Safety Data Sheet (SDS) for Vacuum Tower Asphalt Flux

SECTION 1: IDENTIFICATION

PRODUCT NAME:

Vacuum Tower Asphalt Flux

GENERAL USE:

Asphalt additive product used in road and paving applications; waterproofing and sealing applications; coatings; or other engineering applications. Use in other applications may result in higher exposures and require additional engineering controls and personal protective equipment.

SYNONYMS:

Asphalt Flux, Asphalt Extender, Petroleum Asphalt, Vacuum Tower Bottoms

MANUFACTURER:

Noble Oil Services, Inc.
5617 Clyde Rhyne Drive
Sanford, North Carolina 27330
www.nobleoil.com

24 HR. EMERGENCY TELEPHONE NUMBERS:
Emergency Contact: Compliance Manager
Product Stewardship: 800-NOBLE-OIL
Alternate Emergency Phone: 919-774-8180
CHEMTREC (US Transportation) :(800) 424-9300
Issued Revision Date: May 1, 2021

SECTION 2: HAZARD(S) IDENTIFICATION

ACCORDING TO OSHA 29 CFR 1910.1200 HCS: Classification of the Substance or Mixture

Classification (GHS-US):

Global Labeling Elements:

Hazard Symbol: **None.**

Signal Word (GHS-US): **None.**

Hazard Statements (GHS-US)

H316 – Causes Skin irritation.H320 – Causes eye irritation.
H317 – May cause an allergic skin reaction.
H350 – May cause cancer.
H336 – May cause drowsiness and dizziness.
H401 – Toxic to aquatic life.

Precautionary Statements (GHS-US):

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 – Ground/bond container and receiving equipment.
P241 – Use explosion-proof electrical/ventilating/lighting equipment pursuant to applicable electrical code
P242 – Use only non-sparking tools
P243 – Take precautionary measures against static discharge.
P280 - Wear protective gloves/protective clothing/eye protection/face

P260 – Do not breathe fume/gas/mist/vapor/spray.
P271 – Use only outdoors or in a well-ventilated area
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 – Wash skin thoroughly after handling.
P303+361+353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse with water/shower.
P308+311 - If exposed or concerned: Get medical advice/attention.
P301+310 - If swallowed: Immediately call a poison center/doctor.
P370+P378 – In case of fire use firefighting foam or other appropriate media for Class B fires to extinguish.
P403+235 - Store in a well-ventilated place. Keep cool.
P501 – Dispose of contents/container in accordance with local/regional/national/international regulation.
P273 – Avoid release to the environment.

GENERAL HAZARD: Keep away from heat, sparks, flame or any ignition source. Product may burn but does not ignite readily.

Other hazards: Hazard(s) Not Otherwise Classified
This product may be heated to temperatures greater than 100ºC (212ºF). Hot product may cause thermal burns and can generate hydrogen sulfide which can be fatal if inhaled and which is a highly flammable gas. Water contact can cause violent eruption of hot asphalt.

Response
In case of fire, use carbon dioxide, dry chemical, or water fog

Storage
Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal
Dispose in accordance with all applicable regulations.

SECTION 3: COMPOSITIONS/INFORMATION ON INGREDIENTS

Composition varies depending on source of crude and specifications of final product. Can contain minor amounts of sulfur, nitrogen and oxygen compounds as well as trace amounts of heavy metals. Dangerous amounts of hydrogen sulfide, a highly toxic gas, may be present, especially in the headspace of containers.

Component	CAS Number	Percent/Concentration
Petroleum Residues, Lubricating Oils	129893-17-0	99.9-100%
Hydrogen Sulfide*	7783-06-4	<0.1%

*The concentration of hydrogen sulfide dissolved in this product is less than 0.1 WT% but thermal decomposition may give rise to vapor concentrations in storage tanks which may meet or exceed exposure limits. Hydrogen sulfide was not detected in the product sample submitted for laboratory analysis for the preparation of this data sheet.

SECTION 4: FIRST-AID MEASURES

General Advice
Call 911 or emergency medical service. Remove and isolate contaminated clothing, except as provided under SKIN below.

