

Heavy Fluid Gasoline

Material Safety Data Sheet

Company

Houston Refining
One Houston Center, Suite 700
1221 McKinney St.
P.O. Box 2583
Houston, Texas 77252-2583

MSDS No. AP0187

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IMPORTANT: Read this MSDS before handling or disposing of this product and pass this information on to employees, customers and users of this product.

Emergency Overview

Physical State Liquid.
Color Transparent, clear to slightly yellow. **Odor** Moderate, sweet and pleasant, aromatic hydrocarbon to gasoline-like.

DANGER! Extremely flammable liquid; vapor may cause flash fire or explosion!
Mist or vapor may irritate the eyes, mucous membranes, and respiratory tract!
Liquid contact may cause mild to severe eye and/or moderate to severe skin irritation and inflammation!
May be harmful if inhaled or absorbed through the skin!
Overexposures may cause central nervous system (CNS) depression and/or other target organ effects!
May be harmful or fatal if ingested!
Aspiration into the lungs can cause pulmonary edema and chemical pneumonia!
Prolonged and/or repeated inhalation may increase the heart's susceptibility to arrhythmias (irregular beats)!
Potential cancer hazard! Contains low levels of Benzene!
May cause leukemia and/or other blood disorders!
Mutagenic hazard; may cause genetic damage!
May adversely affect reproduction or reproductive development!
Spills may create a slipping hazard!

Hazard Rankings

	HMIS	NFPA
Health Hazard	* 2	2
Fire Hazard	3	3
Reactivity	0	0

* = Chronic Health Hazard

Protective Equipment

Minimum Requirements
See Section 8 for Details



SECTION 1: IDENTIFICATION

Trade Name Heavy Fluid Gasoline

Product Number 3220132201

CAS Number 64741-54-4

Product Family C7-C12 Petroleum Hydrocarbons

Synonyms FCCU Heavy Gasoline or Naphtha; Untreated Cat Cracked Heavy Gasoline; Fluid Unit Gasoline Splitter Tower Bottoms; FCCU C-006 Tower Bottoms, FCCU Gasoline Splitter Reboiler Feed and Recycle Streams, Catalytic Naphtha Fractionator (CNF) Feedstock; 735 Unit CNF Feed; Magnaformer CNF Feedstock; Heavy Catalytic Cracked Naphtha (Petroleum); HCCN.

Business Contact

Product Safety 800-700-0946

24 Hour Emergency Contact

CHEMTREC 800-424-9300

CANUTEC-Canada 613-996-6666

LYONDELL 800-245-4532

SECTION 2: COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
1) Heavy Catalytic Cracked Naphtha (Petroleum)	64741-54-4	100
2) Benzene	71-43-2	0.1-0.5
3) Heptanes	Mixture	5-15
4) Methylcyclohexane	108-87-2	1-5
5) Toluene	108-88-3	1-5
6) C7-C12 alpha-Alkenes	68855-57-2	5-15
7) Octanes	Mixture	15-25
8) Xylene, Mixed Isomers	1330-20-7	5-10
9) Ethylbenzene	100-41-4	1-2
10) Nonanes	Mixture	10-25
11) n-Propylbenzene	103-65-1	0.5-1.5
12) Trimethylbenzene (mixed isomers)	25551-13-7	5-10
13) 1,2,4-Trimethylbenzene (Pseudocumene)	95-63-6	3-6
14) Ethylmethylbenzenes (Ethyltoluenes)	25550-14-5	1-10
15) Indene	95-13-6	0.5-1.5
16) Naphthalene	91-20-3	0.5-1.5
17) C10-C12 Alkylbenzenes	70693-06-0	5-10
18) C10-C12 Alkanes, Isoparaffins, Cycloalkanes, and Naphthenes	Mixture	5-10

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. Absorption. Inhalation.

Signs and Symptoms of Acute Exposure

Inhalation	Breathing high concentrations of vapor may cause respiratory irritation, euphoria, excitation or giddiness, headache, nausea, vomiting, abdominal pain, loss of appetite, fatigue, muscular weakness, staggering gait, and central nervous system (CNS) depression. CNS effects include dizziness, drowsiness, disorientation, vertigo, memory loss, visual disturbances, difficulty with breathing, convulsions, unconsciousness, paralysis, coma, and even death, depending upon level of exposure concentration and/or duration. Vapors can reduce the oxygen content in air. Approximately 20,000 ppm (or 2 vol.%) in air is fatal to humans in 5 to 10 minutes. Sudden death from cardiac arrest (heart attack) may result from exposure to 5,000 ppm for only 5 minutes. Oxygen deprivation is possible if working in confined spaces.
Eye Contact	Animal test results on similar materials suggest that this product can cause mild to severe eye irritation upon short-term exposure. Symptoms include stinging, watering, redness, and swelling.
Skin Contact	Animal test results on similar materials suggest that this product can cause moderate to severe skin irritation. Short-term contact symptoms include redness, itching, and burning of the skin. This material may also be absorbed through the skin and produce CNS depression effects (see "Inhalation" above). If the skin is damaged, absorption increases. Prolonged and/or repeated contact may cause moderate to severe dermatitis. Chronic symptoms may include drying, swelling, scaling, blistering, cracking, and severe tissue damage.
Ingestion	If swallowed, this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Symptoms include a burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggering gait, drowsiness, loss of consciousness, and delirium, as well as additional central nervous system (CNS) effects (see "Inhalation" above). Due to its light viscosity, there is a danger of aspiration into the lungs during vomiting. Aspiration can result in severe lung damage or death. Progressive CNS depression, respiratory insufficiency, and ventricular fibrillation may also result in death.
Chronic Health Effects Summary	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 solvents with irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). And, altered mental state, drowsiness, menstrual problems, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffers Encephalopathy), delirium, seizures, and sudden death have been common results for gasoline and naphtha abusers. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

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Benzene is considered to be a cancer causing agent. It damages blood cells, the bone marrow, and other blood-forming tissues causing leukopenia, aplastic anemia, and/or acute myelogenous leukemia (AML). Benzene is also capable of causing changes in genetic material (chromosomes). Chronic overexposures have caused vaginal bleeding, heavy menstrual bleeding, and hemorrhagic complications during pregnancy. Available information indicates that benzene is NOT teratogenic, but is fetotoxic at exposure levels which result in mild maternal toxicity. In limited animal tests, high inhaled doses of benzene have caused decreased fetal body weights, increased skeletal variations, and alterations in the formation and development of blood cells in the bone marrow of rodents.

