CITGO No. 1 Diesel Fuel, All Grades

Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210

MSDS No.	AG1DF
Revision Date	9/9/2011

IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

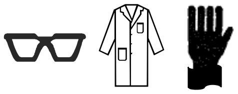
Hazard Rankings

	HMIS	NFPA
Health Hazard	* 2	1
Fire Hazard	2	2
Reactivity	0	0

*** = Chronic Health Hazard**

Protective Equipment

Minimum Recommended
See Section 8 for Details



Emergency Overview

Physical State	Liquid.		
Color	Clear to light amber.	**Odor**	Characteristic, kerosene-like.

WARNING!
Combustible liquid and vapor. - Can cause flash fire.
Harmful or fatal if swallowed - can enter lungs and cause damage.
Mist or vapor can irritate the respiratory tract.
Liquid contact can cause eye or skin irritation.
Overexposure can cause central nervous system (CNS) depression and/or other target organ effects.
Harmful to aquatic organisms.
Long-term exposure to diesel engine exhaust may cause cancer.

SECTION 1. PRODUCT IDENTIFICATION

Trade Name	CITGO No. 1 Diesel Fuel, All Grades	**Technical Contact**	(800) 423-8434
Product Number	Various	**Medical Emergency**	(832) 486-4700
CAS Number	Various	**CHEMTREC Emergency (United States Only)**	(800) 424-9300

Product Family	Fuels.
Synonyms	No. 1 Ultra Low Sulfur Diesel, Diesel Fuel No. 1; K-1, Fuel Oil; Grade 1 Distilate Fuel; Kerosene, Low Sulfur Diesel Fuel

SECTION 2. COMPOSITION

This product may be composed, in whole or in part, of any of the following refinery streams:

Hydrodesulfurized Kerosine (Petroleum) [CAS No.: 64742-81-0]
Distillates (petroleum), hydrotreated light [CAS No.: 64742-47-8]
Hydrodesulfurized middle distillate (petroleum) [CAS No.: 64742-80-9]
Distillates, petroleum, hydrodesulfurized light catalytic cracked [CAS No.: 68333-25-5]
Kerosene [CAS No.: 8008-20-6]

This product contains the following components:

Component Name(s)	CAS Registry No.	Concentration (%)

Nonane, all isomers	Mixture.	10 - 30
Ethylmethylbenzene, all isomers	25550-14-5	1 - 3
Naphthalene	91-20-3	0 - 3
Trimethylbenzenes, all isomers	25551-13-7	0 - 2
Biphenyl (Diphenyl)	92-52-4	0 - 2
Ethylbenzene	100-41-4	0 - 1
Xylene, all isomers	1330-20-7	0 - 1
1, 2, 4 Trimethylbenzene	95-63-6	0 - 1
Cumene	98-82-8	0 - 1

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact. Eye contact. Inhalation. Ingestion.

Signs and Symptoms of Acute Exposure

Inhalation Breathing high concentrations may be harmful. Mist or vapor can irritate the throat and lungs. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness.

Eye Contact This material can cause eye irritation with tearing, redness, or a stinging or burning feeling. Further, it can cause swelling of the eyes with blurred vision. Effects may become more serious with repeated or prolonged contact.

Skin Contact May cause mild skin irritation with redness and/or an itching or burning feeling. Effects may become more serious with repeated or prolonged contact. It is likely that some components of this material are able to pass into the body through the skin and may cause similar effects as from breathing or swallowing it.

Ingestion Swallowing this material may be harmful.
Swallowing this material may cause stomach or intestinal upset with pain, nausea, and/or diarrhea.
This material can get into the lungs during swallowing or vomiting. Small amounts in the lungs can cause lung damage, possibly leading to chronic lung dysfunction or death.
Swallowing this material may cause effects similar to those described in the inhalation section (see "inhalation" above).

Chronic Health Effects Summary Prolonged and/or repeated contact may cause skin irritation and inflammation. Symptoms include defatting, redness, blistering, lesions, and scaly dermatitis.

Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction.

Reports have associated repeated and prolonged occupational overexposure to light petroleum products with irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Prolonged or repeated overexposure to xylene, a component of this product, has been associated with hearing damage in laboratory animals.

This material (or a component) may cause harm to the human fetus based on tests with laboratory animals. This material, or a component of this material, has been shown to cause cancer in laboratory animals. The relevance of this to humans is not clear.

See Toxicological Information (Section 11)

Conditions Aggravated by Exposure Medical conditions aggravated by exposure to this material may include skin disorders, chronic respiratory diseases, neurological conditions, liver or kidney dysfunction.