Inhalation
Remove person to fresh air and keep comfortable for breathing. Immediately call a poison control center or doctor/physician.
Skin
For burns from contact with hot material, do NOT remove solidified material as this might cause skin tearing. Cover area with sterile, dry dressing. Immediately get medical attention. If contact is with cooled material, immediately remove all contaminated clothing. Rinse skin with cool water.
Eyes
If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately. Do not attempt to remove cooled product from eye as it can cause tissue damage. If irritation or redness from exposure to vapor develops, move away from exposure into fresh air.
Ingestion
Do NOT induce vomiting. Immediately get medical attention. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything by mouth to an unconscious person.

Most Important Symptoms/Effects
Acute
For hot product: Fatal if inhaled, thermal burns.
Cooled product may irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.

Delayed
No information on significant adverse effects.

Indication of Immediate Medical Attention and Special Treatment Needed:
For inhalation, consider oxygen. Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide, dry chemical or water spray foam.
Unsuitable Extinguishing Media
Do not use high-pressure water streams.
Hazardous Combustion Products
Decomposition and combustion materials may be toxic. Burning may produce hydrogen sulfide, sulfur oxides, carbon monoxide, and unidentified organic compounds.
Special Protective Equipment and Precautions for Firefighters
A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.
Fire Fighting Measures
Move containers from fire area if it can be done without risk. Keep storage containers cool with water spray.
Specific Hazards Arising from the Chemical
For cooled product: Product may burn, but does not ignite readily.
Hot product is a vapor explosion hazard indoors, outdoors, or in sewers. Vapors or gases may ignite at distant ignition sources and flash back. Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Runoff may create fire or explosion hazard. Containers may rupture or explode if exposed to heat. Empty containers may retain product residue including flammable/explosive vapors. Product is not sensitive to mechanical impact or static discharge.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Wear appropriate personal protective equipment (PPE) and clothing (see Section 8). Avoid release to the environment. Avoid breathing any vapor. Provide adequate ventilation.

METHODS AND MATERIALS FOR CONTAINMENT/CLEANING UP:
Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Absorb with materials such as: Clay, Dirt, Sand or equivalent absorbent. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Collect any wash water for disposal. Dispose of according to local, state and federal regulations. Advise authorities if material has entered or may enter waterways or sewer drains.

Do not touch or walk through spilled product. Stop leak if you can do it without risk. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Hot product: contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, spark proof tool into a sealable container for disposal. Cooled product: collect and dispose in proper container.

Remove all ignition sources. Stop leak if you can do it without risk. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent material and shovel with a clean, sparkproof tool into a sealable container for disposal. Additionally, for large spills: Water spray may reduce vapor, but may not prevent ignition in closed spaces. Dike far ahead of liquid spill for collection and later disposal. There may be specific federal regulatory reporting requirements associated with spills, leaks, or releases of this product. Also see SECTION 15: REGULATORY INFORMATION.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling
This product is normally handled at high temperatures. Vapors from hot material may be explosive: keep away from sparks or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean, spark proof tools and explosion-proof equipment. When transferring product, metal containers, including trucks and tank
cars, should be grounded and bonded. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Hydrogen sulfide may be released when this material is heated. Sense of smell becomes rapidly fatigued and cannot be relied upon to warn of the presence of hydrogen sulfide. Avoid contact with eyes, skin, clothing, and shoes. Do not smoke when using this product. Do not put in mouth. Wear protective gloves and eye/face protection.
Conditions for Safe Storage, Including Any Incompatibilities
Keep away from water when loading and unloading. Use dry container to avoid violent eruptions and splattering of hot product. Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from heat, flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain product residue and can be dangerous. Store locked up.
Incompatibilities
Avoid acids, alkalis, oxidizing materials, halogens, and reactive metals.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use general ventilation process enclosures, local exhaust ventilation, or other engineering controls to control air-borne levels. Where explosive mixtures may be present, equipment safe for such locations should be used. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:
Personal protective equipment should be selected based upon the conditions under which this material is used. The following PPE should be considered the minimum required: safety glasses, chemical resistant gloves, protective apron, chemical resistant boots and other protective clothing as necessary.

