



MATERIAL SAFETY DATA SHEET

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME(S) **GASOLINE**

CAS NUMBER Mixture

MSDS NUMBER 9672

SYNONYM(S) APPLICABLE TO ALL OCTANE GRADES
BLUE PLANET®
CONVENTIONAL BLENDSTOCK
CONVENTIONAL BLENDSTOCK FOR OXYGENATE BLENDING (CBOB)
CONVENTIONAL GASOLINE
FINISHED GASOLINE
GASOHOL
MOTOR FUEL
NO LEAD GASOLINE
REFORMULATED GASOLINE (RFG)
REFORMULATED GASOLINE BLENDSTOCK
REFORMULATED BLENDSTOCK FOR OXYGENATE BLENDING (RBOB)
UNLEADED GASOLINE

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 (Corpus Christi)
Flint Hills Resources, LP	651-437-0700 (Pine Bend)

TELEPHONE NUMBERS - GENERAL ASSISTANCE

8-5 (M-F, CST) MSDS Assistance	316-828-7988
Email: msdsrequest@fhr.com	

2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

HEALTH HAZARDS

VAPORS MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION
BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL
MAY BE HARMFUL OR FATAL IF SWALLOWED
MAY CAUSE LUNG DAMAGE
OVEREXPOSURE MAY CAUSE CNS DEPRESSION
DANGER-CONTAINS BENZENE-CANCER HAZARD
CAN CAUSE LEUKEMIA AND OTHER BLOOD DISORDERS
SEE "TOXICOLOGICAL INFORMATION" (SECTION 11) FOR MORE INFORMATION

FLAMMABILITY HAZARDS

EXTREMELY FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION

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.

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).

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).

3 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
GASOLINE, UNLEADED	Mixture	100 %	Gasoline: 300 ppm 8-Hour TWA (ACGIH) 500 ppm 15-Min STEL (ACGIH)

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
XYLENE	1330-20-7	1 - 15 %	100 ppm 8-Hour TWA (OSHA) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH) 150 ppm 15-Min STEL (ACGIH)
TOLUENE	108-88-3	1 - 15 %	200 ppm 8-Hour TWA (OSHA) 300 ppm CEILING (OSHA) 20 ppm 8-Hour TWA (ACGIH) 100 ppm 8-Hour TWA (MNOSHA) 150 ppm 15-Min STEL (MNOSHA)
ETHYL ALCOHOL	64-17-5	0 - 10 %	1000 ppm 8-Hour TWA (OSHA) 1000 ppm 8-Hour TWA (ACGIH)
N-HEXANE	110-54-3	0 - 7 %	500 ppm 8-Hour TWA (OSHA) 50 ppm 8-Hour TWA (ACGIH) (MNOSHA)
1,2,4-TRIMETHYLBENZENE	95-63-6	0 - 3 %	25 ppm 8-Hour TWA (ACGIH) 25 ppm 8-Hour TWA (#25551-13-7) (MNOSHA)
BENZENE	71-43-2	0 - 2.3 %	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)
ETHYLBENZENE	100-41-4	0 - 2 %	100 ppm 8-Hour TWA (OSHA) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH) 125 ppm 15-Min STEL (ACGIH) (MNOSHA)
CYCLOHEXANE	110-82-7	0 - 1 %	300 ppm 8-Hour TWA (OSHA) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH)
NAPHTHALENE	91-20-3	0 - 1 %	10 ppm 8-Hour TWA (OSHA) (MNOSHA) 10 ppm 8-Hour TWA (ACGIH) 15 ppm 15-Min STEL (ACGIH) (MNOSHA)
CUMENE	98-82-8	0 - 1 %	50 ppm 8-Hour TWA (OSHA) (MNOSHA) 50 ppm 8-Hour TWA (ACGIH)

*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.

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

4 FIRST AID MEASURES

SKIN

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.

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

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

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

Extremely flammable. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources 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.

SPECIFIC HAZARDS

Conductivity (pS/m) <50 (Gasoline without Ethanol)

Conductivity (pS/m) >2000 (Gasoline with Ethanol)

Flash Point	-45 °F (-42.8 °C)
Autoignition Temperature	536 - 853 °F (280.0 - 456.1 °C)
Flammability Limits in Air, Lower, % by Volume	1.2 %
Flammability Limits in Air, Upper, % by Volume	7.6 %

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.