Target Organs May cause damage to the following organs: kidneys, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).

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Carcinogenic Potential This material may contain ethylbenzene, cumene and naphthalene at concentrations above 0.1%. IARC has identified ethylbenzene, cumene and naphthalene as possibly carcinogenic to humans (Group 2B) based on laboratory animal studies. The NTP has determined that naphthalene is *reasonably anticipated to be a human carcinogen* based on sufficient evidence from studies in experimental animals. NTP has determined that exposure to diesel exhaust particulates, a complex mixture of combustion products of diesel fuel, is reasonably anticipated to be a human carcinogen.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				**OSHA Physical Hazard Classification**					
Irritant	☒	**Sensitizer**	☐	**Combustible**	☒	**Explosive**	☐	**Pyrophoric**	☐
Toxic	☐	**Highly Toxic**	☐	**Flammable**	☐	**Oxidizer**	☐	**Water-reactive**	☐
Corrosive	☐	**Carcinogenic**	☐	**Compressed Gas**	☐	**Organic Peroxide**	☐	**Unstable**	☐

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.

Eye Contact Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water for at least 15 minutes while occasionally lifting and lowering eyelids. Do not use eye ointment unless directed to by a physician. Seek medical attention if excessive tearing, irritation, or pain persists.

Skin Contact Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists.

Ingestion Do not induce vomiting. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Notes to Physician INHALATION: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation, as required.

INGESTION: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification NFPA Class-II combustible liquid.

Flash Point Closed cup: 38°C (100°F). (Pensky-Martens. (Minimum))

Lower Flammable Limit AP 0.7 % **Upper Flammable Limit** AP 7 %

Autoignition Temperature >210°C (>410°F)

Hazardous Combustion Products Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur and/or nitrogen.

Special Properties Combustible Liquid! This material releases vapors when heated above ambient temperatures. Vapors can cause a flash fire. Vapors can travel to a source of ignition and flashback. A vapor and air mixture can create an explosion hazard in confined spaces such as sewers. Use only with adequate ventilation. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media SMALL FIRE: Use dry chemicals, carbon dioxide, foam, or inert gas (nitrogen). Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.
LARGE FIRE: Use foam, water fog, or water spray. Water fog and spray are effective in cooling containers and adjacent structures. However, water can cause frothing and/or may not extinguish the fire. Water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire to a larger area.

Protection of Fire Fighters Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities of potential fire and explosion hazard if liquid enter sewers or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Combustible Liquid! Release can result in a fire hazard. Evacuate all non-essential personnel from release area. Establish a regulated zone with site control and security. Eliminate all ignition sources. Stop the leak if it can done without risk. A vapor-suppressing foam may be used to reduce vapors. Properly bond or ground all equipment used when handling this material. Avoid skin contact. Do not walk through spilled material. Verify that responders are properly trained and wearing appropriate personnel protective equipment. Dike far ahead of a liquid spills. Do not allow released material to entry waterways, sewers, basements, or confined areas. This material will float on water. Absorb or cover with dry earth, sand or other non-combustible material. Use clean, non-sparking tools to collect absorbed material. Place spent sorbent materials, free liquids and other clean-up debris into proper waste containers for appropriate disposal. Certain releases must be reported to the National Response Center (800/424-8802) and state or regulatory authorities. Comply with all laws and regulations.

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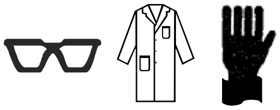
SECTION 7. HANDLING AND STORAGE