EYES AND FACE:
Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection: Safety goggles should be worn at a minimum. Additional protection such as face shields or respirators may be needed depending

upon anticipated use and concentrations of mists or vapors. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. Contact lens use is not recommended.

SKIN:
Where contact with hot product is likely, wear combination temperature and chemical protective gloves. Where contact with cooled product is likely, wear appropriate product resistant gloves..

RESPIRATORY PROTECTION:
Sense of smell rapidly diminishes and cannot be relied upon to warn of the presence of hydrogen sulfide. Use NIOSH air-certified, air-supplied respirators (self-contained breathing apparatus or air-line) respiratory protective equipment when concentration of hydrogen sulfide may exceed applicable exposure limits. Otherwise, use NIOSH-certified P- or R- series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 requirements must be followed wherever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

PROTECTIVE CLOTHING:
Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves. Ensure compliance with OSHA's personal protective equipment (PPE) standard, 29 CFR 1910.132 (general) .133 (eye and face) and .138 (hand protection).

WORK HYGIENIC PRACTICES:
Wash hands and other exposed areas of skin with soap and water after handling the material.

Occupational Exposure Limits

Component	OSHA	NIOSH REL	ACGIH-TWA
Petroleum Distillates and Residues (see Asphalt below)	-	-	-
Hydrogen Sulfide	20 ppm (Ceiling)	10 ppm (Ceiling)	1 ppm and STEL is 5 ppm
Asphalt	-	5 mg/m^3	0.5 mg/m^3 Inhalable Fraction
Naphthalene	10 ppm	10 ppm	10 ppm
Vacuum Tower Bottoms	-	0.5 mg/m^3	0.5 mg/m^3

Note: - = not available
ppm = parts per million
mg/m^3 = milligrams per cubic meter of air
Ca = Potential occupational carcinogens
OSHA = Occupational Safety and Health Administration
NIOSH – National Institute for Occupational Safety and Health
ACGIH = American Conference of Governmental Industrial Hygienist

*The concentration of hydrogen sulfide dissolved in this product is less than 0.1 WT% but thermal decomposition may give rise to vapor concentrations in storage tanks which may meet or exceed exposure limits. Hydrogen sulfide was not detected in the product sample submitted for laboratory analysis for the preparation of this data sheet.

COMMENTS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:
For hot products: Viscous, semi-solid, black, petroleum and/or rotten-egg odor. For cooled products: Solid, black, rotten-egg odor.

PHYSICAL STATE:	Viscous liquid to semisolid
MOLECULAR WEIGHT:	Not Available
FLASH POINT:	605° F (318C)
DECOMPOSITION TEMPERATURE:	>760F (BP)
ODOR:	Rotten-egg
ODOR THRESHOLD:	0.1 ppm based on Hydrogen Sulfide
COLOR:	Gray to Black
pH:	Not Available
PERCENT VOLATILE:	0%
EVAPORATION RATE:	Very Slow
VAPOR PRESSURE:	<0.1 PSIA @ 100 °F
VAPOR DENSITY:	>1
AUTOIGNITION TEMPERATURE:	835ºF (446ºC)
LOWER EXPLOSIVE LIMIT:	6.1%
UPPER EXPLOSIVE LIMIT:	0.4%
FREEZING POINT:	5F (-15C)
BOILING POINT:	Not Available
MELTING POINT:	5F (-15C)
WATER SOLUBILITY:	Negligible
SPECIFIC GRAVITY:	~ 0.9147 (Water=1)
SOLUBILITY:	Insoluble
DENSITY:	8 lbs./U.S. gallon (960 g/l) (approximately)
VISCOSITY:	1323.60 CST @ 40C

SECTION 10: STABILITY AND REACTIVITY

STABILITY:
Stable.

HAZARDOUS POLYMERIZATION:
Hazardous polymerization does not occur.

REACTIVITY:
No reactivity hazard is anticipated.

