



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **DIESEL NO. 2-D**
CAS NUMBER Mixture
MSDS NUMBER 5465
PRODUCT CODE ND
SYNONYM(S) APPLICABLE TO ALL GRADES WITH SULFUR LEVELS 500 PPM OR LESS
 ARCTIC DIESEL
 DESULFURIZED NO. 2 FUEL OIL
 D-GRADE FUEL OIL
 DIESEL FUEL
 DIESEL FUEL NO. 2
 DIESEL OIL
 DIESEL S15
 DIESEL S500
 DK45
 HEATING OIL
 NO. 2 FUEL OIL (NO2FO)
 NO. 2 LOW SULFUR DIESEL
 NO. 2 LS DIESEL BLENDSTOCK
 NO. 2 ULTRA LOW SULFUR DIESEL
 PERFORMANCE GOLD
 PERFORMANCE GOLD PLUS
 RAILROAD FUEL
 2 OIL
MANUFACTURER / SUPPLIER Flint Hills Resources, LP
 P.O. Box 2917
 Wichita, KS
 67201

TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE

Chemtrec 800-424-9300
 Flint Hills Resources, LP 361-241-4811

TELEPHONE NUMBERS - GENERAL ASSISTANCE

8-5 (M-F, CST) MSDS Assistance 316-828-7988

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
C9-C20 HYDROCARBONS PRODUCED BY THE PROCESSING OF CRUDE OIL	68476-34-6	0 - 100 %	100 (V) mg/m3 8-Hour TWA (ACGIH) ACGIH Skin Designation**
C11-C25 HYDRODESULFURIZED DISTILLATE	64742-80-9	0 - 100 %	ND
HYDRODESULFURIZED KEROSENE	64742-81-0	0 - 45 %	200 mg/m3 8-Hour TWA (ACGIH)

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
C9-C25 HYDRODESULFURIZED DISTILLATE, LIGHT CAT CRACKED	68333-25-5	0 - 40 %	ND
KEROSENE	8008-20-6	0 - 25 %	200 mg/m ³ 8-Hour TWA (ACGIH)
1,2,4-TRIMETHYLBENZENE	95-63-6	0.3 - 1 %	25 ppm 8-Hour TWA (ACGIH) 25 ppm 8-Hour TWA (#25551-13-7) (MNOSHA)
XYLENE	1330-20-7	0 - 1 %	100 ppm 8-Hour TWA (OSHA) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH) 150 ppm 15-Min STEL (ACGIH)
BIPHENYL	92-52-4	0 - 0.75 %	0.2 ppm 8-Hour TWA (OSHA) (MNOSHA) 0.2 ppm 8-Hour TWA (ACGIH)
NAPHTHALENE	91-20-3	0 - 0.3 %	10 ppm 8-Hour TWA (OSHA) (MNOSHA) 10 ppm 8-Hour TWA (ACGIH) 15 ppm 15-Min STEL (ACGIH) (MNOSHA) ACGIH Skin Designation**
BENZENE	71-43-2	0 - 0.02 %	1 ppm 8-Hour TWA (OSHA) (MNOSHA) 5 ppm 15-Min STEL (OSHA) (MNOSHA) 0.5 ppm 8-Hour TWA (ACGIH) 2.5 ppm 15-Min STEL (ACGIH) ACGIH Skin Designation**

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

COMPOSITION COMMENTS

** Dermal exposure to this chemical may add to the overall exposure, as it is readily absorbed through the skin.

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.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING!

HEALTH HAZARDS

VAPORS, FUMES, OR MISTS MAY CAUSE RESPIRATORY TRACT IRRITATION

MAY BE HARMFUL OR FATAL IF SWALLOWED

MAY CAUSE LUNG DAMAGE

OVEREXPOSURE MAY CAUSE CNS DEPRESSION

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, SKIN

Contact may cause reddening, itching and inflammation. Skin contact may cause harmful effects in other parts of the body.

POTENTIAL HEALTH EFFECTS, EYE

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

POTENTIAL HEALTH EFFECTS, 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.

Overexposure to this material may cause systemic damage including target organ effects listed under "Toxicological Information" (Section 11).

POTENTIAL HEALTH EFFECTS, 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).

4 FIRST AID MEASURES

SKIN

Immediately wash skin with plenty of soap and water while 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.

EYE

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.

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.

5 FIRE FIGHTING MEASURES

HAZARDOUS COMBUSTION PRODUCTS

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

EXTINGUISHING MEDIA

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

BASIC FIRE FIGHTING PROCEDURES

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.

UNUSUAL FIRE & EXPLOSION HAZARDS

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

Explosion hazard if exposed to extreme heat.

Flash Point	> 100 °F (> 37.8 °C) (MINIMUM) PENSKY-MARTENS CLOSED CUP (ASTM D93)
Autoignition Temperature	494 °F (256.7 °C)
Flammability Limits in Air, Lower, % by Volume	0.6 %
Flammability Limits in Air, Upper, % by Volume	7.5 %

6 ACCIDENTAL RELEASE MEASURES

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.)

