MATERIAL SAFETY DATA SHEET

 TRADE NAME: BP SUPERLIGHT FIRST-FILL (WITH MTBE)
 CAS NUMBER: Mixture
 SYNONYM(S): MOTOR FUEL; NAPHTHA
 MSDS NUMBER: 4781
 PRODUCT CODE: NA
 HIERARCHY: ND
 MANUFACTURER/SUPPLIER: BP Oil Company
 ADDRESS: 200 Public Square, Cleveland, OH 44114-2375
 TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE:
 BP America: 800-321-8642
 CHEMTREC Assistance (In U.S.): 800-424-9300
 CHEMTREC Assistance (Elsewhere): 703-527-3887
 TELEPHONE NUMBERS - GENERAL ASSISTANCE: (Normal Office Hours):
 (8:00-4:30 M-F, EST):
 Technical: 216-586-6184
 MSDS Contact: 216-586-8023

 COMPONENT: Alkylation Naphtha, Light .C7-10
 CAS NO.: 64741-66-8
 % BY WT.: 90 - 100
 EXPOSURE LIMITS:
 890 mg/m3 (300 ppm) TLV ACGIH for gasoline
 1480 mg/m3 (500 ppm) STEL ACGIH for gasoline
 900 mg/m3 (300 ppm) PEL OSHA for gasoline
 1500 mg/m3 (500 ppm) STEL OSHA for gasoline

 COMPONENT: Butane
 CAS NO.: 106-97-8
 % BY WT.: 0 - 6
 EXPOSURE LIMITS:
 1900 mg/m3 (800 ppm) TLV ACGIH
 1900 mg/m3 (800 ppm) PEL OSHA
 1900 mg/m3 (800 ppm) REL NIOSH
 1900 mg/m3 (800 ppm) TWA MEXICAN

 COMPONENT: Methyl tert-butyl ether
 CAS NO.: 1634-04-4
 % BY WT.: 0 - 6
EXPOSURE LIMITS:
144 mg/m³ (40 ppm) TLV ACGIH

COMPONENT: Benzene
CAS NO.: 71-43-2
% BY WT.: 0 - 0.2
EXPOSURE LIMITS:
1.6 mg/m³ (0.5 ppm) TLV (skin) ACGIH
8 mg/m³ (2.5 ppm) STEL (skin) ACGIH
1 ppm PEL OSHA
5 ppm STEL OSHA
0.1 ppm REL NIOSH
1 ppm STEL NIOSH
500 ppm IDLH NIOSH
30 mg/m³ (10 ppm) TWA MEXICAN
75 mg/m³ (25 ppm) STC MEXICAN

COMPONENT: Proprietary fuel additive package containing a light aromatic solvent naphtha, 1,2,4-trimethylbenzene (<11%), xylene (<5%), cumene (<2%) and proprietary additives
CAS NO.: Mixture
EXPOSURE LIMITS: None Established

Exposure limits listed below apply to the ingredient(s) above.

COMPONENT: Solvent naphtha (petroleum), light aromatic
CAS NO.: 64742-95-6
EXPOSURE LIMITS:
1600 mg/m³ (400 ppm) PEL OSHA for petroleum distillates (naphtha)
350 mg/m³ REL NIOSH for petroleum distillates (naphtha)
1800 mg/m³ 15 minutes CEIL NIOSH for petroleum distillates (naphtha)

COMPONENT: Trimethylbenzene (mixed isomers)
CAS NO.: 25551-13-7
EXPOSURE LIMITS:
123 mg/m³ (25 ppm) TLV ACGIH
125 mg/m³ (25 ppm) REL NIOSH
125 mg/m³ (25 ppm) TWA MEXICAN
170 mg/m³ (35 ppm) STC MEXICAN

COMPONENT: Xylene
CAS NO.: 1330-20-7
EXPOSURE LIMITS:
434 mg/m³ (100 ppm) TLV ACGIH
651 mg/m³ (150 ppm) STEL ACGIH
435 mg/m³ (100 ppm) PEL OSHA
655 mg/m³ (150 ppm) STEL OSHA
435 mg/m³ (100 ppm) REL NIOSH
655 mg/m³ (150 ppm) STEL NIOSH
900 ppm IDLH NIOSH
435 mg/m³ (100 ppm) TWA (skin) MEXICAN
655 mg/m³ (150 ppm) STC (skin) MEXICAN

