

1. Product and Company Identification

Material name JET A (US - CAN)
MSDS number 10115
Version # 01
Revision date 11-16-2010
Synonym(s) APPLICABLE TO ALL GRADES * #1 FUEL OIL * JET FUEL * KEROSENE * KEROSENE BLENDSTOCK
Manufacturer Flint Hills Resources Corpus Christi, LLC
P. O. Box 2608
Corpus Christi, TX
78403, US

Telephone numbers - 24 hour emergency assistance

Chemtec 800-424-9300
Flint Hills Resources Corpus Christi, LLC 361-241-4811

Telephone numbers - general assistance

8-5 (M-F, CST) 361-241-4811
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Email: msdsrequest@fhr.com

2. Hazards Identification**Emergency overview**

WARNING!

CRYSTAL, CLEAR LIQUID WITH A KEROSENE-LIKE ODOR

HEALTH HAZARDS

VAPORS, FUMES, OR MISTS MAY CAUSE RESPIRATORY TRACT IRRITATION
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
DANGER-CONTAINS BENZENE-CANCER HAZARD
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS

COMBUSTIBLE LIQUID AND VAPOR
MAY CAUSE FLASH FIRE

REACTIVITY HAZARDS

STABLE

Potential health effects**Routes of exposure**

Inhalation, ingestion, skin and eye contact.

Eyes

Contact may cause pain and severe reddening and inflammation of the conjunctiva. Effects may become more serious with repeated or prolonged contact.

Skin

Contact may cause reddening, itching and inflammation.

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 high concentrations of this material, for example, in a confined space or by intentional abuse, can cause irregular heartbeats which can cause death.

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 #	Concentration*
C9-C16 HYDROCARBONS, STRAIGHT RUN	8008-20-6	50 - 90 %
HYDRODESULFURIZED KEROSENE	64742-81-0	20 - 40 %
DISTILLATES, (PETROLEUM), LIGHT HYDROCRACKED	64741-77-1	5 - 25 %
NAPHTHALENE	91-20-3	0 - 3 %
1,2,4-TRIMETHYLBENZENE	95-63-6	0 - 2 %
ETHYLBENZENE	100-41-4	0 - 1 %
XYLENE	1330-20-7	0 - 1 %
BIPHENYL	92-52-4	0 - 0.5 %
BENZENE	71-43-2	0 - 0.1 %

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

Composition comments

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 IMMEDIATE MEDICAL ATTENTION.

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

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

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.

5. Fire Fighting Measures**Flammable properties**

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**

Material will burn in a fire.

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 and to protect personnel attempting to stop a leak.

Use water spray to cool adjacent structures and to protect personnel. 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, provincial and/or federal authorities, 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.

See Exposure Controls/Personal Protection (Section 8).

Emergency action

Eliminate and/or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. Isolate for 800 meters (1/2 mile) in all directions if tank, rail car or tank truck is involved in fire. 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.

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

Components

Components	Type	Value	Form
1,2,4-TRIMETHYLBENZENE (95-63-6)	TWA	123.0 mg/m ³	
BENZENE (71-43-2)	STEL	25.0 ppm	Skin
	TWA	0.5 ppm	Skin
BIPHENYL (92-52-4)	TWA	0.2 ppm	
C9-C16 HYDROCARBONS, STRAIGHT RUN (8008-20-6)	TWA	200.0 mg/m ³	P
ETHYLBENZENE (100-41-4)	STEL	125.0 ppm	
	TWA	100.0 ppm	
HYDRODESULFURIZED KEROSENE (64742-81-0)	TWA	200.0 mg/m ³	Skin; P
	STEL	15.0 ppm	Skin
XYLENE (1330-20-7)	TWA	10.0 ppm	Skin
	STEL	150.0 ppm	
	TWA	100.0 ppm	

