

1. Identification

Material name	DIESEL NO. 2 PRODUCTS
Version #	32
Issue date	11-05-2010
Revision date	01-17-2014
Supersedes date	11-19-2013
CAS #	Mixture
Synonym(s)	APPLICABLE TO ALL GRADES OF DIESEL OIL NO. 2 WITH SULFUR LEVEL 500 PPM OR LESS; INCLUDES BIODIESEL BLENDS (< or = 5%), * ARCTIC DIESEL® * HEATING OIL * GOLD® DIESEL PRODUCTS * RAILROAD FUEL
Manufacturer	Flint Hills Resources Pine Bend, LLC P.O. Box 64596 Pine Bend, MN 55164-0596 United States
Telephone numbers – 24 hour emergency assistance	
Chemtrec	800-424-9300
Flint Hills Resources, LP	651-437-0676
Telephone numbers – general assistance	
8-5 (M-F, CST)	651-437-7000
8-5 (M-F, CST) MSDS Assistance	316-828-7988
Email:	msdsrequest@fhr.com

2. Hazards identification

Emergency overview	CAUTION! PALE YELLOW OR GREEN COLORED LIQUID WITH HYDROCARBON ODOR HEALTH HAZARDS VAPORS, FUMES, OR MISTS MAY CAUSE RESPIRATORY TRACT IRRITATION OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION MAY BE HARMFUL OR FATAL IF SWALLOWED MAY CAUSE LUNG DAMAGE POTENTIAL CANCER HAZARD SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION FLAMMABILITY HAZARDS COMBUSTIBLE LIQUID AND VAPOR VAPOR MAY CAUSE FLASH FIRE REACTIVITY HAZARDS STABLE
Potential health effects	
Routes of exposure	Inhalation, ingestion, skin and eye contact.
Eyes	May cause slight transient irritation, lacrimation (tears) and a burning sensation in the eyes. Effects may become more serious with repeated or prolonged contact.
Skin	Contact may cause reddening, itching and inflammation. Effects may become more serious with repeated or prolonged contact. Skin contact may cause harmful effects in other parts of the body.

Inhalation Breathing high concentrations may be harmful. May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

Ingestion Swallowing this material may be harmful. May cause irritation of the mouth, throat and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

3. Composition/information on ingredients

Components	CAS #	Percent
C9-C20 HYDROCARBONS PRODUCED BY THE PROCESSING OF CRUDE OIL	68476-34-6	0 - 100 %
DISTILLATES (PETROLEUM), HYDRODESULFURIZED MIDDLE	64742-80-9	0 - 100 %
HYDRODESULFURIZED KEROSENE	64742-81-0	0 - 45 %
C9-C25 HYDRODESULFURIZED DISTILLATE, LIGHT CAT CRACKED	68333-25-5	0 - 40 %
KEROSENE	8008-20-6	0 - 25 %
BIODIESEL	Mixture	0 - 7 %
1,2,4-TRIMETHYLBENZENE	95-63-6	0.1 - 1 %
XYLENE	1330-20-7	0 - 1 %
BIPHENYL	92-52-4	0 - 0.75 %
NAPHTHALENE	91-20-3	0 - 0.3 %
BENZENE	71-43-2	0 - 0.02 %

Composition comments Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

This Material Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and is not intended to communicate product specification information. For product specification information, contact your Flint Hills Resources, LP representative.

4. First aid measures

First aid procedures

Eye contact Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Skin contact Immediately wash skin with plenty of soap and water after removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

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.

Ingestion Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Notes to physician

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

5. Fire-fighting measures

Flammable properties

Material will burn in a fire.

Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back.

Static accumulator (nonconductive) flammable or combustible liquid may form ignitable vapor-air mixtures in storage tanks. Bonding and grounding may be insufficient to eliminate the hazard from static accumulation.

Explosion hazard if exposed to extreme heat.

Extinguishing media

Suitable extinguishing media

Use water spray, dry chemical, carbon dioxide or fire-fighting foam for Class B fires to extinguish fire.

Protection of firefighters

Specific hazards arising from the chemical

Combustion may produce CO_x, NO_x, SO_x, reactive hydrocarbons, irritating vapors, and other decomposition products in the case of incomplete combustion.

Fire fighting equipment/instructions

Evacuate area and fight fire from a safe distance.