Handling	A spill or leak can cause an immediate fire or explosion hazard. Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Avoid contact with oxidizing agents. Do NOT breathe vapor. Use only with adequate ventilation and personal protection. Never siphon by mouth. Avoid contact with eyes, skin, and clothing. Prevent contact with food and tobacco products. Do NOT take internally. When performing repairs and maintenance on contaminated equipment, keep unnecessary persons away from the area. Eliminate all potential ignition sources. Drain and purge equipment, as necessary, to remove material residues. Follow proper entry procedures, including compliance with 29 CFR 1910.146 prior to entering confined spaces such as tanks or pits. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Use appropriate respiratory protection when concentrations exceed any established occupational exposure level (See Section 8) Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling. Non-equilibrium conditions may increase the fire hazard associated with this product. A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading. Always confirm that receiving container is properly grounded. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. Carefully review operations that may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigation efforts, including bonding and grounding. Always keep nozzle in contact with the container throughout the loading process. Do NOT fill any portable container in or on a vehicle. Do NOT use compressed air for filling, discharging or other handling operations. Product container is NOT designed for elevated pressure. Do NOT pressurize, cut, weld, braze solder, drill, or grind on containers. Do NOT expose product containers to flames, sparks, heat or other potential ignition sources. Empty containers may contain material residues which can ignite with explosive force. Observe label precautions.
Storage	Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store only in approved containers. Do not store with oxidizing agents. Do not store at elevated temperatures or in direct sunlight. Protect containers against physical damage. Head spaces in tanks and other containers may contain a mixture of air and vapor in the flammable range. Vapor may be ignited by static discharge. Storage area must meet OSHA requirements and applicable fire codes. Additional information regarding the design and control of hazards associated with the handling and storage of flammable and combustible liquids may be found in professional and industrial documents including, but not limited to, the National Fire Protection Association (NFPA) publications NFPA 30 ("Flammable and Combustible Liquid Code"), NFPA 77 ("Recommended Practice on Static Electricity") and the American Petroleum Institute (API) Recommended Practice 2003, (“Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents"). Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls Provide ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated below. All electrical equipment should comply with the National Electrical Code. An emergency eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



Eye Protection Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Chemical goggles should be worn during transfer operations or when there is a likelihood of misting, splashing, or spraying of this material. A suitable emergency eye wash water and safety shower should be located near the work station.

Hand Protection Avoid skin contact. Use heavy duty gloves constructed of chemical resistant materials such as Viton® or heavy nitrile rubber. Wash hands with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners.

Body Protection Avoid skin contact. Wear long-sleeved fire-retardant garments (e.g., Nomex®) while working with flammable and combustible liquids. Additional chemical-resistant protective gear may be required if splashing or spraying conditions exist. This may include an apron, boots and additional facial protection. If product comes in contact with clothing, immediately remove soaked clothing and shower. Promptly remove and discard contaminated leather goods.

Respiratory Protection For known vapor concentrations above the occupational exposure guidelines (see below), use a NIOSH-approved organic vapor respirator if adequate protection is provided. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134). For airborne vapor concentrations that exceed the recommended protection factors for organic vapor respirators, use a full-face, positive-pressure, supplied air respirator. Due to fire and explosion hazards, do not enter atmospheres containing concentrations greater than 10% of the lower flammable limit of this product.

General Comments Warning! Use of this material in spaces without adequate ventilation may result in generation of hazardous levels of combustion products and/or inadequate oxygen levels for breathing. Odor is an inadequate warning for hazardous conditions.

Occupational Exposure Guidelines

Substance	Applicable Workplace Exposure Levels
Diesel Fuel No. 2	**ACGIH TLV (United States). Skin** TWA: 100 mg/m^3 8 hour(s).
Kerosene	**NIOSH REL (United States).** TWA: 100 mg/m^3 8 hour(s).
Nonane, all isomers	**ACGIH (United States).** TWA: 200 ppm 8 hour(s).
Naphthalene	**ACGIH (United States). Skin** TWA: 10 ppm 8 hour(s). STEL: 15 ppm 15 minute(s). **OSHA (United States).** TWA: 10 ppm 8 hour(s).
Trimethylbenzenes, all isomers	**ACGIH (United States).**

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	TWA: 25 ppm 8 hour(s).
Biphenyl (Diphenyl)	**ACGIH TLV (United States).** TWA: 0.2 ppm 8 hour(s). **OSHA PEL Z2 (United States).** TWA: 0.2 ppm 8 hour(s).
Ethylbenzene	**ACGIH (United States).** TWA: 20 ppm 8 hour(s). **OSHA (United States).** TWA: 100 ppm 8 hour(s).
Xylene, all isomers	**ACGIH (United States).** TWA: 100 ppm 8 hour(s). STEL: 150 ppm 15 minute(s). **OSHA (United States).** TWA: 100 ppm 8 hour(s).
Cumene	**ACGIH (United States).** TWA: 50 ppm 8 hour(s). **OSHA (United States). Skin** TWA: 50 ppm 8 hour(s).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Liquid.	**Color**	Clear to light amber.	**Odor**	Characteristic, kerosene-like.
Specific Gravity	0.82 (Water = 1)	**pH**	Not applicable	**Vapor Density**	4 (Air = 1)
Boiling Range	150°C (302°F) to 300ºC (572ºF)			**Melting/Freezing Point**	Not available.
Vapor Pressure	<0.3 kPa (<2 mm Hg) (at 20°C)			**Volatility**	AP 825 g/l VOC (w/v)
Solubility in Water	Very slightly soluble in cold water.			**Viscosity (cSt @ 40°C)**	AP 3
Flash Point	Closed cup: 38°C (100°F). (Pensky-Martens. (Minimum))				
Additional Properties	Density: 6.5 to 7.0 lbs/gal.; Viscosity (ASTM D2161): 1 to 3 cSt @ 40ºC (104º F) Conductivity: 25 picosiemens/meter (minimum)				