U.S. - OSHA

Components

Components	Type	Value	Form
BENZENE (71-43-2)	Ceiling	25.0 ppm	Skin
	STEL	5.0 ppm	Skin
	TWA	1.0 ppm	Skin
BIPHENYL (92-52-4)	PEL	0.2 ppm	
		1.0 mg/m ³	
	TWA	1.0 mg/m ³	
ETHYLBENZENE (100-41-4)		0.2 ppm	
	PEL	100.0 ppm	
		435.0 mg/m ³	
	TWA	435.0 mg/m ³	
		100.0 ppm	
NAPHTHALENE (91-20-3)	PEL	10.0 ppm	
		50.0 mg/m ³	
	TWA	50.0 mg/m ³	
		10.0 ppm	

Components	Type	Value	Form
XYLENE (1330-20-7)	PEL	100.0 ppm	
		435.0 mg/m3	
	TWA	100.0 ppm	
		435.0 mg/m3	

U.S. - Minnesota (MNOSHA)

Components	Type	Value
1,2,4-TRIMETHYLBENZENE (95-63-6)	TWA	125.0 mg/m3
		25.0 ppm
BENZENE (71-43-2)	STEL	5.0 ppm
	TWA	1.0 ppm
ETHYLBENZENE (100-41-4)	STEL	545.0 mg/m3
		125.0 ppm
	TWA	100.0 ppm
		435.0 mg/m3
NAPHTHALENE (91-20-3)	STEL	75.0 mg/m3
		15.0 ppm
	TWA	50.0 mg/m3
		10.0 ppm
XYLENE (1330-20-7)	STEL	150.0 ppm
		655.0 mg/m3
	TWA	100.0 ppm
		435.0 mg/m3

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 indirect-vent 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, such as Viton®, 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 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 & Chemical Properties

Color	Crystal clear
Odor	Kerosene-like
Odor threshold	Not available
Physical state	Liquid
Form	Not applicable
pH	Essentially Neutral
Melting point	-43.6 °F (-42.2 °C)
Freezing point	-43.6 °F (-42.2 °C)
Boiling point	300 - 350 °F (148.9 - 176.7 °C) (ASTM D86)
Flash point	> 100 °F (> 37.8 °C) Tag Closed Cup (ASTM D56)
Evaporation rate	Very Slow
Flammability limits in air, upper, % by volume	5 %

Flammability limits in air, lower, % by volume	0.7 %
Vapor pressure	22 mmHg at 158 °F (70 °C)
Vapor density	4.5 Air = 1
Specific gravity	0.8 - 0.82 at 60/60 °F (15.6/15.6°C)
Relative density	Not available
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	> 400 °F (> 204.4 °C)
Decomposition temperature	Not available
VOC	Not available
Pour point	Not available
Viscosity	< 8 cSt at -4 °F (-20 °C)
Bulk density	Not available
Density	Not available
Conductivity	≤ 50 pS/m
Surface tension	Not available
Percent volatile	100 %
Molecular weight	Not available
Molecular formula	Not available
Chemical family	Petroleum Hydrocarbon

10. Chemical Stability & Reactivity Information

Chemical stability	Stable
Conditions to avoid	Extended exposure to high temperatures can cause decomposition.
Incompatible materials	Incompatible with nitric acid and strong oxidizers. See precautions under Handling & Storage (Section 7).
Hazardous decomposition products	Not anticipated under normal conditions.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Sensitization

US ACGIH Threshold Limit Values: Skin designation

BENZENE (CAS 71-43-2)	Can be absorbed through the skin.
C9-C16 HYDROCARBONS, STRAIGHT RUN (CAS 8008-20-6)	Can be absorbed through the skin.
HYDRODESULFURIZED KEROSENE (CAS 64742-81-0)	Can be absorbed through the skin.
NAPHTHALENE (CAS 91-20-3)	Can be absorbed through the skin.

Carcinogenicity

ACGIH Carcinogens

BENZENE (CAS 71-43-2)	A1 Confirmed human carcinogen.
C9-C16 HYDROCARBONS, STRAIGHT RUN (CAS 8008-20-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
ETHYLBENZENE (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
HYDRODESULFURIZED KEROSENE (CAS 64742-81-0)	A3 Confirmed animal carcinogen with unknown relevance to humans.
NAPHTHALENE (CAS 91-20-3)	A4 Not classifiable as a human carcinogen.
XYLENE (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.
DISTILLATES, (PETROLEUM), LIGHT HYDROCRACKED (CAS 64741-77-1)	3 Not classifiable as to carcinogenicity to humans.

ETHYLBENZENE (CAS 100-41-4)

2B Possibly carcinogenic 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)

Anticipated carcinogen.

US NTP Report on Carcinogens: Known carcinogen

BENZENE (CAS 71-43-2)

Known carcinogen.

US OSHA Specifically Regulated Substances: Cancer hazard

BENZENE (CAS 71-43-2)

Cancer hazard.

**Pre-existing conditions
aggravated by exposure**

Pre-existing medical conditions which may be aggravated by exposure include disorders of the liver, skin, respiratory tract, auditory system, blood, bone marrow, and blood forming organs.

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.

BIPHENYL: Evidence of adverse effects on the liver and the nervous system have been described in studies of workers exposed to high levels for prolonged periods. Evidence of adverse effects on the kidney and liver, and changes in whole blood (reduced hematocrit and hemoglobin levels) have been observed in laboratory rodents following subchronic exposure to biphenyl. Biphenyl tested negative in bacteriological systems but some evidence of positive responses have been reported in mammalian cell systems in the presence of metabolic activation. The EPA has determined human and animal data are inadequate to classify the carcinogenic potential of biphenyl.

ETHYLBENZENE: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). The incidence of tumors was also elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as "possibly carcinogenic to humans" (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals have demonstrated evidence of ototoxicity (hearing loss) following exposure levels as low as 300 ppm for 5 days. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

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.

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffers Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

Exposure to this material may cause adverse effects or damage to the following organs or organ systems: blood, bone marrow, auditory system, central nervous system, eyes, heart, kidneys, liver, mucous membranes, respiratory tract, lungs, pituitary gland, thyroid, and skin.

12. Ecological Information

Ecotoxicity	Harmful 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 40 CFR 262, 263, 264, 268 and 270. 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.

In Canada, wastes should be disposed of according to federal, state, provincial 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

DOT

Basic shipping requirements:

UN number	UN1863
Proper shipping name	Fuel, Aviation, Turbine Engine
Hazard class	3
Packing group	III
Labels required	Flammable Liquid
Placards required	Flammable Liquid

Additional information:

ERG number	128
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DOT

General

See Bill of Lading for proper shipping description.

The above description may not cover shipping in all cases, please consult 49 CFR 100-185 for specific shipping information.

Non-bulk shipments of this material are non-regulated for domestic ground transportation when they meet the requirements of 49 CFR 173.150(f).

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. This material contains up to 6% hazardous air pollutants (HAPs) per Section 112 Clean Air Act Amendments of 1990.

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 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 %
ETHYLBENZENE (CAS 100-41-4)	0.1 %
NAPHTHALENE (CAS 91-20-3)	0.1 %
XYLENE (CAS 1330-20-7)	1.0 %

US TSCA Section 12(b) Export Notification: Export Notification requirement/De minimis concentration

BIPHENYL (CAS 92-52-4)	1.0 % One-Time Export Notification only.
NAPHTHALENE (CAS 91-20-3)	0.1 % One-Time Export Notification only.

CERCLA (Superfund) reportable quantity

NAPHTHALENE: 100.0
ETHYLBENZENE: 1000.0
XYLENE: 100.0
BIPHENYL: 100.0
BENZENE: 10.0

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 a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Canadian regulations

All ingredients are on the Canadian Domestic Substance List (DSL), or are not required to be listed on the DSL.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS classification

B3 - Flammable/Combustible
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling



16. Other Information

NFPA ratings

Health: 1
Flammability: 2
Instability: 0

HMIS® ratings

Health: 2*
Flammability: 2
Physical hazard: 0
* Indicates chronic health hazard

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.

Issue date

11-16-2010

This data sheet contains changes from the previous version in section(s):

Hazards Identification
Physical & Chemical Properties
Toxicological Information
Transport Information
Regulatory Information
Material Attributes & Uses; Experimental Data

Completed by

Flint Hills Resources, LP - Operations EH&S