If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor, cool adjacent structures, and to protect personnel attempting to stop a leak.

Shut off source of flow, if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

6. Accidental release measures

Environmental precautions

Eliminate all sources of ignition. Isolate hazard area and deny entry.

If material is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released material. Notify local authorities and the National Response Center, if required.

Other information

Keep unnecessary people away. Isolate area for at least 50 meters (164 feet) in all directions to preserve public safety. For large spills, if downwind consider initial evacuation for at least 300 meters (1000 feet).

Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e. g. dry sand or earth) then place in a chemical waste container. Large Spills: Dike far ahead of liquid spill for later disposal.

Use a vapor suppressing foam to reduce vapors. Stop leak when safe to do so.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. IF TANK, RAILCAR OR TANK TRUCK IS INVOLVED IN A FIRE, isolate for 800 meters (1/2 mile) in all directions. Evacuate area endangered by release as required. (See Exposure Controls/Personal Protection, Section 8.)

7. Handling and storage

Handling

Electrostatic charge may accumulate and create a hazardous condition when handling this material.

Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (such as tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate procedures to mitigate the hazard.

Static accumulator (nonconductive) flammable or combustible liquid may form ignitable vapor-air mixtures in storage tanks. Bond and ground lines and equipment (tank, transfer lines, pump, floats, etc.) used during transfer to reduce the possibility of static spark-initiated fire or explosion.

Bonding and grounding may be insufficient to eliminate the hazard from static accumulation. Additional precautions should be considered consistent with the current NFPA 77, Recommended Practice on Static Electricity, the current API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents and OSHA Standard 29 CFR 1910.106, Flammable and Combustible Liquids.

Use non-sparking tools. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

Do not eat, drink or smoke in areas of use or storage.

Do not breathe vapor.

Avoid contact with skin or eyes.

Wash thoroughly after handling.

Storage

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers.

Empty containers may contain material residue. Do not reuse without adequate precautions.

Do not eat, drink or smoke in areas of use or storage.

8. Exposure controls / personal protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
BENZENE (CAS 71-43-2)	BEI	25 µg/g
XYLENE (CAS 1330-20-7)	BEI	1.5 g/g

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2,4-TRIMETHYLBENZE NE (CAS 95-63-6)	TWA	25 ppm	
BENZENE (CAS 71-43-2)	STEL	2.5 ppm	Skin
	TWA	0.5 ppm	Skin
BIPHENYL (CAS 92-52-4)	TWA	0.2 ppm	
C9-C20 HYDROCARBONS PRODUCED BY THE PROCESSING OF CRUDE OIL (CAS 68476-34-6)	TWA	100 mg/m3	Inhalable fraction and vapor; Skin
HYDRODESULFURIZED KEROSENE (CAS 64742-81-0)	TWA	200 mg/m3	Skin; P
KEROSENE (CAS 8008-20-6)	TWA	200 mg/m3	Skin; P
NAPHTHALENE (CAS 91-20-3)	STEL	15 ppm	Skin
	TWA	10 ppm	Skin
XYLENE (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
BENZENE (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
BIPHENYL (CAS 92-52-4)	TWA	0.2 ppm
NAPHTHALENE (CAS 91-20-3)	TWA	10 ppm
XYLENE (CAS 1330-20-7)	TWA	100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
BENZENE (CAS 71-43-2)	TWA	1 ppm

U.S. - Alaska (AKOSH)

Components	Type	Value
1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)	TWA	25 ppm
BENZENE (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm
BIPHENYL (CAS 92-52-4)	TWA	0.2 ppm
	STEL	15 ppm
XYLENE (CAS 1330-20-7)	TWA	10 ppm
	STEL	150 ppm
	TWA	100 ppm

U.S. - Minnesota (MNOSHA)

Components	Type	Value
1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)	TWA	25 ppm
BENZENE (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm
BIPHENYL (CAS 92-52-4)	TWA	0.2 ppm
	STEL	15 ppm
XYLENE (CAS 1330-20-7)	TWA	10 ppm
	STEL	150 ppm
	TWA	100 ppm

Exposure guidelines

NOTE: Only ingredients with validated exposure limits are shown in section 8.

As referenced in Section 11 below regarding Toxicological Information, exposure to diesel exhaust fumes may present a health risk. If the user of this product is using it to fuel diesel engines, it is recommended the user of this fuel conduct an assessment to ensure adequate ventilation is present to avoid potentially harmful exposure of the user to diesel exhaust fumes. Such would need to be a "fit for purpose" evaluation of the user's specific diesel engine usage (i.e. mobile or stationary; enclosed – i.e. confined space - or open atmosphere, etc.), as each user's circumstance will be unique to them. User should take appropriate steps to minimize exposure to diesel exhaust fumes.

US ACGIH Threshold Limit Values: Skin designation

BENZENE (CAS 71-43-2)	Can be absorbed through the skin.
C9-C20 HYDROCARBONS PRODUCED BY THE PROCESSING OF CRUDE OIL (CAS 68476-34-6)	Can be absorbed through the skin.
HYDRODESULFURIZED KEROSENE (CAS 64742-81-0)	Can be absorbed through the skin.
KEROSENE (CAS 8008-20-6)	Can be absorbed through the skin.
NAPHTHALENE (CAS 91-20-3)	Can be absorbed through the skin.

US OSHA Specifically Regulated Substances: Action level and Reference

Benzene (CAS 71-43-2)	0.5 ppm
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Engineering controls

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

Personal protective equipment

Eye / face protection	Keep away from eyes. Eye contact can be avoided by using chemical safety glasses, goggles and/or face shield. Have eye washing facilities readily available where eye contact can occur.
Skin protection	Dermal exposure to this chemical may add to the overall exposure. Avoid skin contact with this material. Use appropriate chemical protective gloves when handling. Additional protective clothing may be necessary. Good personal hygiene practices such as properly handling contaminated clothing, using wash facilities before entering public areas and restricting eating, drinking and smoking to designated areas are essential for preventing personal chemical contamination.
Respiratory protection	A NIOSH approved air purifying respirator with an appropriate cartridge or canister, such as an organic vapor cartridge, may be used in circumstances where airborne organic vapor concentrations may exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. See OSHA 29 CFR 1910.134 for more information regarding respiratory protection and Assigned Protection Factors (APFs).

9. Physical and chemical properties

Appearance	Not available
Physical state	Liquid.
Form	Not available.
Color	Pale yellow or green; for tax exempt purposes, this fuel may contain red dye
Odor	Hydrocarbon
Odor threshold	Not available.
pH	Not available
Vapor pressure	2.6 mmHg at 122 °F (50 °C)
Vapor density	> 1 (Air=1)
Boiling point	> 320 °F (> 160 °C) ASTM D86
Melting point/Freezing point	Not available
Solubility (water)	Insoluble
Specific gravity	0.84 - 0.888 at 60/60 °F (15.6/15.6 °C)
Relative density	Not available.
Flash point	> 125 °F (> 51.7 °C) ; Wisconsin: >100 °F (>37.8 °C) PMCC
Flammability limits in air, upper, % by volume	7.5 %
Flammability limits in air, lower, % by volume	0.6 %
Auto-ignition temperature	494 °F (256.67 °C)
VOC	Not available
Evaporation rate	Not available
Viscosity	1.7 - 4.1 cSt at 104 °F (40 °C)
Percent volatile	Not available
Partition coefficient (n-octanol/water)	Not available
Pour point	-20 to 20 °F (-28.9 to -6.7 °C)
Bulk density	7 - 7.4 lb./gal.
Molecular weight	Not available
Molecular formula	Not available
Other data	
Chemical family	Hydrocarbon Mixture

Density Not available

Electrostatic properties

Conductivity <= 50 pS/m

10. Stability and reactivity

Chemical stability Material is stable under normal conditions.
Conditions to avoid Avoid unventilated areas, heat, open flames, sparks and ungrounded electrical equipment.
Incompatible materials Incompatible with oxidizing agents. See precautions under Handling & Storage (Section 7).
Hazardous decomposition products Not anticipated under normal conditions.
Possibility of hazardous reactions Not anticipated under normal conditions.

11. Toxicological information

Carcinogenicity

ACGIH Carcinogens

Benzene (CAS 71-43-2)	A1 Confirmed human carcinogen.
DIESEL FUEL, AS TOTAL HYDROCARBONS, INHALABLE FRACTION AND VAPOR (CAS 68476-34-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
KEROSENE (NON-AEROSOL), AS TOTAL HYDROCARBON VAPOR (CAS 64742-81-0)	A3 Confirmed animal carcinogen with unknown relevance to humans.
KEROSENE (NON-AEROSOL), AS TOTAL HYDROCARBON VAPOR (CAS 8008-20-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene (CAS 91-20-3)	A4 Not classifiable as a human carcinogen.
XYLENE (O, M AND P ISOMERS) (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

BENZENE (CAS 71-43-2)	1 Carcinogenic to humans.
C9-C20 HYDROCARBONS PRODUCED BY THE PROCESSING OF CRUDE OIL (CAS 68476-34-6)	3 Not classifiable as to carcinogenicity to humans.
NAPHTHALENE (CAS 91-20-3)	2B Possibly carcinogenic to humans.
XYLENE (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

US NTP Report on Carcinogens: Anticipated carcinogen

NAPHTHALENE (CAS 91-20-3)	Reasonably Anticipated to be a Human Carcinogen.
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US NTP Report on Carcinogens: Known carcinogen

BENZENE (CAS 71-43-2)	Known To Be Human Carcinogen.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

BENZENE (CAS 71-43-2)	Cancer
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Toxicological data

BENZENE: Studies of Workers Overexposed to Benzene: Studies of workers exposed to benzene show clear evidence that overexposure can cause cancer of the blood forming organs (acute myelogenous leukemia) and aplastic anemia, an often fatal disease. Some studies suggest overexposure to benzene may also be associated with other blood disorders including myelodysplastic syndrome. Some studies of workers exposed to benzene have shown an association with increased rates of chromosome aberrations in circulating lymphocytes. One study of women workers exposed to benzene suggested a weak association with irregular menstruation. However, other studies of workers exposed to benzene have not demonstrated clear evidence of an effect on fertility or reproductive outcome in humans. Benzene can cross the placenta and affect the developing fetus. Cases of aplastic anemia have been reported in the offspring of persons severely overexposed to benzene. Studies in Laboratory Animals: Studies in laboratory animals indicate that prolonged, repeated exposure to high levels of benzene vapor can cause bone marrow suppression and cancer in multiple organ systems. Studies in laboratory animals show evidence of adverse effects on male reproductive organs following high levels of exposure but no significant effects on reproduction have been observed. Embryotoxicity has been reported in studies of laboratory animals but effects were limited to reduced fetal weight and skeletal variations. Benzene has been classified as a proven human carcinogen by OSHA and a Group 1 (Carcinogenic to Humans) material by IARC.

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 a Possibly Carcinogenic to Humans (2B) by IARC, based on findings from studies in laboratory animals.

XYLENES, ALL ISOMERS: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, CNS damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross overexposure. Effects from Prolonged or Repeated Exposure: Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure. The relevance of these observations to humans is not clear at this time. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

C9 AROMATIC HYDROCARBONS: A developmental inhalation study was conducted in laboratory mice. Increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate were observed at the highest exposure level (1,500 ppm). This exposure level was extremely toxic to pregnant female mice (44% mortality). Reduced fetal body weights were also observed at 500 ppm. A multi-generation reproduction inhalation study was conducted in laboratory rats. Reductions in pup weights, pup weight gain, litter size, and pup survival were observed at 1,500 ppm, an exposure level at which significant maternal toxicity was observed. Reduced pup weight gain was also observed at 500 ppm.

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.

DIESEL EXHAUST: NIOSH recommends that whole diesel exhaust be regarded as a potential carcinogen, and the National Toxicology Program (NTP) classifies diesel exhaust particulate as "reasonably anticipated to be a human carcinogen". In a recent review of the scientific literature, The International Agency for Cancer (IARC) classified diesel engine exhaust as a Group 1 carcinogen (carcinogenic to humans), based on sufficient evidence that exposure is associated with an increased risk for lung cancer, and limited evidence of a positive association with an increased risk of bladder cancer. Lifetime exposure to whole diesel exhaust also has been shown to cause cancer in laboratory animals.

Exposure to this material may cause adverse effects or damage to the following organs or organ systems: blood, central nervous system, eyes, kidneys, respiratory tract, lungs, bone marrow, and skin.

12. Ecological information

Ecotoxicity	Toxic to aquatic organisms.
Persistence and degradability	Not readily biodegradable.
Bioaccumulation / Accumulation	May bioaccumulate in aquatic organisms.
Mobility in environmental media	May partition into air, soil and water.

13. Disposal considerations

Disposal instructions

This material, as supplied, when discarded or disposed of, is a hazardous waste according to Federal Regulations due to the material exhibiting a hazardous characteristic under Subpart C of 40 CFR 261. Under RCRA, it is the responsibility of the user of the material to determine, at the time of disposal, whether the material meets RCRA criteria for hazardous waste.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with federal regulations. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

For additional handling information and protection of employees, see Section 7 (Handling and Storage) and Section 8 (Exposure Controls/Personal Protection).

14. Transport information

General

BILL OF LADING - BULK (U. S. DOT): See Bill of Lading for proper shipping description, or consult 49 CFR 100-185 for specific shipping information.

BILL OF LADING - NON-BULK (U. S. DOT): See Bill of Lading for proper shipping description, or consult 49 CFR 100-185 for specific shipping information.

Due to the possible variances of this material, the shipping classification must be evaluated at the time of shipment. Please consult 49 CFR 171 - 180 for specific shipping information.

15. Regulatory information

US federal regulations

All ingredients are on the TSCA inventory, or are not required to be listed on the TSCA inventory.

Consult OSHA's Benzene standard 29 CFR 1910.1028 for provisions on air monitoring, employee training, medical monitoring, etc.

A release of this material, as supplied, may be exempt from reporting under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA - 40 CFR 302) by the petroleum exclusion. Releases may be reportable to the National Response Center (800-424-8802) under the Clean Water Act, 33 U.S.C. 1321(b)(3) and (5).

This material may contain toxic chemical(s) in excess of the applicable de minimis concentration that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372). This information must be included in all MSDSs that are copied and distributed for this material.

This material contains one or more substances listed as hazardous air pollutants under Section 112 of the Clean Air Act.

Check local, regional or state/provincial regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

US EPCRA (SARA Title III) Section 304 - Extremely Hazardous Spill: Reportable quantity

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)	1.0 %
BENZENE (CAS 71-43-2)	0.1 %
BIPHENYL (CAS 92-52-4)	1.0 %
NAPHTHALENE (CAS 91-20-3)	0.1 %
XYLENE (CAS 1330-20-7)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

1,2,4-TRIMETHYLBENZENE (CAS 95-63-6)	Listed.
BENZENE (CAS 71-43-2)	Listed.
BIPHENYL (CAS 92-52-4)	Listed.
NAPHTHALENE (CAS 91-20-3)	Listed.
XYLENE (CAS 1330-20-7)	Listed.

CERCLA (Superfund) reportable quantity

XYLENE: 100.0 pounds
BIPHENYL: 100.0 pounds
NAPHTHALENE: 100.0 pounds
BENZENE: 10.0 pounds

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

State regulations WARNING: This product contains one or more chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Proposition 65, CAL. HSC. §25249.5.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

BENZENE (CAS 71-43-2) Listed: February 27, 1987 Carcinogenic.
NAPHTHALENE (CAS 91-20-3) Listed: April 19, 2002 Carcinogenic.

US - California Proposition 65 - CRT: Listed date/Developmental toxin

BENZENE (CAS 71-43-2) Listed: December 26, 1997 Developmental toxin.

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

BENZENE (CAS 71-43-2) Listed: December 26, 1997 Male reproductive toxin.

16. Other information

HMIS® ratings Health: 1*
Flammability: 2
Physical hazard: 0
* Indicates chronic health hazard

NFPA ratings Health: 1
Flammability: 2
Instability: 0

Disclaimer NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. Adequate training and instruction should be given by you to your employees and affected personnel. Appropriate warnings and safe handling procedures should be provided by you to handlers and users. Additionally, the user should review this information, satisfy itself as to its suitability and completeness, and pass on the information to its employees or customers in accordance with the applicable federal, state, provincial or local hazard communication requirements. This MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, vendor neither assumes nor retains any responsibility for any damage or injury resulting from abnormal use, from any failure to adhere to appropriate practices, or from any hazards inherent in the nature of the material. Moreover, unless an employee or a customer accesses or receives a MSDS directly from the company, there is no assurance that a document obtained from alternate sources is the most currently available MSDS.

This data sheet contains changes from the previous version in section(s): Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory information: US federal regulations

Completed by Flint Hills Resources, LP - Operations EH&S