COMPONENT: Cumene
CAS NO.: 98-82-8
EXPOSURE LIMITS:
246 mg/m³ (50 ppm) TLV (skin) ACGIH
245 mg/m³ (50 ppm) PEL (skin) OSHA
245 mg/m³ (50 ppm) REL (skin) NIOSH
900 ppm IDLH NIOSH
245 mg/m³ (50 ppm) TWA (skin) MEXICAN
365 mg/m³ (75 ppm) STC (skin) MEXICAN

The OSHA Permissible Exposure Limits listed above were promulgated by OSHA in 1989. This standard was vacated by the U.S. Court of Appeals for the Eleventh Circuit. Exposure limits defined in specific chemical standards found in 29 CFR 1910.1000-1048 are not covered by this ruling and are still enforceable.

-------------------- HAZARDS IDENTIFICATION ---------------------

EMERGENCY OVERVIEW:
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Clear Liquid With a Strong Hydrocarbon Odor.
Danger! Extremely Flammable Liquid and Vapors. Vapor May Cause Flash Fire. May Be Irritating To the Skin, Eyes and Respiratory Tract. Vapors May Be Harmful. Overexposure May Cause Adverse Nervous System Effects. Long-Term Exposure To Vapors Has Caused Cancer In Some Laboratory Animals. Harmful or Fatal If Swallowed. Aspiration Hazard If Swallowed--Can Enter Lungs and Cause Damage.

POTENTIAL HEALTH EFFECTS:
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SKIN:
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Repeated or prolonged contact may cause defatting, redness, itching, inflammation, cracking and possible burns and secondary infection. High pressure skin injections are Serious Medical Emergencies. Injury may not appear serious at first; within a few hours, tissue will become swollen, discolored and extremely painful (see Notes to Physician section).

EYE:
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May cause irritation, redness, pain, blurred vision, lacrimation and conjunctivitis.

INHALATION:
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May cause respiratory tract irritation. Exposure may cause central nervous system symptoms similar to those listed under "Ingestion" (see Ingestion section). May cause irregular heart rhythm. Repeated or prolonged exposures may cause behavioral changes.

INGESTION:
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Aspiration into lungs may cause pneumonitis. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. May cause harmful central nervous system effects. Effects may include excitation, euphoria, headache,
dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

SPECIAL TOXIC EFFECTS:
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May cause adverse liver and kidney effects based on tests with laboratory animals. A product of similar composition has been found to be carcinogenic to laboratory animals when given by inhalation. Also, a variety of mutagenicity assays have been conducted that have yielded conflicting results. IARC has determined that there is limited evidence for the carcinogenicity of gasoline in experimental animals and inadequate evidence for the carcinogenicity of gasoline in humans. (IARC Class- 2B). Warning: The use of any hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of combustion products and inadequate oxygen levels. IARC has determined that gasoline engine exhaust is possibly carcinogenic to humans. (IARC Class- 2B). This product contains benzene. Acute benzene poisoning causes central nervous system depression. Chronic exposure affects the hematopoietic system causing blood disorders including anemia and pancytopenia. Mutagenic and clastogenic in mammalian and non-mammalian test systems. Reproductive toxicant only at doses that are maternally toxic, based on tests with animals. Benzene has been shown to affect humoral and cellular immunity in exposed mice. Adverse immunological effects have been reported in humans with occupational exposures. May be absorbed through the skin. Benzene is carcinogenic to laboratory animals when given by intubation or by inhalation. Chronic exposure to high levels of benzene has been shown to cause cancer (certain forms of leukemia) in humans. Carcinogenic determination: IARC--Human and Animal sufficient evidence of carcinogenicity; (IARC Class--1); NTP--Known carcinogen; ACGIH--Suspected carcinogen. This product also contains MTBE. This product was tested in a variety of mutagenicity assays and the results were generally negative. Exposure to very high concentrations of MTBE has produced maternal and/or fetal toxicity and malformations in laboratory animals. Chronic exposure to high levels of MTBE has produced urinary system effects in laboratory animals. Mice exposed to 8000 ppm of MTBE vapors developed a slightly higher incidence of benign liver tumors. Rats developed an increasing incidence of chronic progressive kidney damage, an effect typically noted in aging rats. These effects in the 3000 and 8000 ppm groups were accompanied by an increased incidence of kidney tumors in males. Benign testicular tumors were numerically increased in the high dose group. The significance of these findings for human health is unclear. Solvent "sniffing" (abuse) or intentional prolonged overexposure to high levels of solvent vapors can produce abnormal behavior, convulsions, hallucinations, delirium, nervous system damage and sudden death.

FIRST AID MEASURES

SKIN:
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Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. High pressure skin injections are serious medical emergencies. Skin injections require immediate medical care.
EYE:  
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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 medical attention if irritation results.

INHALATION:  
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Remove affected person from source of exposure. If not breathing, ensure clear airway and institute cardiopulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Continue to monitor closely. Get immediate medical attention.

INGESTION:  
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Do not induce vomiting because of danger of aspirating liquid into lungs. Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty.

NOTES TO PHYSICIAN:  
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Ingestion: The most important risk to assess is the extent of aspiration of the product into the lungs since an acute chemical pneumonitis can rapidly progress to respiratory failure. Gasping, coughing, and choking are presumptive evidence of aspiration. It is suggested that all patients suspected of hydrocarbon aspiration have base line chest x-rays. Immediate hospitalization should be considered for asymptomatic children with an abnormal chest x-ray, obtunded or hypoxic patients, intentional or massive ingestions, and patients with abnormal chest x-rays with clinically significant pulmonary disease. Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidney are reported to be uncommon in acute intoxications. Decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precaution of an endotracheal tube should be considered prior to lavage. Hydrocarbons may increase the sensitivity of the myocardium to catecholamines; electrocardiographic monitoring may be indicated and careful consideration should be given to the selection of bronchodilators. Acute central nervous system signs and symptoms may result from large ingestions or aspiration-induced hypoxia. Inhalation Abuse: Gasoline is one of the solvents used by chemical substance abusers. These patients may present with acute and/or chronic central nervous system signs or symptoms. They may also present with arrhythmias. In case of skin injection, consider prompt debridement of the wound to minimize necrosis and tissue loss.

====================================  FIREFIGHTING MEASURES  =================================

FLASH POINT: -37 C (-34.6 F)
AUTOIGNITION TEMPERATURE: ND
FLAMMABILITY LIMITS IN AIR (% BY VOL.) LOWER: ND
FLAMMABILITY LIMITS IN AIR (% BY VOL.) UPPER: ND

HAZARDOUS COMBUSTION PRODUCTS:  
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Combustion may produce CO, CO2 and reactive hydrocarbons.
BASIC FIRE FIGHTING PROCEDURES:
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Use dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Water may be ineffective but should be used to cool fire-exposed containers, structures and to protect personnel. 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 leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers or other drainage systems. Exposed firefighters must wear MSHA/NIOSH approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

UNUSUAL FIRE & EXPLOSION HAZARDS:
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Dangerous when exposed to heat or flame. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources and flash back. Vapors may concentrate in confined areas. Runoff to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Irritating and/or toxic substances may be emitted upon thermal decomposition.

====================  ACCIDENTAL RELEASE MEASURES  =====================
If your facility or operation has an "Oil or Hazardous Substance Contingency Plan", activate its procedures. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. For technical advice and assistance related to chemicals, contact CHEMTREC (800/424-9300) and your local fire department. Notify the National Response Center, if required. Also notify appropriate state and local regulatory agencies, the LEPC and the SERC. Contact the local Coast Guard if the release is into a waterway. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (Also see Personal Protection Information section.) Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire. Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. Small Spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large Spills: Dike far ahead of liquid spill for later disposal.

When reporting a spill to the National Response Center or the Coast Guard, you may need to supply the Coast Guard Chemical Hazard Response Information System (CHRIS) code:

Group Number: 33
CHRIS Code: GAK

Additional spill related information may be found in the U.S. Coast Guard Chemical Hazard Response Information System (CHRIS) Manual.

During an accidental release, personal protection equipment may be required (see Section EXPOSURE CONTROLS/PERSONAL PROTECTION).
Additional regulatory requirements may apply (see Section REGULATORY INFORMATION).

HANDLING AND STORAGE

HANDLING:
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Use non-sparking tools. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion.

Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose containers unless adequate precautions are taken against these hazards.

STORAGE:
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Store in tightly closed containers in cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:
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Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures.

PERSONAL PROTECTION EQUIPMENT (PPE):
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EYE PROTECTION:
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Avoid eye contact with this material. Wear safety glasses or chemical goggles. Provide an eyewash station immediately accessible to the work area. Do not wear contact lenses when working with this substance.

SKIN PROTECTION:
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Avoid skin contact. If skin contact is anticipated, protective clothing, including impervious gloves, should be worn. Wash hands if they come in contact with this material. Use good personal hygiene. Wear regularly cleaned work clothing. Showering and changing into street clothing after work is desirable. Product spilt on clothing may result in delayed evaporation and a subsequent fire hazard. Wash contaminated clothing separately. If clothing is to be laundered by someone else, inform launderer of proper procedures.

RESPIRATORY PROTECTION:
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If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection may be needed for non-routine or emergency situations.

See Section COMPOSITION/INFORMATION ON INGREDIENTS For Exposure Guidelines.

PHYSICAL AND CHEMICAL PROPERTIES
BOILING POINT: 27 C (80.6 F) - 138 C (280.4 F)
SP. GRAVITY (Water=1): 0.7
MELTING POINT: NA
% VOLATILE: ND
VAPOR PRESSURE: 6 - 11 PSIA
EVAPORATION RATE: ND
VAPOR DENSITY (Air=1): ND
VISCOSITY: < 100 SUS @ 37.8 C (100.04 F)
% SOLUBILITY IN WATER: ND
OCTANOL/WATER PARTITION COEFFICIENT: ND
POUR POINT: ND
pH: ND
BULK DENSITY: ND
MOLECULAR WEIGHT: ND
MOLECULAR FORMULA: ND
ODOR/APPEARANCE:
Clear Liquid With a Strong Hydrocarbon Odor.

================================ STABILITY AND REACTIVITY =================================

STABILITY/INCOMPATIBILITY:
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Avoid contact with strong oxidizers.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:
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Thermal decomposition or combustion may produce CO, CO2 and reactive hydrocarbons.

=================================== DISPOSAL CONSIDERATIONS ===================================

WASTE DISPOSAL (Resource Conservation & Recovery Act - RCRA):
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This material, when discarded or disposed of, is a characteristic hazardous waste according to Federal regulations (40 CFR 261). This material exhibits the characteristic of ignitability and is assigned the EPA Hazardous Waste Number of D001. The discarding or disposal of this material must be done at a properly permitted facility in accordance with the regulations of 40 CFR 262, 263, 264, and 268. Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

There may be specific current regulations at the local, regional, or state level that pertain to this information. Chemical additions, processing, or otherwise altering this material may make the waste management information presented in this MSDS, incomplete, inaccurate, or otherwise inappropriate.

==================================== TRANSPORT INFORMATION ================================

Proper Shipping Name (49 CFR 172.101): Gasoline, 3, UN 1203, PG II
Hazard Class (49 CFR 172.101): 3
UN/NA Code (49 CFR 172.101): UN 1203
Packing Group (49 CFR 179.101): PG II
Bill Of Lading Desc. (49 CFR 172.101): Gasoline, 3, UN 1203, PG II
Labels Required (49 CFR 172.101): Flammable Liquid
Placards Required (49 CFR 172.101): Flammable Liquid

INTERNATIONAL AND DOMESTIC AIR TRANSPORTATION:
IATA Proper Shipping Name: Gasoline, PG II
Hazard Class: 3
Subsidiary Risk: Not Applicable
UN Code: UN 1203
Package Specification: 305, 307
Labels Required: Flammable Liquid, Orientation Arrows

INTERNATIONAL WATER TRANSPORTATION:
IMDG Proper Shipping Name: Gasoline, PG II
Hazard Class: 3.1
UN Code: UN 1203
IMDG Page Number: 3141
Labels Required: Flammable Liquid
Placards Required: Flammable Liquid

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (T.D.G.):
Shipping Name: Gasoline
PIN (UN/NA): UN 12030
Regulated Class: 3
Division: Not Applicable
Packaging Group: PG II
Labels Required: Flammable Liquid
Placards Required: Flammable Liquid

======================================= REGULATORY INFORMATION =======================================

NOTIFICATION:

Clean Water Act (Oil Spills): Any spill or release, or substantial threat of release, of this material to navigable water (virtually any surface water) sufficient to cause a visible sheen upon the water must be reported immediately to the National Response Center (800/424-8802), as required by U.S. Federal Law. Failure to report may result in substantial civil and criminal penalties. Also contact the Coast Guard and appropriate state and local regulatory agencies.
CERCLA/SARA (Chemical Spills): The reportable quantity for this material is 5000* pound(s). This material contains one or more constituents regulated as hazardous substances under U.S. Federal Law. Any spill or other release, or substantial threat of release, of
this material to the air, water or land (unless entirely contained in
the workplace) equal to or in excess of the reportable quantity must
be reported immediately to the National Response Center
(800/424-8802). Also contact appropriate state and local regulatory
agencies. Contact the Coast Guard if spilled into navigable waterways
under their jurisdiction. Failure to report may result in substantial
civil and criminal penalties. * Calculated on the basis for whichever
hazardous component provides the lowest value for: RQ / % in mixture

CLEAN WATER ACT:
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This material contains a mixture of substances, some of which are
listed as toxic pollutants pursuant to 40 CFR 122.21, Appendix D,
Tables II/III/V. Any unusual introduction of this substance into the
facility's process streams, stormwater and/or wastewater could result
in the violation of U.S. Federal Law. Facilities must notify the
USEPA as soon as they know, or have reason to believe, that any
activity has occurred, or will occur, which would result in the
discharge of a toxic pollutant which is not regulated in the
facility's NPDES permit. Notification levels are described in 40 CFR
122.42(a)(1) and 122.42(a)(2). Refer to spill section for additional
regulatory requirements.

CLEAN AIR ACT:
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This product contains one or more constituents listed as a Statutory
Hazardous Air Pollutant under Section 112 of the Clean Air Act
Amendments of 1990. Xylenes, Methyl tert-butyl ether, Benzen

US EPA TOXIC SUBSTANCE CONTROL ACT (TSCA):
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All components of this product are listed on the TSCA inventory.

US EPA SUPERFUND AMENDMENTS & REAUTHORIZATION ACT (SARA) TITLE III
INFORMATION:
Listed below are the hazard catagories for SARA Section 311/312 (40
CFR 370):
Immediate Hazard:                     X
Delayed Hazard:                       X
Fire Hazard:                          X
Pressure Hazard:                      X
Reactivity Hazard:                    -

This product contains the following toxic chemicals subject to the
annual toxic chemical release reporting requirements of SARA Section
313 (40 CFR 372):

COMPONENT:                            CAS NO.:            % BY WT.:
Methyl tert-butyl ether               1634-04-4               6
Benzene                               71-43-2                 0.2

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA):
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Contains Benzene. Consult OSHA Standard 1910 1028. Initial air
monitoring should be conducted to determine if exposures are above
0.5 ppm action limit or 1 ppm PEL. If exposures are above, OSHA
requirements apply for training, medical surveillance,
personal/protective equipment, regulated areas, etc.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):
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All components of this product are listed on the Canadian DSL Inventory.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CATEGORIES:
The following WHMIS categories apply to this product:
Compressed Gas:               -       Other Toxic Effects:          X
Flammable/Combustible:        X       Bio Hazardous:                -
Oxidizer:                     -       Corrosive:                    -
Acutely Toxic:                X       Dangerously Reactive:         -

STATE REGULATIONS:
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This product contains ingredients with the following New Jersey Trade Secret Registry numbers: 01154100-5018P 01154100-5049P

OTHER INFORMATION

NFPA RATINGS:                     HMIS RATINGS:
Health:                   1       Health:                       1
Flammability:             4       Flammability:                 4
Reactivity:               0       Reactivity:                   0
Special Hazards:          -       Personal Protective Equipment:H

REVISION DATE:                        13-dec-1995
REPLACES SHEET DATED:                 10-may-1995
COMPLETED BY:                         BP OIL HSEQ DEPARTMENT

REVISION SUMMARY: The following section(s) have been revised since the previous issue of this MSDS:
COMPOSITION/INFORMATION ON INGREDIENTS
HAZARDS IDENTIFICATION
FIREFIGHTING MEASURES
HANDLING AND STORAGE
EXPOSURE CONTROLS / PERSONAL PROTECTION
STABILITY AND REACTIVITY
TOXICOLOGICAL INFORMATION
DISPOSAL CONSIDERATIONS
TRANSPORT INFORMATION
REGULATORY INFORMATION
OTHER INFORMATION

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, no warranty or representation, express or implied, is made as to the accuracy or completeness 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 product.