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.

SPILL OR LEAK PROCEDURE

Keep unnecessary people away. Isolate area for at least 50 meters (164 feet) to preserve public safety. For large spills, 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).

7 HANDLING & STORAGE

HANDLING

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. 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

ENGINEERING CONTROLS

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

EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

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: PERSONAL PROTECTION EQUIPMENT (PPE)

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: PERSONAL PROTECTION EQUIPMENT (PPE)

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

ODOR AND APPEARANCE

PALE YELLOW OR GREEN COLORED LIQUID WITH HYDROCARBON ODOR; FOR TAX EXEMPT PURPOSES, THIS FUEL MAY CONTAIN RED DYE

Boiling Point	320 - 340 °F (160.0 - 171.1 °C) ASTM D86
Specific Gravity	0.835 - 0.885 at 60/60 °F (15.6/15.6 °C)
Melting Point	NA
Percent Volatile	ND
Vapor Pressure	2.6 mmHg at 122 °F (50 °C)
Evaporation Rate	ND
Vapor Density	8 (Air=1)
Viscosity	1.7 - 4.1 cSt at 104 °F (40 °C)
Solubility in Water	INSOLUBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	-36 to -15 °F (-37.8 to -26.1 °C) [ARCTIC DIESEL <-50 °F (<-45 °C)]
pH Value	ND
Bulk Density	-6.96 - 7.38 lb./gal. at 60/60 °F (15.6/15.6 °C)
Freezing Point	ND
Molecular Formula	ND
Molecular Weight	ND
Chemical Family	HYDROCARBON MIXTURE
Odor Threshold	ND

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. See precautions under Handling & Storage (Section 7).

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce COx, NOx, SOx, reactive hydrocarbons, irritating vapors, and other decomposition products in the case of incomplete combustion.

11 TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE

Inhalation, ingestion, skin and eye contact.

TOXICOLOGICAL DATA

1,2,4-TRIMETHYLBENZENE: The following information pertains to a mixture of C9 aromatic hydrocarbons, over 40% of which was composed of 1,2,4-trimethylbenzene. 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. Embryotoxicity has been reported in studies of laboratory animals. Adverse effects included increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate.

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.

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.

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.

GAS OILS: Oils similar to this material have been shown to cause adverse effects in the liver and kidneys of laboratory rodents, and an increase in the incidence of fetal resorptions in pregnant laboratory rodents following prolonged and repeated exposure. Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The international Agency for Research on Cancer (IARC) has concluded that this category of untreated and mildly treated oils are carcinogenic to humans (Group 1).

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

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

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

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ECOTOXICITY:

Toxic to aquatic organisms.

PERSISTENCE/BIODEGRADATION:

Not readily biodegradable.

BIOACCUMULATION:

May bioaccumulate in aquatic organisms.

MOBILITY IN ENVIRONMENT:

May partition into air, soil and water.

13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

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. Disposal can occur only in properly permitted facilities. 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.

14 TRANSPORT INFORMATION

BILL OF LADING - BULK (U. S. DOT)

Not Determined

BILL OF LADING - NON-BULK (U. S. DOT)

Not Determined

COMMENTS

See Bill of Lading for proper shipping description, or consult 49 CFR 100-185 for specific shipping information.

15 REGULATORY INFORMATION**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.

This material may be subject to export notification under TSCA section 12(b); contains: Naphthalene CAS# 91-20-3, Biphenyl CAS# 92-52-4, and Paraxylene CAS# 106-42-3, Effective Date 5/26/04.

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.

STATE REGULATIONS

WARNING: This material contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

SARA 311/312 HAZARD CATEGORIES

Immediate Hazard:	X	Delayed Hazard:	X	Fire Hazard:	X	Pressure Hazard:	-
Reactivity Hazard:	-						

NFPA RATINGS

Health	1	Flammability	2	Instability	0	Special Hazards	-
--------	---	--------------	---	-------------	---	-----------------	---

HMIS RATINGS

Health	2*	Flammability	2	Physical Hazard	0
--------	----	--------------	---	-----------------	---

Following ingredients of this material are listed in SARA 313 above the de minimis concentration

SARA Listed Ingredient Name	CAS Number	Maximum %
1,2,4-TRIMETHYLBENZENE	95-63-6	1.0
XYLENE	1330-20-7	1.0
NAPHTHALENE	91-20-3	0.3

16 OTHER INFORMATION

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. However, an 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, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the material.

SECTIONS / SUBSECTIONS CHANGED

CHEMICAL PRODUCT & COMPANY IDENTIFICATION: Synonyms

PHYSICAL & CHEMICAL PROPERTIES: Physical & Chemical Properties

Current Revision Date 01-Feb-2007

Replaces Sheet Dated 03-Jan-2007

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