Gasoline

Kwik Trip, Inc.
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 CONVENTIONAL GASOLINE FINISHED GASOLINE GASOHOL MOTOR FUEL NO LEAD GASOLINE REFORMULATED GASOLINE (RFG) REFORMULATED GASOLINE BLENDSTOCK REFORMULATED BLENDSTOCK FOR OXYGENATE BLENDING (RBOB) UNLEADED GASOLINE
SUPPLIER	Kwik Trip, Inc. P.O. Box 2107 La Crosse, WI 54602

TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE
Chemtrec 800-424-9300
TELEPHONE NUMBERS - GENERAL ASSISTANCE
8-5 (M-F, CST) 608-781-8988

2. 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)
XYLENE	1330-20-7	1 - 15 %	100 ppm 8-Hour TWA (ACGIH) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH) 150 ppm 15-Min STEL (ACGIH)
TOLUENE	108-88-3	1 - 15 %	220 ppm 8-Hour TWA (OSHA) 300 ppm CEILING (OSHA) 50 ppm 8-Hour TWA (ACGIH) 100 ppm 8-Hour TWA (MNOSHA) 150 ppm 15-Min STEL (MNOSHA) ACGIH Skin Designation **
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) ACGIH Skin Designation**
1,2,4-TRIMETHYBENZENE	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) ACGIH Skin Designation**

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
ETHYLBENZENE	100-41-4	0 – 2 %	100 ppm 8-Hour TWA (OSHA) (MNOSHA) 100 ppm 8-Hour TWA (ACGIH) 125 pp. 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) ACGIH Skin Designation**
CUMEME	98-82-8	0 – 1 %	50 ppm 8-Hour TWA (OSHA) (MNOSHA) 50 ppm 8-Hour TWA (ACGIH) OSHA 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 Kwik Trip representative.

3. 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).

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

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 COx, NOx, SOx, 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.

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).

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.

7. HANDLING & STORAGE

HANDLING

Static accumulator (nonconductive) flammable or combustible liquid may form ignitable vapor-air mixtures in storage tanks. Ground lines and equipment 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 NFPA 77, Recommended Practice on Static Electricity (2007) and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static Lighting, and Stray Currents (2008).

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.

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	ND
Solubility in Water	NEGLIGIBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	ND
pH Value	ESSENTIALLY NEUTRAL
Bulk Density	ND
Freezing Point	ND
Molecular Formula	MIXTURE
Molecular Weight	ND
Chemical Family	HYDROCARBON AND HYDROCARBON/ALCOHOL MIXTURES
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

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: Studies in laboratory animals indicate evidence of adverse effects on the kidney and adrenal glands following high-level exposure. The relevance of these findings to humans is not clear at this time.

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 judgment, 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 postimplantation 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 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 ricks 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.

PERSISTANCE/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 more 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.

DISCLAIMER OF ALL WARRANTIES: KWIK TRIP, INC. MAKES NO WARRANTY EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MECHANTABILITY OR WARRANTY FOR FITNESS FOR ANY PARTICULAR PURPOSE AND HEREBY DISCLAIMS ALL SUCH WARRANTIES REGARDING THIS PRODUCT.

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.

Current Revision Date 1-Aug-08

Completed By Kwik Trip, Inc.

Diesel

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: M7760

MSDS DATE: 12-8-95

PRODUCT NAME: HIGHWAY #2 DIESEL FUEL

Diamond Shamrock

24 HOUR EMERGENCY PHONE : (210) 979-8346
For MSDS Assistance, call (210) 530-8680

I. PRODUCT IDENTIFICATION

1 HEALTH, 2 FLAMMABILITY, 0 REACTIVITY & (Blank) INSTABILITY based on "Standard System for the Identification of the Fire Hazards of Materials, NFPA No. 704, 1990 Edition"

MANUFACTURER'S NAME/ADDRESS: Diamond Shamrock Refining Company, L.P., P.O. Box 696000, San Antonio, Texas 78269-6000

