
| | or repeated exposure. |
| SECTION 12: Ecological information | |
| 12.1. Toxicity | |
| Ecology - general | : No information available. |
| | |
| 12.2. Persistence and degradability | |
| Asphalt (All Grades for paving and flux) | |
| Persistence and degradability | No information available. |
| 12.3. Bioaccumulative potential | |
| Asphalt (All Grades for paving and flux) | |
| Bioaccumulative potential | No information available. |
| 12.4. Mobility in soil | |
| Asphalt (All Grades for paving and flux) | |
| Ecology - soil | No information available. |
| | · |
| 12.5. Other adverse effects | |
| Other adverse effects | : No data available. |
| SECTION 13: Disposal consideration | s |
| 13.1. Waste treatment methods | |
| Waste treatment methods | : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. |
| Waste disposal recommendations | . Dispass in a sete mean on in accordance with level/noticeal regulations. Do not allow the |
| | : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment. |
| SECTION 14: Transport information | · · |
| · · · | · • |
| SECTION 14: Transport information In accordance with DOT Transport document description | · · |

11/16/2018

: 3257

: UN3257

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| Proper Shipping Name (DOT) | : | Elevated temperature liquid, n.o.s. |
|------------------------------------------------------------------|---|-------------------------------------------------------------------------------------------------------|
| | | at or above 100 C and below its flash point (including molten metals, molten salts, etc.) |
| Department of Transportation (DOT) Hazard Classes | : | 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140 |
| Hazard labels (DOT) | : | 9 - Class 9 (Miscellaneous dangerous materials) |
| | | |
| Packing group (DOT) | : | III - Minor Danger |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : | Forbidden |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : | Forbidden |
| DOT Vessel Stowage Location | : | A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other | : | 85 - Under deck stowage must be in mechanically ventilated space |
| Additional information | | |
| Other information | : | No supplementary information available. |
| Transport by sea | | |
| No additional information available | | |
| Air transport | | |
| No additional information available | | |

SECTION 15: Regulatory information 15.1. US Federal regulations Asphalt (All Grades for paving and flux) All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory SARA Section 311/312 Hazard Classes Delayed (chronic) health hazard Benzene (71-43-2) Section 302 (EHS) TPQ Section 304 EHS RQ CERCLA RQ lb 10 Section 313 Listed on US SARA Section 313 Ethylbenzene (100-41-4) Section 302 (EHS) TPQ

| ; | Section 304 EHS RQ | | |
|---|--------------------|-------------------------------|----|
| | CERCLA RQ | 1000 | lb |
| : | Section 313 | Listed on US SARA Section 313 | |
| | | | |

15.2. International regulations

CANADA

| Asphalt (All Grades for paving and flux) |
|---------------------------------------------------------------------------------------------------|
| All chemical substances in this product are listed on the Canadian DSL (Domestic Substances List) |

15.3. US State regulations

California Proposition 65

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

| Benzene (71-43-2) | | | | |
|----------------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------|
| U.S California - Proposition 65 - Carcinogens List | U.S California - Proposition 65 - Developmental Toxicity | U.S California - Proposition 65 - Reproductive Toxicity - Female | U.S California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| Yes | Yes | No | Yes | 6.4 (oral) μg/day 13 (inhalation) μg/day |

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| Toluene (108-88-3) | | | | |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------|
| U.S California - Proposition 65 - Carcinogens List | U.S California - Proposition 65 - Developmental Toxicity | U.S California - Proposition 65 - Reproductive Toxicity - Female | U.S California - Proposition 65 - Reproductive Toxicity - Male | No significance risk leve (NSRL) |
| No | Yes | No | No | 7,000 µg/day |
| Asphalt (Asphalt fume | s) (8052-42-4) | | | |
| U.S New Jersey - Righ U.S Pennsylvania - R U.S Massachusetts - F | nt to Know Hazardous Substance ГК (Right to Know) List Right To Know List | List | | |
| Benzene (71-43-2) | | | | |
| U.S Pennsylvania - RT | Right To Know List ht to Know Hazardous Substance IK (Right to Know) - Special Haz IK (Right to Know) - Environmen | ardous Substances | | |
| Toluene (108-88-3) | | | | |
| U.S Massachusetts - F | nt to Know Hazardous Substance Right To Know List IK (Right to Know) - Environmen | | | |
| Hydrogen sulfide (7783 | 3-06-4) | | | |
| U.S Massachusetts - F U.S New Jersey - Righ | 1 | | | |
| SECTION 16: Othe | er information | | | |
| Indication of changes | | sion 1.2: SDS Revised | | |
| Revision date Other | : 11/2 | | | |

| Revision date Other | : 11/26/2015 |
|---------------------|----------------|
| information | : Author: BCS. |
| | |
| | |
| | |

| Health | : | 2* |
|---------------------|---|----|
| Flammability | : | 1 |
| Physical | : | 0 |
| Personal Protection | : | |

HMIS III Rating

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