This product, if you spill it, or allow it to leak from storage or containment can contaminate soil and possibly ground water. You should ensure your storage or containment equipment is fit and capable of safely storing this product.

SPILL OR LEAK PROCEDURE

Keep unnecessary people away. Isolate area for at least 50 meters (164 feet) in all directions 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

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

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

CLEAR, COLORLESS TO LIGHT COLORED LIQUID WITH AN AROMATIC ODOR

Flash Point	-45 °F (-42.8 °C)
Boiling Point	> 100 °F (> 37.8 °C) @ 10% Evap. (D86) - Summer; >90 °F (32.22 °C) @ 10% Evap. (D86) - Winter
Specific Gravity	0.69 - 0.77 at 60/60 °F (15.6/15.6 °C)
Melting Point	-130 °F (-90.0 °C)
Percent Volatile	100 %
Vapor Pressure	5.2 - 15 psi at 100 °F (38 °C)
Evaporation Rate	Moderately Fast
Vapor Density	3 - 4 (Air=1)
Viscosity	No Data
Solubility in Water	Negligible
Octanol/Water Partn	No Data
Volatile Organic	No Data
Pour Point	No Data
pH Value	Essentially Neutral
Bulk Density	No Data
Freezing Point	No Data
Molecular Formula	Mixture
Molecular Weight	No Data
Chemical Family	Hydrocarbon and Hydrocarbon/Alcohol Mixtures
Odor Threshold	No Data

10 STABILITY & REACTIVITY

STABILITY/INCOMPATIBILITY

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

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce CO_x, NO_x, SO_x, 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

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.

CUMENE: Overexposure to cumene may cause upper respiratory tract irritation and CNS depression. Studies in laboratory animals indicate evidence of respiratory tract hyperplasia, and adverse effects on the liver, kidney and adrenal glands following high level exposure. The relevance of these findings to humans is not clear at this time. Findings from lifetime inhalation studies in laboratory rodents were as follows: In F344/N rats: an increased incidence of renal carcinomas and adenomas, respiratory epithelial adenomas, and interstitial cell adenomas of the testes. In B6C3F1 mice: an increased incidence of carcinomas and adenomas of the bronchi and lung, liver neoplasms, hemangiosarcomas of the spleen, and adenomas of the thyroid.

CYCLOHEXANE: Cyclohexane has been the focus of substantial testing in laboratory animals. Cyclohexane tested negative in various genotoxicity tests including unscheduled DNA synthesis, bacterial and mammalian cell mutation assays, and in vivo chromosomal aberration. An increase in chromosomal aberrations in bone marrow cells of rats exposed to cyclohexane was reported in the 1980's but a careful re-evaluation of slides from this study by the laboratory which conducted the study indicates these findings were in error, and that no significant chromosomal effects were observed in animals exposed to cyclohexane. Findings indicate long-term exposure to cyclohexane does not promote dermal tumorigenesis.

ETHYL ALCOHOL: Repeated ingestion of ethanol can result in alcohol abuse, causing behavioral changes, memory loss, impaired judgement, decreased appetite, irregular heartbeats, and decreased fertility. Prolonged and repeated ingestion of ethanol has also been associated with cancers of the mouth, pharynx, esophagus and liver. Ethanol ingestion by pregnant women can cause miscarriage, low birth weight, premature birth and fetal alcohol syndrome. In males, acute and chronic alcohol ingestion may affect gonadal hormone levels. It may also affect the liver, kidney, brain, blood and cardiovascular system.

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.

N-HEXANE: Long-term or repeated exposure to n-hexane can cause peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure.

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.

TOLUENE: Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Abuse of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system, and can cause CNS depression, cardiac arrhythmias, and death. Studies of workers indicate longterm exposure may be related to impaired color vision and hearing. Some studies of workers suggest longterm exposure may be related to neurobehavioral and cognitive changes. Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene. Several studies of workers suggest longterm exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals have been largely negative. Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following very high levels of maternal exposure. Studies of workers indicate long-term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts. Adverse effects on the liver, kidney, thymus and nervous system were observed in animal studies following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

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.

NAPHTHAS: In a large epidemiological study on over 15,000 employees at several petroleum refineries and amongst residents located near these refineries, no increased risk of kidney cancer was observed in association with gasoline exposures (a similar material). In a similar study, no increased risk of kidney cancer was observed among petroleum refinery workers, but there was a slight trend in the incidence of kidney cancers among service station employees, especially after a 30-year latency period.

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.

ISOPARAFFINS: Studies in laboratory animals have shown that long-term exposure to similar materials (isoparaffins) can cause kidney damage and kidney cancer in male laboratory rats. However, indepth research indicates that these findings are unique to the male rat, and that these effects are not relevant to humans.

Exposure to this material may cause adverse effects or damage to the following organs or organ systems: blood, bone marrow, central nervous system, brain, peripheral nervous system, auditory system, heart, testes, kidneys, liver, adrenal gland, lymphatic system, thymus, respiratory tract, lungs, mucous membranes, reproductive organs, pituitary gland, thyroid, immune system, eyes, skin, mouth, esophagus, pharynx, and cardiovascular system.

PRE-EXISTING CONDITIONS AGGRAVATED BY EXPOSURE

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

12 ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

ECOTOXICITY:

Toxic to aquatic organisms.

PERSISTENCE/BIODEGRADATION:

Readily biodegradable in the environment.

The presence of ethanol in this product may impede the biodegradation of benzene, toluene, ethylbenzene and xylene in groundwater, resulting in elongated plumes of these constituents.

BIOACCUMULATION:

Not likely to bioaccumulate in aquatic organisms.

MOBILITY IN ENVIRONMENT:

May move through soil and reach groundwater. 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 (40 CFR 261) due to its ignitability and benzene content. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the material to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

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)

UN1203, Gasoline, 3, PG II

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

UN1203, Gasoline, 3, PG II

U. S. Department of Transportation (DOT) Requirements

General Transportation Information for Bulk Shipments

Proper Shipping Name	Gasoline		
Hazard Class	3	UN/NA Code	UN1203
Packaging Group	II		
Labels Required	Flammable Liquid		
Placards Required	Flammable Liquid, UN1203		
Reportable Quantity	See Regulatory Information (Section 15)		

General Transportation Information for Non-Bulk Shipments

Proper Shipping Name	Gasoline		
Hazard Class	3	UN/NA Code	UN1203
Packaging Group	II		
Labels Required	Flammable Liquid		
Placards Required	Flammable Liquid, UN1203		
Reportable Quantity	See Regulatory Information (Section 15)		

COMMENTS

The above description may not cover shipping in all cases, please 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; Heptane, CAS# 142-82-5; Paraxylene, CAS# 106-42-3; Pentane, CAS# 109-66-0; Nonane, CAS# 111-84-2; effective date May 26, 2004.

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 contains 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 product 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 3 Instability 0 Special Hazards -

HMIS RATINGS

Health 2* Flammability 3 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 %
XYLENES	1330-20-7	15.0
TOLUENE	108-88-3	15.0
N-HEXANE	110-54-3	7.0
1,2,4-TRIMETHYLBENZENE	95-63-6	3.0
BENZENE	71-43-2	2.3
ETHYLBENZENE	100-41-4	2.0
CYCLOHEXANE	110-82-7	1.0
NAPHTHALENE	91-20-3	1.0
CUMENE	98-82-8	1.0

16 OTHER INFORMATION

MISCELLANEOUS

WARNING -- WARNING: THIS PRODUCT, AS INDICATED, CONTAINS ETHANOL. ETHANOL, OR FUELS BLENDED WITH ETHANOL, MAY DAMAGE OR HARM FUEL STORAGE TANKS, PIPING, METERS, ENGINES AND/OR RELATED FUEL SYSTEMS (INCLUDING, BUT NOT LIMITED TO MARINE EQUIPMENT). IT IS IMPERATIVE THAT BEFORE YOU USE OR STORE THIS PRODUCT YOU CONDUCT AN ASSESSMENT TO DETERMINE WHETHER THIS FUEL IS COMPATIBLE WITH YOUR PARTICULAR EQUIPMENT/MACHINERY IN WHICH THIS FUEL MIGHT BE STORED, TRANSPORTED OR COMBUSTED.

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DISCLAIMER

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