Available information indicates that **toluene** is NOT teratogenic, but it can be toxic to the embryo and fetus and may reduce fertility. In animal tests, high inhaled doses of toluene has caused reduced litter sizes, retarded development of the fetus, and increased incidence of non-lethal abnormalities.

Chronic occupational **toluene and xylene** exposures have caused auditory nerve degeneration.

Based upon animal testing, the **C8 aromatic hydrocarbon components (xylenes)** might be assumed to cause embryo and fetal toxicity, spontaneous abortions, and/or decreased fetal and newborn weights if overexposures occur during a woman's early gestation period. Also based upon animal testing, the **C9 aromatic hydrocarbon components (trimethylbenzenes, ethylmethylbenzenes, and indene)** are presumed to cause fetal toxicity and/or decreased fetal and newborn weights if overexposures occur during a woman's early gestation period.

Naphthalene, a component of this product, is considered to be a toxic substance as defined by both human exposure and laboratory testing results (See Section 11.)

Conditions Aggravated by Exposure

Personnel with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, impaired hearing, liver, or kidney function, or chronic respiratory diseases, and women attempting to conceive should avoid exposure.

Exposure to high concentrations of this material may increase the sensitivity of the heart to **epinephrine (adrenalin) and catecholamine-like drugs**. Personnel with pre-existing cardiac disorders may be more susceptible to this effect (see Section 4, "Note to Physicians").

Target Organs

This material is toxic to lungs, central nervous system, especially the auditory nerves, brain, blood, kidneys, liver, heart, thymus, mucous membranes, skin, eyes, and possibly the reproductive system.

Carcinogenic Potential

This product contains a **benzene** component at concentrations at or above 0.1%. **Benzene** is considered carcinogenic by OSHA, IARC, and NTP. (See Section 11.)

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant	<input checked="" type="checkbox"/>	Toxic	<input checked="" type="checkbox"/>	Combustible	<input type="checkbox"/>	Explosive	<input checked="" type="checkbox"/>	Pyrophoric	<input type="checkbox"/>
Sensitizer	<input checked="" type="checkbox"/>	Highly Toxic	<input type="checkbox"/>	Flammable	<input checked="" type="checkbox"/>	Oxidizer	<input type="checkbox"/>	Water-reactive	<input type="checkbox"/>
Corrosive	<input type="checkbox"/>	Carcinogenic	<input checked="" type="checkbox"/>	Compressed Gas	<input type="checkbox"/>	Organic Peroxide	<input type="checkbox"/>	Unstable	<input type="checkbox"/>

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

Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately.

Eye Contact

Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.

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.

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Ingestion	Do not induce vomiting or give anything by mouth. 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 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. Vigorous anti-inflammatory/steroid treatment may be required at first evidence of upper airway or pulmonary edema. Administer 100 percent humidified supplemental oxygen with assisted ventilation, as required. If ingested, this material presents a significant aspiration/chemical pneumonitis hazard. As a result, induction of emesis is not recommended. Administer an aqueous slurry of activated charcoal followed by a cathartic such as magnesium citrate or sorbitol. Also, treatment may involve careful gastric lavage if performed soon after ingestion or in patients who are comatose or at risk of convulsing. Protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position. Obtain chest X-ray and liver function tests. Monitor for cardiac function, respiratory distress and arterial blood gases in severe exposure cases. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias (irregular beating) in persons exposed to high concentrations of this material (e.g., in enclosed spaces or with deliberate abuse). If used, monitor heart action closely. Consider use of other drugs with less arrhythmogenic potential.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification	OSHA/NFPA Class-IA Flammable Liquid. Extremely flammable!		
Flash Point/Method	CLOSED CUP: -9° to -6°C (15° to 20°F) (Tagliabue [ASTM D-56])		
Lower Flammable Limit	AP 0.9 %	Upper Flammable Limit	AP 7.0 %
Auto-Ignition Temp.	AP 232°C (450°F) (ASTM E-659)		
Hazardous Combustion Products	Burning or excessive heating may produce smoke, carbon monoxide, carbon dioxide, and possibly other harmful gases/vapors including oxides of sulfur and nitrogen.		
Special Properties	Extremely Flammable Liquid! This material releases vapors at or well below ambient temperatures. When mixed with air in certain proportions and exposed to an ignition source, its vapor can cause a flash fire. Use only with adequate ventilation. Vapors are heavier than air and may travel long distances along the ground to an ignition source and flash back. May create vapor/air explosion hazard in confined spaces such as sewers. If container is not properly cooled, it can rupture in the heat of a fire.		
Extinguishing Media	SMALL FIRE: Use dry chemicals, carbon dioxide (CO ₂), foam, water fog, or inert gas (nitrogen). LARGE FIRE: Use foam, water fog, or waterspray. Water fog and spray are effective in cooling containers and adjacent structures but might cause frothing and/or may not achieve extinguishment. A water jet may be used to cool the vessel's external walls to prevent pressure build-up, autoignition, or explosion. NEVER use a water jet directly on the fire because it may spread the fire to a larger area.		
Fire Fighting Protective Clothing	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 venting safety devices or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities if liquid(s) enter sewers/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.