CHEMICAL NAME: Light Hydrocarbon Distillates CAS NUMBER: 68476-34-6
SYNONYMS/COMMON NAMES: Diesel Fuel, Diesel #2 Sulfur <=.05%, Low Sulfur Diesel
CHEMICAL FORMULA: C_9 - C_{20} Hydrocarbons

DOT PROPER SHIPPING NAME: Diesel Fuel; Fuel Oil (No. 2)
DOT HAZARD CLASS: Combustible Liquid
DOT I.D. NUMBER: NA 1993

HAZARDOUS SUBSTANCE: NA

II. HAZARDOUS INGREDIENTS

#2 Diesel Fuel is a blend of hydrocarbons derived from petroleum processing. Actual composition varies according to specification requirements for pour and cloud points and component availability.

MATERIAL OR COMPONENT	HAZARD DATA 8 hr. TWA (ppm) PEL	TLV	CAS NUMBER	Wt %
Light Hydrocarbon Blend	*	*	68476-34-6	100
Kerosine, straight run	*	*	8008-20-6	< 40
Distillate, straight run, middle	*	*	64741-44-2	< 80
Distillate, light catalytic cracked	N/A	N/A	64741-59-9	< 40

(SEE SECTION V.)

* NIOSH has proposed 100 mg/m^3 for an 8 hr. TWA or ~14 ppm 8 hr. TWA based on an average molecular weight of 170 for kerosine like fractions.

#2 Diesel Fuel and Kerosine are not listed as carcinogenic by IARC, NTP, OSHA, ACGIH.
#2 Diesel Fuel is listed in the TSCA inventory.
This product is reportable under SARA Title III, Sections 311 & 312.

III. PHYSICAL DATA

BOILING RANGE @ 760 mm Hg: 375-641° F
MELTING POINT: NA
VAPOR PRESSURE: NA
% VOLATILES BY VOL.: 100
SOLUBILITY IN H_2O % BY WT.: Trace
VAPOR DENSITY (Air=1): N/A
EVAPORATION RATE (BuAc=1): N/A
SPECIFIC GRAVITY (H_2O=1): 0.83
BULK DENSITY AT 60° F: 6.8-7.2 lbs.\gal.
pH: NA

APPEARANCE AND ODOR: Yellow (straw) liquid with aromatic odor; odor threshold ~1 ppm and is not an index of exposure.

IV. FIRE AND EXPLOSION DATA

FLASH POINT: 150-160° F
AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS IN AIR, % BY VOLUME-UPPER: 5
LOWER: 0.7

EXTINGUISHING MEDIA: Dry chemical, foam, or carbon dioxide. Water spray may be ineffective on burning product.
SPECIAL FIRE FIGHTING PROCEDURES: Pressure-demand, self contained, breathing apparatus should be provided for fire fighters in buildings or confined areas where product is stored.
UNUSUAL FIRE AND EXPLOSION HAZARD: Clothing, rags, or similar organic material contaminated with the product and stored in a closed space may undergo spontaneous combustion. Transfer product to and from commonly grounded containers.

V. HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA:
1. The major effect of exposure to this product is central nervous system depression ranging from mild headache, to anesthesia, coma and death. Signs of kidney and liver damage may be delayed. Pulmunary irritation secondary to exhalation of solvent. Dermal irritation.
2. NIOSH recommends that whole diesel exhaust be regarded as a potential occupational carcinogen; follow OSHA and MSHA rules where exhaust fumes may be generated.
3. A life time skin painting study by the American Petroleum Institute has shown that similar naphtha products with a boiling range of 350-700° F usually produce skin tumors and/or skin cancers in laboratory mice. Only a weak to moderate response occurred. The effect to humans has not been determined.
4. Positive results at 2.0 ml/kg and 6.0 ml/kg noted in mutagenesis studies via in vivo bone marrow cytogenetics assay in rats.

HAZARDS OF COMBUSTION PRODUCTS: Carbon monoxide and carbon dioxide can be found in engine exhaust and other forms of hydrocarbon combustion. Carbon Monoxide in moderate concentrations can cause symptoms of headache, nausea, vomiting, increased cardiac output, and confusion. Exposure to higher concentrations of carbon monoxide can cause loss of consciousness, heart damage, brain damage, and/or death. Exposure to high concentrations of carbon dioxide can cause simple asphyxiation by displacing available oxygen. Combustion of this and other similar materials should only be carried out in well ventilated areas.

MEDICAL CONDITION GENERALLY AGGRAVATED BY EXPOSURE: Medical conditions which have the same symptoms and effects as those outlined under the health hazard information section can be aggravated by exposure to this product.

MEDICAL LIMITATION: N/A

IX. REGULATORY INFORMATION

SARA TITLE III (Superfund Amendments and Reauthorization Act of 1986)
Sect. 311 & 312: This product is subject to the reporting requirements of 40 CFR, Part 370.
Sect. 313: This product does not contain a chemical identified as toxic by EPA under 40 CFR Part 372 and is not subject to the reporting requirements of this section.
This product is considered hazardous by EPA and is identified by the following EPA Hazardous Categories (40 CFR Part 370.2)

Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
yes	no	yes	no	no	

THE INFORMATION REQUIRED BY 40 CFR PART 372 IS INCLUDED
THIS MSDS IS EQUIVALENT TO US DOL OSHA'S NON-MANDATORY FORM

This Material Safety Data Sheet was prepared by Diamond Shamrock Refining Company, L.P. in accordance with 29 CFR 1910.1200. All information, recommendations and suggestions appearing herein concerning this product are based upon tests and data believed to be reliable, however, it is the user's responsibility to determine the safety, toxicity and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee expressed or implied is made by Diamond Shamrock as to the effects of such use, the results to be obtained or the safety and toxicity of the product nor does Diamond Shamrock assume any liability arising out of use by others of the product referred to herein. Nor is the information herein to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

Diamond Shamrock Refining Company, L.P.

Definitions of Material Safety Data Sheet Terminology

The following abbreviated definitions are provided to assist in the interpretation of the information supplied on the Material Safety Data Sheet.

NFPA - National Fire Protection Association

W - DO NOT POUR WATER INTO ACID: Severe reaction can occur with water

CAS Number - American Chemical Society's Chemical Abstract service registry number which identifies the product and/or ingredients.

DOT Hazard Class - Dept. of Transportation hazard classification RQ - Reportable quantity in pounds

N/A - Not available or no relevant information found NA - Not applicable

Hazardous Ingredients - Names of ingredients which have been identified as health hazards

PEL - OSHA permissible exposure limit; an action level of one half this value may be applicable

TLV - ACGIH threshold limit value IDLH - Immediate danger to life or health

8 hr TWA - The time weighted average concentration for a normal 8-hour workday and a 40 hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

STEL - The ACGIH short-term exposure limit, a 15 minute time weighted average exposure which should not be exceeded at any time during a workday as long as the 8-hour time weighted averaged is less than the TLV

ppm - Part per million (one volume of vapor or gas in one million volumes of air)

Ceiling - The concentration that should not be exceeded during any part of the working exposure

< - less than stated value > - greater than stated value ~ - Approximately

TSCA - EPA Toxic Substances Control Act

IARC - International Agency for Research on Cancer

NTP - National Toxicology Program

EPA - Environmental Protection Agency

OSHA - Occupational Safety and Health Administration

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH - National Institute of Occupational Safety and Health

MSHA - Mine Safety and Health Administration

Acute Hazard - An adverse health effect which usually occurs rapidly as a result of short term exposure.

Chronic Hazard - An adverse health effect which generally occurs as a result of long term exposure or short term exposure with delayed health effects and is of long duration.

Fire Hazard - A material that poses a physical hazard by being flammable, combustible, phyrophoric or an oxidizer as defined by 29 CFR 1910.1200

Pressure Hazard - A material that poses a physical hazard due to the potential of a sudden release of pressure such as explosive or a compressed gas as defined by 29 CFR 1910.1200

Reactive Hazard - A material that poses a physical hazard due to the potential to become unstable reactive, water reactive or that is an organic peroxide as defined by 29 CFR 1910.1200.

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