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable.	**Hazardous Polymerization**	Not expected to occur.
Conditions to Avoid	Keep away from heat, flame and other potential ignition sources. Keep away from strong oxidizing conditions and agents.		
Materials Incompatibility	Strong acids, alkalies, and oxidizers such as liquid chlorine, other halogens, hydrogen peroxide and oxygen.		
Hazardous Decomposition Products	No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.		

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SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Naphthalene

Studies in Humans Overexposed to Naphthalene:
Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from over-exposure 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 also been reported from over-exposure to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect.

Studies in Laboratory Animals:
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.*

Trimethylbenzenes, all isomers

Studies of Workers:
Levels of total hydrocarbon vapors present in the breathing atmosphere of these workers ranged from 10 to 60 ppm. The TCLo for humans is 10 ppm, with somnolence and respiratory tract irritation noted.

Studies in Laboratory Animals:
In inhalation studies with rats, four of ten animals died after exposures of 2400 ppm for 24 hours. An oral dose of 5 mL/kg resulted in death in one of ten rats. Minimum lethal intraperitoneal doses were 1.5 to 2.0 mL/kg in rats and 1.13 to 12 mL/kg in guinea pigs. Mesitylene (1, 3, 5 Trimethylbenzene) inhalation at concentrations of 1.5, 3.0, and 6.0 mg/L for six hours was associated with dose-related changes in white blood cell counts in rats. No significant effects on the complete blood count were noted with six hours per day exposure for five weeks, but elevations of alkaline phosphatase and SGOT were observed. Central nervous system depression and ataxia were noted in rats exposed to 5,100 to 9,180 ppm for two hours.

Biphenyl (Diphenyl)

Studies in Humans Overexposed to 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.

Studies in Laboratory Animals:
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.

Genotoxicity & Carcinogenicity:
Biphenyl tested negative in bacteriological systems but some evidence of positive responses have been reported in mammalian cell systems in the presence of metabolic activation. The EPA has determined human and animal data are inadequate to classify the carcinogenic potential of biphenyl.

Ethylbenzene

Effects from Acute Exposure:
ORAL (LD50), Acute: 3,500 mg/kg [Rat].
DERMAL (LD50), Acute: 17,800 uL/kg [Rabbit].

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INTRAPERITONEAL (LD50), Acute: 2,624 mg/kg [Rat].

Effects from Prolonged or Repeated Exposure:
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). Also, the incidence of tumors was 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 indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

Cumene:
Effects from Acute Exposure:
Overexposure to cumene may cause upper respiratory tract irritation and severe CNS depression.

Effects from Prolonged or Repeated Exposure:
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. IARC has classified cumene as “possibly carcinogenic to humans” (Group 2B).

Diesel exhaust particulate
Lung tumor and lymphomas were identified in rats and mice exposed to unflitered diesel fuel exhaust in chronic inhalation studies. Further, epidemiological studies have identified increase incidences of lung cancer in US railroad workers and bladder cancer in bus and truck drivers possibly associated with exposure to diesel engine exhaust. NTP has determined that exposure to diesel exhaust particulates, a complex mixture of combustion products of diesel fuel, is reasonably anticipated to be a human carcinogen. In addition, NIOSH has identified complete diesel exhaust as a potential carcinogen.

Middle distillates, petroleum:
This product contains a component that is a petroleum middle distillate. Certain petroleum middle distillates have been associated with skin tumors in laboratory animals following repeated applications. All tumors appeared at the site of application during the latter portion of the typical 2-year lifespan of the animals. Further, studies have shown that washing the animal’s exposed skin with soap and water between treatments greatly reduces these potential effects.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Freshwater Toxicity:
Concentration: 2400 ppm Exposure: 48 hrs. Species: Juven. Am. Shad (*Squalius cephalus*) Effect: TLM
Concentration: >127 ppm Exposure: 96 hrs. Species: Bluegill (*Lepomis macrochirus*) Effect: LC50

Saltwater Toxicity
Concentration: 10 ppm Exposure: 96 hrs. Species: Menhaden (*Brevoortia patronus*) Effect: LC50
Concentration: 10 ppm Exposure: 96 hrs. Species: Grass Shrimp Effect: LC50

Environmental Fate

If spilled, this material will normally evaporate. Hydrocarbon components may contribute to atmospheric smog. If released to the subsoils, petroleum middle distillate fuels will strongly adsorb to soils. Groundwater should be considered as an exposure pathway. Liquid and vapor can migrate through the subsurface and preferential pathways (such as utility line backfill) to downgradient receptors.

Middle distillates are potentially toxic to freshwater and saltwater ecosystems. Distillate fuels will normally float on water. In stagnant or slow-flowing waterways, a hydrocarbon layer can cover a large surface area. As a result, this oil layer can limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can cause a fish kill or create an anaerobic environment. Also, this coating action can also kill plankton, algae, and water birds.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Maximize material recovery for reuse or recycling. If spilled material is introduced into a wastewater treatment system, chemical and biological oxygen demand (COD and BOD) will likely increase. Vapor emissions from a bio-oxidation process contaminated with this material might be a potential health hazard.

Recovered non-usable material may be regulated by US EPA as a hazardous waste due to its ignitibility characteristic (D001). In addition, conditions of use may cause this material to become a hazardous waste, as defined by Federal or State regulations. It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR Parts 260 through 271). Contact your regional US EPA office for guidance concerning case specific disposal issues. State and/or local regulations might be even more restrictive.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status A U.S. Department of Transportation (DOT) regulated material. The following U. S. DOT hazardous materials shipping description applies to bulk packaged material that is transported by highway or rail. Alternate shipping descriptions may be required for product transported by marine vessel, air or other method and for non-bulk packaged material.

Proper Shipping Name Diesel Fuel, No. 1, Combustible liquid, NA1993, PG III

Hazard Class DOT Class: Combustible liquid with a flash point greater than 37.8°C (100°F).

Packing Group III

UN/NA Number NA 1993 or UN 1202

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placard(s)

Emergency Response Guide No. 128

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

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SECTION 15. REGULATORY INFORMATION

TSCA Inventory	This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
SARA 302/304 Emergency Planning and Notification	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.
SARA 311/312 Hazard Identification	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: Fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard
SARA 313 Toxic Chemical Notification and Release Reporting	This product contains the following components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: Naphthalene [CAS No.: 91-20-3] Concentration: <3% Biphenyl (Diphenyl) [CAS No.: 92-52-4] Concentration: <2% Ethylbenzene [CAS No.: 100-41-4] Concentration: <1% Cumene [CAS No.: 98-82-8] Concentration: <1%
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: Naphthalene [CAS No.: 91-20-3] RQ = 100 lbs. (45.36 kg) Concentration: <3% Ethylbenzene [CAS No.: 100-41-4] RQ = 1000 lbs. (453.6 kg) Concentration: <1% Xylene, all isomers [CAS No.: 1330-20-7] RQ = 100 lbs. (45.36 kg) Concentration: <1 Cumene [CAS No.: 98-82-8] RQ = 5000 lbs. (2268 kg) Concentration: <1% Benzene [CAS No.: 71-43-2] RQ = 10 lbs. (4.536 kg) Concentration: <0.05%
Clean Water Act (CWA)	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
California Proposition 65	This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Naphthalene: <3% Ethylbenzene: <1% Cumene: <1% Diesel exhaust particulate Toluene: <0.05% Benzene: <0.05%
New Jersey Right-to-Know Label	Diesel Fuel
Additional Remarks	Federal Hazardous Substances Act, related statutes, and Consumer Product Safety Commission regulations, as defined by 16 CFR 1500.14(b)(3) and 1500.83(a)(13): This product contains "Petroleum Distillates" which may require special labeling if distributed in a manner intended or packaged in a form suitable for use in the household or by children. Precautionary label dialogue should display the following: **DANGER: Contains Petroleum Distillates! Harmful or fatal if swallowed! Call Physician Immediately. KEEP OUT OF REACH OF CHILDREN!**

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SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number 3.0
Revision Date 9/9/2011

ABBREVIATIONS

AP: Approximately
NA: Not Applicable
EQ: Equal
ND: No Data
>: Greater Than
NE: Not Established
<: Less Than
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
NPCA: National Paint and Coating Manufacturers Association
EPA: US Environmental Protection Agency
HMIS: Hazardous Materials Information System
OSHA: Occupational Safety and Health Administration
NTP: National Toxicology Program
NFPA: National Fire Protection Association

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