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Flammable Liquid! Release causes an immediate fire or explosion hazard. Evacuate all non-essential personnel from immediate area and establish a "regulated zone" with site control and security. A vapor-suppressing foam may be used to reduce vapors. Eliminate all ignition sources. All equipment used when handling this material must be grounded. Stop the leak if it can be done without risk. Do not touch or walk through spilled material. Remove spillage immediately from hard, smooth walking areas. Prevent its entry into waterways, sewers, basements, or confined areas. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to appropriate waste containers. Use clean, non-sparking tools to collect absorbed material.

For large spills, secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Water mist or spray may be used to reduce or disperse vapors; but, it may not prevent ignition in closed spaces. This material will float on water and its run-off may create an explosion or fire hazard. Verify that responders are properly HAZWOPER-trained and wearing appropriate respiratory equipment and fire-resistant protective clothing during cleanup operations. In an urban area, cleanup spill as soon as possible; in natural environments, cleanup on advice from specialists. Pick up free liquid for recycle and/or disposal if it can be accomplished safely with explosion-proof equipment. Collect any excess material with absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all laws and regulations.

SECTION 7: HANDLING AND STORAGE

Handling

A spill or leak can cause an immediate fire/explosion hazard. Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Bond and ground all equipment before transferring this material from one container to another. Do not contact with oxidizable materials. Do not breathe vapor. Use only with adequate ventilation/personal protection. Never siphon by mouth. Avoid contact with eyes, skin, and clothing. Prevent contact with food, chewing, or smoking materials. 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. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Provide ventilation to maintain exposure potential below applicable exposure limits. Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Empty containers may contain material residues which can ignite with explosive force. Misuse of empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers can cause fire, explosion, or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.

Storage

Store and transport in accordance with all applicable laws. Keep containers tightly closed and store in a cool, dry, well-ventilated place, plainly labeled, and out of closed vehicles. Keep away from all ignition sources! Ground all equipment containing this material. Containers should be able to withstand pressures expected from warming and cooling in storage. This flammable liquid should be stored in a separate safety cabinet or room, and preferably refrigerated. All electrical equipment in areas where this material is stored or handled should be installed in accordance with applicable requirements of the N.F.P.A.'s National Electrical Code (NEC).

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and/or mists below the pertinent exposure limits (see below). All electrical equipment should comply with the NFPA NEC Standards. Ensure that an emergency eye wash station and safety shower are near the work-station location.

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.



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Eye Protection	Safety glasses with side shields are recommended as a minimum protection. During transfer operations or when there is a likelihood of misting, splashing, or spraying, chemical goggles and face shield should be worn. Suitable eye wash water should be readily available.
Hand Protection	Avoid skin contact and use gloves (disposable PVC, neoprene, nitrile, vinyl, or PVC/NBR). Before eating, drinking, smoking, use of toilet facilities, or leaving work, wash hands with plenty of mild soap and water. DO NOT use gasoline, kerosene, other solvents, or harsh abrasive skin cleaners.
Body Protection	Avoid skin contact. It is recommended that fire-retardant garments (e.g. Nomex™) be worn while working with flammable and combustible liquids. If splashing or spraying is expected, chemical-resistant protective clothing (Tyvek®, nitrile, or neoprene) should be worn. This might include long-sleeves, apron, slicker suit, boots, and additional facial protection. If general contact occurs, IMMEDIATELY remove soaked clothing and take a shower. Contaminated leather goods should be removed promptly and discarded.
Respiratory Protection	For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA). 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. Respirator use should follow OSHA requirements (29 CFR 1910.134) or equivalent standard (e.g. ANSI Z88.2).
General Comments	Warning! Odor is an inadequate warning for hazardous conditions.

Occupational Exposure Guidelines

Substance	Applicable Workplace Exposure Levels
1) Gasoline ("A3" Animal Carcinogen)	TWA: 300 STEL: 500 (ppm) from ACGIH (TLV) [1999] TWA: 300 STEL: 500 (ppm) from OSHA (PEL) [1989]
2) Petroleum Distillates (Naphtha)	TWA: 400 (ppm) from OSHA (PEL) [1989] TWA: 500 (ppm) from OSHA (PEL) [1976]
3) Benzene ("A1" and "Z-2" Carcinogen)	TWA 0.5 STEL: 2.5 (ppm) from ACGIH (TLV) [1999] - SKIN TWA: 1 STEL: 5 (ppm) from OSHA (PEL) [1987] - SKIN
4) Heptane (n-Heptane)	TWA: 400 STEL: 500 (ppm) from ACGIH (TLV) [1999] TWA: 400 STEL: 500 (ppm) from OSHA (PEL) [1989] TWA: 500 (ppm) from OSHA (PEL) [1976]
5) Methylcyclohexane	TWA: 400 (ppm) from ACGIH (TLV) [1999] TWA: 400 (ppm) from OSHA (PEL) [1989] TWA: 500 (ppm) from OSHA (PEL) [1976]
6) Toluene ("A4" = Not Classifiable)	TWA: 50 (ppm) from ACGIH (TLV) [1999] - SKIN TWA: 100 STEL: 150 (ppm) from OSHA (PEL) [1989] TWA: 200 CEIL: 300 (ppm) from OSHA (PEL) [1976]
7) Octane, all isomers	TWA: 300 (ppm) from ACGIH (TLV) [1999] TWA: 300 STEL: 375 (ppm) from OSHA (PEL) [1989] TWA: 500 (ppm) from OSHA (PEL) [1976]
8) Xylene, Mixed Isomers ("A4" = Not Classifiable)	TWA: 100 STEL: 150 (ppm) from ACGIH (TLV) [1999] TWA: 100 STEL: 150 (ppm) from OSHA (PEL) [1989]
9) Ethylbenzene ("A4" = Not Classifiable)	TWA: 100 STEL: 125 (ppm) from ACGIH (TLV) [1999] TWA: 100 STEL: 125 (ppm) from OSHA (PEL) [1989]
10) Nonane, all isomers	TWA: 200 (ppm) from ACGIH (TLV) [1999] TWA: 200 (ppm) from OSHA (PEL) [1989]
11) Trimethylbenzene (mixed isomers)	TWA: 25 (ppm) from ACGIH (TLV) [1999] TWA: 25 (ppm) from OSHA (PEL) [1989]
12) Indene	TWA: 10 (ppm) from ACGIH (TLV) [1999] TWA: 10 (ppm) from OSHA (PEL) [1989]
13) Naphthalene ("A4" = Not Classifiable)	TWA: 10 STEL: 15 (ppm) from ACGIH (TLV) [1999] - SKIN TWA: 10 STEL: 15 (ppm) from OSHA (PEL) [1989] TWA: 10 (ppm) from OSHA (PEL) [1976]

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.	Color	Transparent, clear to slightly yellow.	Odor	Moderate, sweet and pleasant, aromatic hydrocarbon to gasoline-like.
Specific Gravity	0.83 to 0.85 (Water = 1)	pH	Not applicable.	Vapor Density	3.1 to 3.5 (Air = 1)
Boiling Point/Range	80° to 235°C (176° to 455°F) (ASTM D-86)	Melting/Freezing Point			LT -46°C (-50°F)
Vapor Pressure	2.0 to 2.2 Reid-psia at 38°C (100°F).	Viscosity (cSt @ 40°C)			1 to 3

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Solubility in Water	Soluble in methanol and diethyl ether. Slightly soluble in cold water (LT 0 1%).	Volatile Characteristics	Volatile Organic Compounds (VOCs) Content = 100%; 750 to 875 gm/L.
Additional Properties	Alkane, Isoparaffin, and Cycloalkane Hydrocarbons Content = 35 to 75 Wt.% (ASTM D-1319); C6-C12 Aromatic Hydrocarbons Content = 20 to 50 Wt.% (ASTM D-1319); Olefin Hydrocarbons Content = 5 to 15 Wt.% (ASTM D-1319); Average Density at 60°F = 6.995 lbs./gal. (ASTM D-2500); Average Motor Octane Number = AP 88 (ASTM D-2700); Bromine Number = AP 20 (ASTM D-875); Evaporation Rate = 0.35 to 2.0 when n-Butyl acetate = 1.0; Sulfur Content = 0.1 to 0.25 Wt.% (ASTM D-2622, D-1266, or D-1552); 90% Boiling Point Temperature = 415° to 435°F (213° to 224°C) (ASTM D-86); Dry Point Temperature = 450°F (232°C) (ASTM D-86); Net Heat of Combustion Value = 18,600 to 20,600 Btu/lb. (ASTM D-1405 or D-2382).		

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	Stable.	Hazardous Polymerization	Not expected to occur.
Conditions to Avoid	Keep away from extreme heat, strong acids, and strong oxidizing conditions.		
Materials Incompatibility	Strong acids, alkalies, and oxidizers such as liquid chlorine, hydrogen peroxide, and oxygen.		
Hazardous Decomposition Products	No substances are readily identified from composition; and, no degradation data is available		

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

Heavy Catalytic Cracked Naphtha (Petroleum):

ORAL (LD50):	Acute: GT 5,000 mg/kg [Rat screen] - Somnolence, diarrhea, and hypermotility.
GAS (LC50):	Acute: GT 5,740 mg/L for 4 hours [Rat screen level] - Somnolence.
DERMAL (LD50):	Acute: GT 2,000 mg/kg [Rabbit screen level].

Benzene:

ORAL (LD50):	Acute: 930 mg/kg [Rat] - Tremors and convulsions.
ORAL (LD50):	Acute: 4,700 mg/kg [Mouse]
ORAL (LD50):	Acute: 5,700 mg/kg [Unidentified mammal].
GAS (LC50):	Acute: 10,000 ppm for 7 hours [Rat].
GAS (LC50):	Acute: 9,980 ppm for 8 hours [Mouse] - General anesthesia, muscle weakness, and dyspnea.
DERMAL (LD50):	Acute: 48 mg/kg [Mouse].
DERMAL (LD50):	Acute: GT 9,400 uL/kg [Rabbit and Guinea Pig].
INTRAPERITONEAL (LD50):	Acute: 340 mg/kg [Mouse].
INTRAPERITONEAL (LD50):	Acute: 2,890 ug/kg [Rat] - Lung and liver damage plus decreased blood cells.

n-Heptane:

GAS (LC50):	Acute: 103,000 mg/m ³ for 4 hours [Rat] - Convulsions.
DERMAL (LD50):	Acute: GT 2,000 mg/kg [Rabbit].
INTRAVENOUS (LD50):	Acute: 222 mg/kg [Mouse].

Toluene:

ORAL (LD50):	Acute: 636 mg/kg [Rat].
ORAL (LD50):	Acute: 4,000 mg/kg [Cat]
GAS (LC50):	Acute: 49,000 mg/m ³ for 4 hours [Rat]
GAS (LC50):	Acute: 5,320 ppm for 8 hours [Mouse]
GAS (LC50):	Acute: 400 ppm for 24 hours [Mouse].
DERMAL (LD50):	Acute: 14,100 uL/kg or 12,125 mg/kg [Rabbit].
INTRAVENOUS (LD50):	Acute: 1,960 mg/kg [Rat].
INTRAVENOUS (LD50):	Acute: 2,000 mg/kg [Mouse].
SUBCUTANEOUS (LD50):	Acute: 2,250 mg/kg [Mouse]
INTRAPERITONEAL (LD50):	Acute: 59 mg/kg [Mouse].
INTRAPERITONEAL (LD50):	Acute: 500 mg/kg [Guinea Pig].
INTRAPERITONEAL (LD50):	Acute: 1,332 mg/kg [Rat].

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Methylcyclohexane.

ORAL (LD50):	Acute: 2,250 mg/kg [Mouse]
GAS (LC50):	Acute: 41,500 mg/m ³ for 2 hours [Mouse] - Hypermotility and diarrhea.
GAS (LC50):	Acute: 15,227 ppm for 1 hour [Rabbit] - General anesthetic, convulsions, and changes in the salivary glands

n-Octane

GAS (LC50):	Acute: 118,000 mg/m ³ for 4 hours [Rat].
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Xylenes.

ORAL (LD50):	Acute: 4,300 mg/kg [Rat].
GAS (LC50):	Acute: 4,550 ppm for 4 hours [Rat].
DERMAL (LD50):	Acute: 14,100 uL/kg [Rabbit]
SUBCUTANEOUS (LD50):	Acute: 1,700 mg/kg [Rat]
INTRAPERITONEAL (LD50):	Acute: 2,459 mg/kg [Rat].
INTRAPERITONEAL (LD50):	Acute: 1,548 mg/kg [Mouse].

Ethylbenzene:

ORAL (LD50):	Acute: 3,500 mg/kg [Rat].
DERMAL (LD50):	Acute: 17,800 uL/kg [Rabbit]
INTRAPERITONEAL (LD50):	Acute: 2,624 mg/kg [Rat].

n-Nonane:

GAS (LC50):	Acute: 3,200 ppm for 4 hours [Rat].
INTRAVENOUS (LD50):	Acute: 218 mg/kg [Mouse].

Trimethylbenzenes:

ORAL (LD50):	Acute: 8,970 mg/kg [Rat].
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1,2,4-Trimethylbenzene:

ORAL (LD50):	Acute: 5,000 mg/kg [Rat].
GAS (LC50):	Acute: 18,000 mg/m ³ for 4 hours [Rat].

Ethylmethylbenzenes (Ethyltoluenes):

GAS (LC50):	Acute: 50,000 mg/m ³ for 2 hours [Cat].
GAS (LC50):	Acute: 54,000 mg/m ³ for 4 hours [Mouse].

Indene:

ORAL (LD50):	Acute: 2,300 mg/kg [Rat].
ORAL (LD50):	Acute: 1,800 mg/kg [Mouse].
GAS (LC50):	Acute: 14,000 mg/m ³ for 4 hours [Rat].

Naphthalene:

ORAL (LD50):	Acute: 490 mg/kg [Rat]
ORAL (LD50):	Acute: 533 mg/kg [Mouse].
ORAL (LD50):	Acute: 1,200 mg/kg [Guinea Pig].
SUBCUTANEOUS (LD50):	Acute: 969 mg/kg [Mouse].
INTRAVENOUS (LD50):	Acute: 100 mg/kg [Mouse].
INTRAPERITONEAL (LD50):	Acute: 150 mg/kg [Mouse].

Subchronic (28-day) oral and dermal studies with **heavy catalytic cracked naphtha (petroleum)** using rats and rabbits showed animal weight loss or reduced weight gain, renal tubule changes and acute tubular necrosis, plus slight to moderate skin irritation without sensitization. Heavy catalytic cracked naphtha also produced equivocal mutagenic responses in the Salmonella/microsome (Ames) Assay and positive responses in the in-vitro Mouse Lymphoma Assay with and without S9 activation. The significance of these animal mutagenicity study results to human health is unclear.

Long-term mouse skin painting studies sponsored by the American Petroleum Institute (API) showed **heavy catalytic cracked naphtha** caused a slight increased incidence of skin tumors at the site of contact when applied repeatedly (twice per week) over the lifetime of the test animals (12 to 24 months). Average latency period was 72 weeks. A few studies have shown that washing the animal's skin with soap and water between applications greatly reduces the carcinogenic effect of similar and heavier **petroleum distillates**.

Benzene has an IDLH (immediately dangerous to life or health) concentration of 500 ppm. Inhalation of 20,000 ppm in air is lethal to adults in 5 to 10 minutes. If ingested, benzene's lethal dose for a normal human adult is one teaspoon to one ounce (~10 mL). Studies with pregnant laboratory animals have demonstrated that benzene is NOT teratogenic, but is fetotoxic at exposure levels which result in mild maternal toxicity. There are also reports of human benzene exposure inducing vaginal bleeding, menstrual cycle disorders, and hemorrhagic complications during pregnancy. Benzene can be detected in maternal milk and it passes through the placental barrier. Limited evidence of developmental toxicity are suggested by decreased fetal body weight and increased skeletal variations in rodents. Also, alterations in the formation and development of blood cells in the bone marrow were observed in the fetus and offspring of pregnant mice.

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Benzene is a known animal carcinogen and a human leukemogen. In addition, NTP, IARC, EPA, OSHA, and ACGIH list benzene as a "Human Carcinogen." Repeated and prolonged overexposure to benzene vapors (GT 20 ppm in air) may cause toxicity to blood-forming tissues. Chronic exposure symptoms include decreased blood cell and platelet counts, leukopenia, aplastic anemia, or acute myelogenous leukemia (AML). Also, chronic inhalation of benzene vapors have been found to cause fatigue, nervousness, irritability, blurred vision, and labored breathing. Overexposure to benzene has been associated with chromosomal aberrations in human white blood cells, both laboratory animal and human bone marrow cell damage, and in vitro mammalian cells DNA damage. Elevated frequencies of chromosomal aberrations have been observed in peripheral white blood cells and bone marrow of workers exposed to high benzene concentrations known to be associated with signs of chronic poisoning. Ethanol consumption may have a synergistic effect and increase blood system changes caused by benzene exposures. Children/teenagers have less resistance

n-Heptane is a mucous membrane and respiratory tract irritant, but non-irritating to the eyes. It is readily absorbed by inhalation and dermal exposure and repeated direct skin application can produce defatting dermatitis. Exposures may cause decreased red blood cell counts, liver and heart damage, and central nervous system depression. n-Heptane is metabolized in the liver to form alcohols and ketones, including neurotoxic 2,5-heptanedione which is detectable in small amounts in the urine of exposed humans.

In a controlled study, human volunteers exposed to an airborne concentration of n-heptane of 1,000 ppm for 6 minutes or 2,000 ppm for 4 minutes experienced slight dizziness and incoordination. Higher-level exposures produced hilarity, dizziness, and semi-consciousness. Inhaling a concentration of 5,000 ppm for 15 minutes caused stupor and a gasoline-like taste. These higher exposures also decreased the myocardial threshold to the arrhythmogenic effects (irregular heart beats) of epinephrine, producing only a narrow margin of safety between exposures causing CNS effects, cardiac effects, and loss of consciousness.

One occupational exposure study involving a 95% purity n-heptane from 1 to 9 years duration concluded that it could produce minimal peripheral nerve damage with numbness and tingling of the extremities in the stocking-and-glove areas. In the same study, there was a decrease in motor nerve conduction velocities correlated with duration of exposure and adjusted for age effects; however, the average motor nerve conduction velocity in exposed workers was normal. Polyneuropathy associated with n-heptane exposure was reversible within a year following removal of exposure.

n-Heptane was not neurotoxic in rats exposed for up to 7 months. But based upon limited laboratory animal studies, n-heptane and its metabolites were found in low levels (LT 135 ppm) in the brain of rats exposed to airborne concentrations of 100, 500, or 1,500 ppm for 6 hours each day, five days per week, for 1 or 2 weeks. These substances disappeared within 2 weeks following removal of exposure. n-Heptane was not mutagenic in the Salmonella/microsome (Ames) assay and is not expected to be carcinogenic.

Rats inhaling methylcyclohexane at an airborne concentration of 15,250 ppm for 1 hour displayed tremors, loss of coordination, anesthesia, and convulsions. Inhalation of 10,050 ppm for 6 hours per day for 14 days showed rodent weight loss or decreased weight gain and changes in the structure of their salivary glands. Using rabbits, methylcyclohexane was shown to have an LD50 somewhere between 3,300 ppm and 7,300 ppm when exposed repeatedly for 6 hours per day, 5 days per week, for 3 weeks. Death was preceded by conjunctival congestion with mucoid secretion and lacrimation, salivation, coughing, sneezing, labored breathing, and diarrhea. Lethal oral dosing of rabbits caused lethargy, severe diarrhea, and circulatory collapse. Vascular and degenerative lesions were observed in the kidneys and liver.

2,2,4-Trimethylpentane (iso-octane) was highly irritating to mice at a 1,000 ppm in air exposure for 5 minutes and respiratory arrest occurred at exposures above 10,000 ppm for 5 minutes. CNS depression was observed at concentrations between 8,000 and 10,000 ppm in air. Kidney tubule necrosis, hyaline droplet formation, and acute renal failure were seen in male rats following oral administration of 10 gm/kg, 8 mL/kg, or 2,100 mg/kg of iso-octane for 2, 3, and 4 weeks, respectively.

Toluene (methylbenzene) has been a major solvent of intentional inhalation abuse. Deliberate long-term inhalation of high concentrations of toluene (glue sniffing, etc.) has been shown to cause liver, kidney, central nervous system, and permanent brain damage. Effects such as impaired speech, visual disturbances, and hearing loss, loss of balance and/or muscle control, and memory loss have been reported. Exposures of 100 to 200 ppm in air for 24 hours cause hallucinations, distorted perceptions, and changes in motor activity. Studies have indicated that children of women who sniffed massive exposures of toluene during pregnancy are at significant risk for pre-term delivery, perinatal death, growth retardation, and other adverse developmental effects. Isolated case reports have suggested a spectrum of congenital defects similar to those seen in fetal alcohol (ethanol) syndrome. These children's defects included microcephaly (small head size), central nervous system (CNS) deficiencies, facial abnormalities, and reduced growth rate.

Animal studies suggest that toluene causes kidney, liver, and/or lung dysfunction and cardiac (heart muscle) sensitization to epinephrine or other adrenalin-like agents. This sensitization may cause fatal changes in heart beat rhythms. Also, this latter effect was shown to be enhanced by hypoxia (oxygen deficiency).

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Long-term rodent inhalation studies with **toluene** produced kidney damage, enlargement of the liver and thymus, heart palpitations, brain damage, general weakness, and impaired reaction time. Also, rats exposed to 1,200 ppm and 1,400 ppm of toluene in air for 14 hours per day for 5 or 4 weeks (respectively) exhibited high-frequency hearing loss. Several animal studies using pregnant rodents have shown that toluene exposures may cause embryo and/or fetotoxicity. Adverse effects included decreased fetal body weight and increased skeletal variations. In chronic feeding and inhalation studies, toluene has not been shown to be carcinogenic; nor is it mutagenic in the Salmonella/microsome (Ames) assay, the in-vivo rat bone marrow cell chromosome aberrations assay, the in-vitro mouse lymphoma assay, 8-week dominant lethal assay, and the in-vitro human adult male lymphocyte sister chromatid exchanges assay. The significance of these animal study results to humans is not known.

An inhalation study with laboratory animals indicated an association of **xylene** with hearing loss in rats. Several animal studies using pregnant rodents have shown that **mixed xylene isomers (dimethylbenzenes)** may all cause embryo and/or fetotoxicity. Inhalation and feeding studies involving pregnant laboratory animals have produced limited evidence of fetal toxicity including increased incidence of spontaneous abortions, decreased fetal weight, delayed bone development, non-lethal abnormalities such as musculoskeletal and craniofacial variations, and reduced litter sizes.

Chronic overexposure to **xylene** may produce irreversible damage to the central nervous system, including ototoxicity, that can be increased by the consumption of ethanol (alcoholic drinks). Drinking beverages which contain ethanol in conjunction with xylene exposure increases the alcoholic effects and impairs the clearance of xylenes from the body. Xylene isomers accumulate in the adipose (fat) tissues, from which they are slowly released. Complete clearance may take several days following exposure.

Two-year rat and mouse gavage studies by the National Toxicology Program (NTP) on **mixed xylene isomers including 17% ethylbenzene** showed "no evidence of carcinogenicity". Also, a two-year mixed xylenes skin-painting study on shaved rats and mice showed no incidence of non-neoplastic or neoplastic lesions. And, none of the components were mutagenic when tested in either the modified Ames, Chinese hamster ovary cell with and without metabolic activation, or sister-chromatid mutagenicity assays.

The National Toxicology Program (NTP) recently completed a 2-year inhalation bioassay on **ethylbenzene** in rodents. The study was conducted in rats and mice at exposure concentrations of 0, 75, 200, and 750 ppm. No significant effects were observed at the 75 and 200 ppm levels. However, compared to chamber controls, the severity of nephropathy was increased in rats at the 750 ppm level, and male rats had higher incidences of renal tubule carcinomas. Step section analyses of the kidneys found a significant increase hyperplasia and renal tubule adenomas in both male and female rats. Also at this 750 ppm level, male mice had a higher incidence of alveolar/bronchiolar adenomas and carcinomas and female mice had increased hepatocellular adenomas and carcinomas when compared to chamber controls. Hyperplasia was also observed in the thyroid gland of both sexes of mice and in the pituitary gland of female mice. The relevance of these findings to human health is unclear. NTP, IARC, and OSHA have not designated ethylbenzene as a carcinogen.

Rats inhaling **n-nonane** at an airborne concentration of 1,500 ppm for 7 days displayed mild tremors and loss of coordination. Inhalation of 1,600 ppm for 6 hours per day for 90 days showed animal weight loss or decreased weight gain and changes in the structure of their salivary glands. And, liver damage and an altered response to drugs were seen in rats given n-nonane for 2 to 7 days.

Trimethylbenzenes are primary skin irritants and may cause asthmatic bronchitis and/or anemia. Based upon animal reproductive/developmental studies, trimethylbenzenes may also cause fetal toxicity.

Indene and the ethylmethylbenzenes are primary skin irritants and overexposures might cause liver and/or kidney damage or increase blood cholinesterase levels. Inhalation of these and other **C9 aromatic hydrocarbons** by pregnant mice and rats during gestational days 6 through 15 resulted in decreased fetal and newborn weights.

Naphthalene is a potential irritant to eyes, skin, and lungs. Following prolonged and/or repeated exposures, naphthalene has been shown to cause eye damage (cataracts and/or optical neuritis), premature destruction of red blood cells (hemolytic and aplastic anemia), and kidney damage (jaundice), and possibly neurotoxicity. Naphthalene-induced blood disorders in humans are characterized by variability in size, shape, and number of red blood cells, anemia, and decreased hemoglobin. Also, there have been reported anemia deaths amongst children exposed to moth ball (naphthalene) saturated blankets. Peripheral lens opacities occurred in 8 of 21 workers exposed to elevated levels of naphthalene vapors for 5 years. Repeated ingestion of a naphthalene-isopropanol mixture caused tremors, restlessness, hallucinations, and extreme apprehension. Also, naphthalene may cause fetal toxicity or damage. Laboratory studies produced limited evidence of fetal toxicity in pregnant female mice including decreased spleen weights.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity Ecological effects testing has not been conducted on this material. If spilled, this naphtha, its storage tank water bottoms and sludge, and any contaminated soil or water may be hazardous to human, animal, and aquatic life. Volatile aromatic hydrocarbon components (benzene, toluene, xylenes, ethylbenzene, and trimethylbenzenes) may be released and possibly contribute to the creation of atmospheric smog.

Using Rainbow Trout (*Oncorhynchus mykiss*) and Dungeness Crab (*Cancer magister*), similar naphthas showed a 96-hour TLm (Median Toxic Limit) from 5 ppm to 20 ppm in ambient saltwater. Also, 24-hour and 96-hour TLms produced results from 60 ppm to 200 ppm when using Bluegill Sunfish (*Lepomis macrochirus*), Goldfish (*Carassius auratus*), Guppy (*Lebistes reticulatus*) and juvenile American Shad (*Squalius cephalus*) in fresh water. Based upon actual spill incident investigations, similar naphthas have been shown to bioaccumulate in tissues of various fish from a 1 ppm to 10 ppm levels.

Environmental Fate This naphtha mixture is potentially toxic to freshwater and saltwater ecosystems. It will normally float on water with its lighter components evaporating rapidly. In stagnant or slow-flowing waterways, a naphtha hydrocarbon layer can cover a large surface area. As a result, this covering layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway might be enough to cause a fish kill or create an anaerobic environment. This coating action can also be harmful or fatal to plankton, algae, aquatic life, and water birds. Additionally, potable water and boiler feed water systems should NEVER be allowed more than 5 ppm contamination from this material.

For additional ecological information concerning components of this product, users should refer to the Hazardous Substances Data Bank® and the Oil and Hazardous Materials/Technical Assistance Data System (OHM/TADS) maintained by the U.S. National Library of Medicine. (See Section 2 for components.)

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. This material is biodegradable if gradually exposed to microorganisms, preferably in an aerobic environment. In sewage-seeded wastewater, at or below concentrations of 0.2 vol.% of this naphtha, there is little or no effect on bio-oxidation and/or digestion. However, at 1 vol.%, it doubles the required digestion period. Higher concentrations interfere with floc formation and sludge settling and also plug filters or exchange beds. Vapor emissions from a bio-oxidation process contaminated by this material might prove to be a health hazard.

Recovered non-usable material may be regulated by US EPA as a hazardous waste due to its ignitibility (D001) and toxicity (D018) characteristics. 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 RCRA "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). State and/or local regulations might be even more restrictive. Contact the RCRA/Superfund Hotline at (800) 424-9346 or your regional US EPA office for guidance concerning case specific disposal issues.

SECTION 14: TRANSPORT INFORMATION

DOT Status	This material is regulated by the U.S. Department of Transportation (DOT)		
Proper Shipping Name	Petroleum distillates, n.o.s. (Octanes, Nonanes)		
Hazard Class	Class 3: Flammable liquid.	Packing Group(s)	PG II
		UN/NA ID	UN1268
Reportable Quantity	The Reportable Quantity (RQ) substance components in this product which might require DOT HAZMAT bill-of-lading display are Xylenes and Benzene or Naphthalene .		

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Placards



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HAZMAT STCC No.

49 102 56

MARPOL III Status

Component analysis might define this product as a DOT "Marine Pollutant" per 49 CFR 171.8 (Trimethylbenzenes, Ethylmethylbenzenes, and Naphthalene)

SECTION 15: REGULATORY INFORMATION

TSCA Inventory	This product and/or its components are listed on the Toxic Substance Control Act (TSCA) inventory.
SARA 302/304	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	The Superfund Amendments and Reauthorization Act of 1989 (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 Hazard, Acute (Immediate) Health Hazard, and Chronic (Delayed) Health Hazard.
SARA 313	This material might contain the following components in concentrations at or above de minimis levels and they are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313: Benzene [CAS No. 71-43-2] concentration: 0.1 to 0.5% Toluene [CAS No. 108-88-3] concentration: 1 to 5% Ethylbenzene [CAS No. 1330-20-7] concentration: 5 to 10% Ethylbenzene [CAS No. 100-41-4] concentration: 1 to 2% 1,2,4-Trimethylbenzene (Pseudocumene) [CAS No. 95-63-6] concentration: 3 to 6% Naphthalene [CAS No. 91-20-3] concentration: 0.5 to 1.5%
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 material subject to this statute are: Benzene [CAS No. 71-43-2] (RQ = 10 lbs. [4.54 kg]) concentration: 0.1 to 0.5% Toluene [CAS No. 108-88-3] (RQ = 1000 lbs. [453.6 kg]) concentration: 1 to 5% 2,2,4-Trimethylpentane (Iso-octane) [CAS No. 540-84-2] (RQ = 1000 lbs. [453.6 kg]) conc.: 0.15 to 2.5% Xylenes [CAS No. 1330-20-7] (RQ = 100 lbs. [45.36 kg]) concentration: 5 to 10% Ethylbenzene [CAS No. 100-41-4] (RQ = 1000 lbs. [453.6 kg]) concentration: 1 to 2% Cumene [CAS No. 98-82-8] (RQ = 5000 lbs. [2268 kg]) concentration: 0.001 to 0.25% Naphthalene [CAS No. 91-20-3] (RQ = 100 lbs. [45.36 kg]) concentration: 0.5 to 1.5%.
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 contains the following chemical substances which are known to the State of California to cause cancer, birth defects, or other reproductive harm; and therefore, it may be subject to requirements of California Health & Safety Code Section 25249.5: Benzene [CAS No. 71-43-2] and Toluene [CAS No. 108-88-3].
New Jersey Right-to-Know Label	For New Jersey labeling refer to components listed in Section 2.

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Additional Regulatory Remarks

Under Section 12(b) of TSCA: Because it contains detectable amounts of **Cumene (Isopropylbenzene) [CAS No. 98-82-8]**, **n-Propylbenzene [CAS No. 103-65-1]**, and **other C9 Aromatic Hydrocarbons**, this product might be subject to US EPA's one-time only per country export notification requirements.

Under the 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. **Contains Petroleum Distillates! May be harmful or fatal if swallowed! Keep Out of Reach of Children!**

In regulations promulgated pursuant to the Clean Air Act - Section 111 "Standards of Performance for New Stationary Sources" (40 CFR 60.489), the EPA classifies the following minor components of this material as "Volatile Organic Compounds (VOCs)" which contribute significantly to air pollution which endangers public health and welfare": **Benzene [CAS No. 71-43-2]**, **Methylcyclohexane [CAS No. 108-87-2]**, **Toluene [CAS No. 108-88-3]**, **Xylenes [CAS No. 1330-20-7]**, **Ethylbenzene [CAS No. 100-41-4]**, and **Cumene (Isopropylbenzene) [98-82-8]**.

SECTION 16: OTHER INFORMATION

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

REVISION INFORMATION Logo and Manufacturer name change.
Version Number 4.1
Revision Date 11/01/06

ABBREVIATIONS

AP = Approximately Established EQ = Equal GT = Greater Than LT = Less Than NA = Not Applicable ND = No Data NE = Not

ACGIH = American Conference of Governmental Industrial Hygienists AIHA = American Industrial Hygiene Association
IARC = International Agency for Research on Cancer NTP = National Toxicology Program
NIOSH = National Institute of Occupational Safety and Health OSHA = Occupational Safety and Health Administration
NPCA = National Paint and Coating Manufacturers Association HMIS = Hazardous Materials Information System
NFPA = National Fire Protection Association EPA = Environmental Protection Agency

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