CONDITIONS TO AVOID:
Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

POSSIBILITY OF HAZARDOUS REACTIONS:
None under normal temperatures and pressures. Also see SECTION 5: HAZARDOUS COMBUSTION PRODUCTS.

HAZARDOUS DECOMPOSITION PRODUCTS:
Decomposition and combustion materials may be toxic. Burning may produce hydrogen sulfide, oxides of sulfur, oxides of carbon, unidentified organic compounds and products of incomplete combustion.

INCOMPATIBLE MATERIALS: Avoid acids, alkalis, oxidizing agents, reactive halogens, or reactive metals. Avoid volatile solvents because contact may cause vapors from hot products to ignite. Avoid water because allowing hot product to contact water can cause violent eruptions, splatter hot material, or ignite flammable materials.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICITY DATA AND INFORMATION:
Component Analysis - LD50/LC50
Dihydrogen monosulfide (7783-06-4)
Inhalation LC50 Rat 0.99 mg/L 1 hr.

INFORMATION ON LIKELY ROUTES OF EXPOSURE:
Inhalation - For hot product: High concentrations of vapor or mist may irritate the respiratory tract (nose, throat, and lungs). Inhaling hydrogen sulfide released from hot products in enclosed areas may cause unconsciousness, convulsions, suffocation, coma, and death. For cooled product mechanical irritation may occur.
Ingestion - May be harmful if swallowed. May cause throat irritation, nausea, vomiting, and diarrhea. Aspiration hazard: breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.
Skin Contact - May cause thermal burns from heated material. For cooled product: May cause irritation.
Eye Contact - May cause thermal burns from heated material. For cooled product: May cause irritation.
Immediate Effects - For hot product: Fatal if inhaled, thermal burns. Cooled product may irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.
Delayed Effects - No information on significant adverse effects.
Irritation/Corrosivity - For hot product: thermal burns. Cooled product may irritate the respiratory tract (nose, throat, and lungs), eyes, and skin.
Respiratory Sensitization - Based on best current information, there is no known human sensitization associated with this product.
Skin Sensitization - Based on best current information, there is no known human sensitization associated with this product.
Carcinogenicity - None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.
Germ Cell Mutagenicity - Based on best current information, there is no known mutagenicity associated with this product.
Teratogenicity - Based on best current information, there is no known teratogenicity associated with these products.
Reproductive Effects - Based on best current information, there is no known reproductive toxicity associated with this product.
Specific Target Organ Effects - Single Exposure - No target organs identified.
Specific Target Organ Effects - Repeated Exposure - No target organs identified.
Medical Conditions Aggravated by Exposure - Individuals with pre-existing respiratory tract (nose, throat, and lungs), eye, and/or skin disorders may have increased susceptibility to the effects of exposure.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: No information available.
ECOTOXICOLOGICAL INFORMATION: Dihydrogen monosulfide (CAS# 7783-06-4) (Hydrogen Sulfide)

Duration/Test/Species:	Concentration/Conditions:
96 hr. LC50 Lepomis macrochirus	0.0448 mg/L [flow-through]
96 hr. LC50 Pimephales promelas	0.016 mg/L [flow-through]

(12a) Ecotoxicity (aquatic & terrestrial): Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
12(b) Persistence & Degradability: No Data Found
12(c) Bioaccumulative Potential: No Data Found
12(d) Mobility (in soil): No Data Found

12(e) Other adverse effects: No Data Found
ADDITIONAL INFORMATION:
Hazard Category: Not Reported
Hazard Symbol: No Symbol
Hazard Statement: No Statement
Signal Word: No Signal Word

Section 13: DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose of in accordance with Local, State, Federal and International regulations. Observe safe handling precautions. The information presented here pertains only to the product. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. Waste characteristics and compliance with applicable laws are the responsibility solely of the waste generator. Observe safe handling precautions.

CONTAINER: Regarding unused & uncontaminated product, the preferred options include sending to a licensed, permitted recycler, incinerator or other thermal destruction device. Empty container may contain product residue and should not be reused.

SECTION 14: TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION) INFORMATION:

COOL PRODUCT: < 100ºC (212ºF) – NON-USDOT REGULATED

49 CFR 172.101 may regulate Vacuum Tower Asphalt Extender as a hazardous material under certain circumstances. All Local, State, Federal and International laws and regulations that apply to the transport of this type of material must be adhered to.

USDOT	
UN Identification Number	UN3257
Proper Shipping Name	Elevated temperature liquid, n.o.s. at or above 212°F and below its flash point
Hazard Class and Packing Group	9, PGIII
Shipping Label	Miscellaneous Hazardous Materials
Placard/Bulk Package	9
Marine Pollutant	-
Additional Information	1B1, T3, TP3, TP29
Emergency Response Guidebook Guide	Number 128
IDG	
UN Identification Number	UN3257
Proper Shipping Name	Elevated temperature liquid, n.o.s. at or above 212°F and below its flash point
Hazard Class and Packing Group	9, PGIII
Shipping Label	Miscellaneous Hazardous Materials
Placard/Bulk Package	9
Marine Pollutant	No
Additional Information	EmS: F-A, S-P
Emergency Response Guidebook Guide	Number 128

IATA	
UN Identification Number	UN2357
Proper Shipping Name	Elevated temperature liquid, n.o.s.
Hazard Class and Packing Group	3, PGIII
Shipping Label	Miscellaneous Hazardous Materials
Placard/Bulk Package	9
Marine Pollutant	No
Additional Information	EmS: F-A, S-P
Emergency Response Guidebook Guide	Number 128

SECTION 15: REGULATORY INFORMATION

VOC (AS REGULATED):
100 WT%; 8 lbs./U.S. gallons; 960 grams/liter (approximately)

FEDERAL REGULATIONS SARA 302/304:
Component Analysis
Based on the ingredient(s) listed in SECTION 3, this product does contain "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B. The SARA 302 Threshold Planning Quantity (TPQ) for Dihydrogen monosulfide (Hydrogen Sulfide) is 500 lbs. Under SARA 304 the Reportable Quantity (RQ) is 100 lbs./45.4 kg.
CLEAN WATER ACT (CWA) 311: This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) HAZARD CATEGORIES:
Immediate Hazard: Yes
Delayed Hazard: Yes
Fire Hazard: No
Pressure Hazard: No
Reactivity Hazard: No.

SARA 311/312 HAZARDOUS CATEGORIES:
These products pose the following health hazard(s) as defined in 40 CFR Part 370 and are subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA):
Acute Health: No
Chronic Health: No
Fire: No
Pressure: No
Reactive: No

SARA SECTION 313 COMPONENT ANALYSIS:
This product does not contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372. SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

CERCLA:

Component Analysis

CERCLA Hazardous Substance List (40 CFR 302.4) Asphalt (CAS 8052-42-4) listed Hydrogen Sulfide (CAS 7783-06-4) listed based on the ingredient(s) listed in SECTION 3, this product contains the following "hazardous substance" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 302.4 with the following reportable quantities (RQ) for Hydrogen Sulfide is 100 lbs. or 45.4 kg.

TSCA INVENTORY:

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D) not regulated. U.S. OSHA specifically regulated substances (29 CFR 1910.1001-1050) not listed. All the components of these products are listed on, or are automatically included as "naturally occurring chemical substances" on, or are exempted from the requirement to be listed on, the TSCA Inventory.

Component Analysis

Component	CAS #	TSCA
Hydrogen Sulfide	7783-06-4	Yes

U.S. STATE REGULATIONS:

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	MA	MN	NJ	PA	CA
Hydrogen Sulfide	7783-06-4	Yes	Yes	Yes	Yes	Yes

These products may contain detectable amounts of lead CAS 7439-92-1, nickel CAS 7440-02-0, benzo(a)anthracene CAS 56- 55-3, benzo(k)fluoranthene CAS 207-08-9, benzo(a)pyrene CAS 50-32-8, benzo(b)fluoranthene CAS 205-99-2, chrysene CAS 218-01-9, dibenz(a,h)anthracene CAS 53-70-3, and indeno(1,2,3-cd)pyrene CAS 193-39-5. WARNING: These chemicals are known to the State of California to cause cancer.

These products may contain detectable amounts of lead CAS 7439-92-1. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all information required by the CPR.

Component Analysis

Component	CAS #	CAN
Hydrogen Sulfide	7783-06-4	DSL

Canadian WHMIS Information

Hot Product: Class B2 - Flammable Liquid
D2B Toxic

OTHER FEDERAL REGULATIONS:

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Hydrogen Sulfide (CAS 7783-06-4)

STATE REGULATIONS:

Georgia: Asphalt (CAS 8052-42-4) Hydrogen sulfide (CAS 7783-06-4) RTK: Environmental hazard Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2) Vacuum tower bottoms (CAS 64741-56-6) No. 4 Fuel Oil, CAS No. 68476-31-3, Amount 100%.

Massachusetts: Asphalt (CAS 8052-42-4) Hydrogen sulfide (CAS 7783-06-4) RTK Extraordinarily hazardous Vacuum tower bottoms (CAS 64741-56-6)

New York: Asphalt (CAS 8052-42-4) LHS Part 597: 100 lbs. RQ air 100 lbs. RQ land/water

New Jersey: Asphalt (CAS 8052-42-4) RTK: sn 0170; SHS: Flammable – third degree Hydrogen Sulfide (CAS 7783-06-4) RTK: sn 1017; SHS: Flammable – fourth degree; EH: SN 1017 TPQ 500 lbs. Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2) Vacuum tower bottoms (CAS 64741-56-6)
Pennsylvania: Asphalt (CAS 8052-42-4) Hydrogen sulfide (CAS 7783-06-4) RTK: Environmental hazard Polycyclic Aromatic Hydrocarbons (CAS 130498-29-2) Vacuum tower bottoms (CAS 64741-56-6)
Rhode Island: Asphalt (CAS 8052-42-4) RTK: Toxic: Flammable Hydrogen sulfide (CAS 7783-06-4) RTK: Toxic: Flammable
California Prop. 65: WARNING: This product contains chemicals known to the State of California to cause cancer. Asphalt (CAS 8052-42-4) CRT Vacuum tower bottoms (CAS 64741-56-6) CRT
INTERNATIONAL REGULATIONS:
International Lists: Australia inventory (AICS): Not determined. **China inventory (IECSC):** Not determined. **Japan inventory:** Not determined. **Korea inventory:** Not determined. **Malaysia Inventory (EHS Register):** Not determined. **New Zealand Inventory of Chemicals (NZIoC):** Not determined. **Philippines inventory (PICCS):** Not determined. **Taiwan inventory (CSNN):** Not determined.
Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt

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SECTION 16 OTHER INFORMATION

REASON FOR ISSUE: SDS Update
PREPARED BY: Noble Oil Services, Inc
ISSUE DATE: May 1, 2021
EDIT DATE: May 1, 2021
PHYSICAL HAZARD: None Identified

ADDITIONAL INFORMATION:

Hazardous Material Identification System (HMIS) Classification, National Fire Protection Association (NFPA):

Other information: NFPA 704

Health: 1 Fire: 1 Instability/Reactivity: 0

MANUFACTER DISCLAIMER: This information is taken from sources or based upon data believed to be reliable. Our objective in sending this information is to help you protect the health and safety of your personnel and to comply with the OSHA Hazard Communication Standard and Title III of the Emergency Planning and Community Right-to-Know Act. Noble Oil Services makes no warranty as to the absolute correctness, completeness, or sufficiency of any of the foregoing, or any additional, or other measures that may not be required under particular conditions. This SDS makes no warranties, express or implied, including the implied warranty of merchantability, or any implied warranty of fitness for a particular purpose, and any implied warranties otherwise arising from course of dealing or trade.

This safety data sheet and the information it contains are offered to you in good faith as accurate and is based on actual laboratory analysis of the product and applicable regulations. We have reviewed any information contained in this data sheet that we received from sources outside our company. We believe that this information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied.