

Fuel Oil and Lube Oil Material Safety Data Sheets

Twenty (20) pages total including this cover



PRODUCT SAFETY
P.O. BOX 71
FINDLAY, OHIO 45839
TELEPHONE 419/421-3070

06/02/03

DUNKLES FUEL SERVICE INC
8220 LEO KIDD AVENUE
PORT RICHEY, FL 346680000

DEAR CUSTOMER:

WE ARE PROVIDING THE FOLLOWING MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR PRODUCTS YOU PURCHASE FROM MARATHON ASHLAND PETROLEUM LLC:

MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)

AS YOU ARE PROBABLY AWARE, WORKER "RIGHT-TO-KNOW" REGULATIONS ISSUED PURSUANT TO THE OCCUPATIONAL SAFETY AND HEALTH ACT HAVE BEEN EXPANDED TO REQUIRE THAT HEALTH AND SAFETY INFORMATION BE PROVIDED TO YOUR EMPLOYEES. A COPY OF THESE MATERIAL SAFETY DATA SHEETS MAY ALSO HAVE TO BE SUBMITTED TO YOUR STATE EMERGENCY RESPONSE COMMISSION, THE LOCAL EMERGENCY PLANNING COMMISSION AND YOUR LOCAL FIRE DEPARTMENT PURSUANT TO THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT, TITLE III, THE EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT OF 1986.

PLEASE FORWARD THESE MSDS'S TO THE APPROPRIATE HEALTH AND SAFETY PERSONNEL IN YOUR COMPANY. IF THE ABOVE NOTED ADDRESS IS NOT THE APPROPRIATE MAILING ADDRESS FOR THIS INFORMATION, PLEASE NOTIFY US OF THE CORRECT MAILING ADDRESS AND FUTURE MAILINGS WILL BE SENT DIRECTLY.

PLEASE KEEP THESE MSDS'S FOR YOUR FILES AND PROVIDE PHOTOCOPIES TO EMPLOYEES AND/OR CUSTOMERS.

SINCERELY,

K. R. EHRSBERGER

ENCLOSURE
CUSTOMER NUMBER: 00304762



EXPLANATION OF TERMS USED ON MATERIAL SAFETY DATA SHEETS

THIS EXPLANATION IS DESIGNED TO PROVIDE MORE DETAILED INFORMATION ON THE TERMS COMMONLY USED. FREQUENTLY USED ABBREVIATIONS INCLUDE: < = LESS THAN, > = GREATER THAN, C.A. = APPROXIMATELY, F = TEMPERATURE GIVEN IN DEGREE FAHRENHEIT. SPECIFIC TERMS AND ABBREVIATIONS ARE EXPLAINED BELOW.

SECTION 1 CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: MOST COMMON NAME OR NAME UNDER WHICH THE PRODUCT IS MARKETED.
SYNONYMS: OTHER COMMON CHEMICAL OR COMMERCIAL NAMES (ALIASES) THAT MAY BE USED TO IDENTIFY THE PRODUCT.
CHEMICAL FAMILY: GENERIC CLASSIFICATION OR FAMILY IN WHICH THE PRODUCT BELONGS.
CHEMICAL FORMULA: EMPIRICAL CHEMICAL FORMULA OF THE PRODUCT.
MSDS REVISION DATE: LAST DATE THAT ANY INFORMATION ON THE MSDS WAS SIGNIFICANTLY CHANGED.
EMERGENCY PHONE NUMBERS: 24 HOUR EMERGENCY ASSISTANCE NUMBERS FOR USE IN EVENT OF AN ACCIDENT OR A SPILL.

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT INFORMATION: PROVIDES GENERAL INFORMATION ON THE PRODUCT. THE PRODUCT'S CHEMICAL ABSTRACT SERVICE NUMBER IS GIVEN IF ONE IS AVAILABLE (MOST MIXTURES WILL NOT HAVE PRODUCT CAS NUMBERS.)
COMPONENTS: MAJOR COMPONENTS AND/OR GENERAL COMPOSITION DESCRIPTION OF THE PRODUCT.
MINOR COMPONENTS HAVING POTENTIAL TOXICITY, WHICH WERE CONSIDERED WHEN EVALUATING THE PRODUCT, ARE GIVEN. CHEMICAL ABSTRACT SERVICE NUMBERS (CAS NUMBERS) BY WHICH THE COMPONENTS ARE UNIQUELY IDENTIFIED ARE PROVIDED. INCLUSION OF A COMPONENT IS NOT NECESSARILY BASED ON HAZARD CRITERIA.
EXPOSURE GUIDELINES: THE ESTABLISHED OCCUPATIONAL HEALTH EXPOSURE LIMITS FOR AIRBORNE CONCENTRATIONS OF THE PRODUCT OR COMPONENTS ARE INDICATED IN PARTS CONTAMINANT PER MILLION AIR (PPM) OR MILLIGRAMS CONTAMINANT PER CUBIC METER AIR (MG/M3). WHEN APPLICABLE, THE TWA, CEILING LIMIT OR STEL OF THE PRODUCT AND THE INDIVIDUAL COMPONENTS ARE LISTED. THE TERM TLV REFERS TO THRESHOLD LIMIT VALUE OF WHICH THERE ARE THREE CATEGORIES. TWA IS THE TIME-WEIGHTED AVERAGE CONCENTRATION FOR A NORMAL 8 HOUR WORKDAY AND A 40 HOUR WORK WEEK TO WHICH NEARLY ALL WORKERS MAY BE REPEATEDLY EXPOSED WITHOUT ADVERSE EFFECT. STEL IS A 15 MINUTE TIME-WEIGHTED AVERAGE SHORT TERM EXPOSURE LIMIT WHICH SHOULD NOT BE EXCEEDED AT ANY TIME DURING A WORKDAY AND NOT REPEATED MORE THAN FOUR TIMES A DAY. A CEILING LIMIT IS A CONCENTRATION THAT SHOULD NOT BE EXCEEDED AT ANY TIME DURING THE WORK PERIOD.
SOURCE OF EXPOSURE LIMITS: AGENCIES OR ORGANIZATIONS RESPONSIBLE FOR THE ESTABLISHED EXPOSURE LIMITS INCLUDE: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH), THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND MARATHON OIL COMPANY'S OR MARATHON ASHLAND PETROLEUM LCC'S CORPORATE LIMIT.

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: DESCRIBES THE MATERIAL'S APPEARANCE AND MOST SIGNIFICANT IMMEDIATE CONCERNS FOR EMERGENCY RESPONSE PERSONNEL. ALSO CONTAINS WARNING STATEMENTS THAT ARE REQUIRED TO BE PRESENT ON PRODUCT LABELS AS DEFINED BY THE OSHA FEDERAL HAZARD COMMUNICATION STANDARD.
POTENTIAL HEALTH EFFECTS: POSSIBLE CHANGES IN HEALTH, USUALLY ADVERSE, EITHER CONFIRMED OR SUSPECTED, BASED ON OBSERVATIONS IN HUMANS, ANIMAL STUDIES OR BY COROLLARY WITH A SIMILAR SUBSTANCE. OTHER TERMS COMMONLY ENCOUNTERED IN THIS SECTION INCLUDE:
ACUTE EFFECTS: ABRUPT, RAPIDLY EVIDENT HEALTH EFFECTS DUE TO SINGLE OR SHORT-TERM EXPOSURES USUALLY AT HIGH LEVELS OR CONCENTRATIONS.
CHRONIC EFFECTS: INSIDIOUS, SLOWLY EVIDENT HEALTH EFFECTS DUE TO REPEATED OR LONG-TERM EXPOSURES USUALLY TO LOWER LEVELS OR CONCENTRATIONS THAT PRODUCE ACUTE EFFECTS.
CARCINOGEN LISTING: REFERS TO SUBSTANCES THAT HAD BEEN EVALUATED BY EITHER THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC), THE NATIONAL TOXICOLOGY PROGRAM (NTP) OR THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND HAVE BEEN DETERMINED TO PRODUCE CANCER IN HUMANS OR SUSPECTED OF PRODUCING CANCER BASED ON LIMITED HUMAN OBSERVATIONS OR RESULTS FROM ANIMAL STUDIES.

SECTION 4 FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURES: IMMEDIATE CARE OR TREATMENT GIVEN TO AN EXPOSED, ILL OR INJURED PERSON USUALLY AT THE SCENE OF THE INCIDENT, POSSIBLY BY NON-MEDICALLY TRAINED PERSONS IN AN ATTEMPT TO SAVE LIVES, TO PREVENT AND/OR RETARD FURTHER ILLNESS OR INJURY.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT: MINIMUM TEMPERATURE AT WHICH A LIQUID WILL GIVE OFF ENOUGH FLAMMABLE VAPOR TO FORM AND IGNITABLE MIXTURE WITH AIR.
AUTOIGNITION TEMPERATURE: LOWEST TEMPERATURE AT WHICH THE PRODUCT WILL INITIATE SELF SUSTAINED COMBUSTION IN THE ABSENCE OF A SPARK OR FLAME.



EXPLOSIVE LIMITS: LOWER AND UPPER RANGE OF THE GAS OR VAPOR CONCENTRATION WHICH WILL BURN OR EXPLODE IF AN IGNITION SOURCE IS PRESENT.
EXTINGUISHING MEDIA: FIRE FIGHTING AGENTS THAT CAN BE USED TO EXTINGUISH FIRES.
SPECIAL FIRE FIGHTING INSTRUCTIONS: SPECIAL PROCEDURES OR UNUSUAL FIRE HAZARDS THAT HAVE BEEN IDENTIFIED WITH THIS PRODUCT.

SECTION 6 ACCIDENTAL RELEASE MEASURE

PRECAUTIONS THAT SHOULD BE TAKEN TO CONTAIN THE SPILL, CLEAN-UP PROCEDURES, AND IF APPROPRIATE, EMERGENCY SERVICES AGENCIES THAT NEED TO BE NOTIFIED.

SECTION 7 HANDLING AND STORAGE

SPECIAL PRECAUTIONS OR CONDITIONS TO AVOID IN HANDLING AND STORAGE OF THE MATERIAL.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

THIS SECTION PROVIDES ADDITIONAL INDUSTRIAL HYGIENE AND OTHER SAFE HANDLING REQUIREMENTS THAT MAY BE REQUIRED UNDER CERTAIN CONDITIONS AND/OR USES OF THE PRODUCT. THESE PROCEDURES SHOULD BE USED IN ADDITION TO GOOD PERSONAL HYGIENE PRACTICES THAT SHOULD ALREADY BE COMMON PRACTICE IN THE WORKPLACE. SOME OF THESE PRACTICES INCLUDE BUT ARE NOT LIMITED TO:

1. NO SMOKING, EATING OR DRINKING IN WORK AREAS.
2. ALWAYS WASH BEFORE EATING, SMOKING OR USING TOILET FACILITIES.
3. WASH HANDS THOROUGHLY WITH SOAP AND WATER AFTER HANDLING ANY CHEMICALS OR CONTAINERS OF CHEMICALS.
4. KEEP YOURSELF AND WORK AREA CLEAN. REMOVE AND LAUNDRER SOILED CLOTHING BEFORE REUSE.
5. READ AND FOLLOW ALL SAFETY PRECAUTIONS AS OUTLINED IN THE MSDS.

VENTILATION: TYPE OF EXHAUST VENTILATION EQUIPMENT REQUIRED.

RESPIRATORY, EYE & SKIN PROTECTION: TYPE OF PROTECTIVE EQUIPMENT THAT IS NECESSARY FOR SAFE HANDLING AND USE OF THE PRODUCT.

SECTION 9 PHYSICAL & CHEMICAL PROPERTIES

BOILING POINT: TEMPERATURE (OR RANGE) AT A PRESSURE OF 760 MMHG, AT WHICH THE SOLID CHANGES TO A VAPOR.

MELTING POINT: TEMPERATURE (OR RANGE) AT A PRESSURE OF 760 MMHG, AT WHICH THE SOLID CHANGES TO A LIQUID.

SPECIFIC GRAVITY: RATIO OF THE WEIGHT OF A VOLUME OF PRODUCT TO THE WEIGHT OF AN EQUAL VOLUME OF WATER AT 39.2 DEGREES FAHRENHEIT.

SOLUBILITY IN WATER: SOLUBILITY OF THE PRODUCT BY WEIGHT IN WATER AT 50 DEGREES FAHRENHEIT. CATEGORIES INCLUDE:

NEGLECTIBLE = <0.1%, SLIGHT = 0.1-1.0%, MODERATE = 1-10%, APPRECIABLE = >10%, COMPLETE.

VAPOR DENSITY: RELATIVE DENSITY OR WEIGHT OF A VAPOR OR GAS COMPARED WITH AN EQUAL VOLUME OF AIR AT AMBIENT TEMPERATURES.

VAPOR PRESSURE: PRESSURE OF SATURATED VAPOR ABOVE A LIQUID PRODUCT IN MMHG.

PH: VALUE GIVEN TO REPRESENT THE ACIDITY OR ALKALINITY OF THE PRODUCT AT THE CONCENTRATION SPECIFIED. STRONG ACIDS GIVE PH'S OF 1-3, WHILE STRONG BASES GIVE PH'S OF 12-13. WATER HAS A PH OF 7.

APPEARANCE: PHYSICAL DESCRIPTION OF THE PRODUCT.

ODOR: SENSORY CHARACTERIZATION OF THE PRODUCT.

SECTION 10 STABILITY & REACTIVITY

STABILITY: INDICATION IF THE PRODUCT IS STABLE OR NOT STABLE UNDER REASONABLY FORSEEABLE CONDITION OF STORAGE OR USE. CONDITIONS THAT COULD CAUSE A DANGEROUS REACTION ARE LISTED.

HAZARDOUS DECOMPOSITION PRODUCTS: BREAKDOWN PRODUCTS THAT MAY BE EVOLVED WHEN THIS MATERIAL IS SUBJECTED TO HEAT OR COMBUSTION.

INCOMPATIBLE MATERIALS: THOSE MATERIALS OR CONDITIONS THAT MAY CAUSE THE PRODUCT TO REACT VIOLENTLY, RELEASING LARGE AMOUNTS OF ENERGY OR TOXIC VAPORS.

HAZARDOUS POLYMERIZATION: INDICATION IF THE PRODUCT HAS THE POTENTIAL TO CAUSE A REACTION AT A RATE THAT RELEASES LARGE AMOUNTS OF ENERGY. CONDITIONS THAT COULD CAUSE A POLYMERIZATION REACTION ARE LISTED.

SECTION 11 TOXICOLOGICAL INFORMATION

OTHER SIGNIFICANT POSITIVE TOXICOLOGIC FINDINGS DISCOVERED BY RESEARCH AND/OR ANIMAL TESTING. THE BIOLOGICAL SIGNIFICANCE OF THESE TESTS AS IT RELATES TO POTENTIAL HUMAN HEALTH EFFECTS MAY NOT BE KNOWN. HOWEVER, THESE POSITIVE RESULTS ARE REPORTED AS REQUIRED BY THE OSHA FEDERAL HAZARD COMMUNICATION STANDARD.



LETHAL DOSE (LD50): SINGLE ACUTE DOSE OF THE PRODUCT WHICH PRODUCES DEATH IN 50% OF THE ANIMALS TESTED.

DRAIZE IRRITATION INDEX: EMPIRICAL SCORE USED FOR GRADING THE SEVERITY OF EYE AND SKIN IRRITATION IN ANIMAL TESTS.

SENSITIZER: SUBSTANCE WHICH CAN PRODUCE AN ADVERSE REACTION DUE TO AN ALLERGY INDUCED BY PRIOR EXPOSURE TO THE SUBSTANCE, MEDICATED BY ANTIBODIES AND NOT DOSE RELATED.

SECTION 12 ECOLOGICAL INFORMATION

KNOWN TOXIC EFFECTS TO PLANTS, ANIMALS AND THE ENVIRONMENT IF THE PRODUCT IS SPILLED.

SECTION 13 DISPOSAL CONSIDERATIONS

METHODS USED FOR PROPER DISPOSAL OF THE PRODUCT. THESE METHODS VARY ACCORDING TO LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION 14 TRANSPORTATION INFORMATION

THIS SECTION PROVIDES BASIC DEPARTMENT OF TRANSPORTATION CLASSIFICATION AND/OR DESCRIPTION INFORMATION TO HELP A KNOWLEDGEABLE USER SHIP A MATERIAL WITHIN THE UNITED STATES.

SECTION 15 REGULATORY INFORMATION

THIS SECTION PROVIDES INFORMATION ON FEDERAL REGULATIONS THAT MAY AFFECT THE PRODUCT'S MANUFACTURE USE OR DISTRIBUTION IN COMMERCE. MAJOR REGULATIONS AND/OR LAWS THAT ARE COVERED INCLUDE THE OSHA HAZARD COMMUNICATION STANDARD, SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA TITLE III). THIS SECTION DOES NOT COVER ENVIRONMENTAL REGULATIONS, I.E., RCRA AND CERCLA OR OSHA SUBSTANCE SPECIFIC HEALTH STANDARDS.

SECTION 16 OTHER INFORMATION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)/HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) CLASSIFICATIONS ARE PROVIDED IN THIS SECTION ALONG WITH ANY ADDITIONAL PRODUCT INFORMATION.



PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

THE FOLLOWING INFORMATION IS FURNISHED SUBJECT TO THE DISCLAIMER ON THE BOTTOM OF THIS FORM

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)

MANUFACTURER / DISTRIBUTOR: MARATHON ASHLAND PETROLEUM LLC
539 SOUTH MAIN STREET
FINDLAY OH 45840

SYNONYMS: D-GRADE DYED NO. 2 DIESEL FUEL; DIESEL #2
DYED (0.05 SULFUR MAX); LOW SULFUR NO. 2
DIESEL FUEL DYED; LOW SULFUR NO. 2 FUEL OIL
DYED; MAPLLC NO. 2 FUEL OIL DYED (0.05%
SULFUR MAX); NO. 2 DIESEL FUEL DYED 0.05
SULFUR MAX; NO. 2 FUEL OIL DYED 0.05 SULFUR
MAX

EMERGENCY PHONE NUMBERS:
(877) 627-5463
(800) 424-9300

CHEMICAL FAMILY: PETROLEUM HYDROCARBON
CHEMICAL FORMULA: MIXTURE
PRODUCT CODE: NONE

MSDS INFORMATION: (419) 421-3070

MSDS REVISION DATE: 07/28/1998

INFORMATION SUPPLIED BY: CRAIG M. PARKER
MANAGER, TOXICOLOGY AND PRODUCT SAFETY

2. COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT INFORMATION:

MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX) (CAS # 68476-30-2) IS A/AN
COMPLEX MIXTURE OF PARAFFINS, CYCLOPARAFFINS, OLEFINS AND AROMATIC
HYDROCARBONS HAVING HYDROCARBON CHAIN LENGTHS PREDOMINANTLY IN THE
RANGE OF C11 THROUGH C20. CONTAINS MINOR AMOUNTS OF SULFUR (<0.05%).
MAY CONTAIN A TRACE AMOUNT OF BENZENE (<0.01%).

CAN CONTAIN SMALL AMOUNTS OF RED DYE AND OTHER ADDITIVES (>0.15%)
WHICH ARE NOT CONSIDERED HAZARDOUS AT THE CONCENTRATIONS USED.

Table with 3 columns: COMPONENTS, PERCENT RANGE, CAS NUMBER. Rows include SATURATED HYDROCARBONS (PARAFFINS AND CYCLOPARAFFINS), AROMATIC HYDROCARBONS, and UNSATURATED HYDROCARBONS (OLEFINS).

EXPOSURE GUIDELINES LIMIT TYPE SOURCE

PRODUCT:

MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFU- NONE ESTABLISHED
R MAX)



PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

2. COMPOSITION / INFORMATION ON INGREDIENTS (CON'T)

Table with 4 columns: EXPOSURE GUIDELINES, LIMIT, TYPE, SOURCE. Rows include SATURATED HYDROCARBONS, AROMATIC HYDROCARBONS, and UNSATURATED HYDROCARBONS.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
NO. 2 FUEL OIL DYED IS A RED COLORED LIQUID. NO. 2 FUEL OIL IS CONSIDERED TO BE A COMBUSTIBLE LIQUID PER THE OSHA HAZARD COMMUNICATION STANDARD AND SHOULD BE KEPT AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, FUEL OIL MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH. PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY PRODUCE SEVERE IRRITATION OR DERMATITIS.
OSHA WARNING LABEL:
WARNING!
COMBUSTIBLE LIQUID.
ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA OR EVEN DEATH.
PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.

POTENTIAL HEALTH EFFECTS

EYE:

PRODUCES LITTLE OR NO IRRITATION ON DIRECT CONTACT WITH THE EYE.

SKIN:

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY PRODUCE SEVERE IRRITATION OR DERMATITIS.

INHALATION:

HIGH VAPOR CONCENTRATIONS MAY PRODUCE HEADACHE, GIDDINESS, VERTIGO, AND ANESTHETIC STUPOR.



MARATHON ASHLAND
Petroleum LLC

MATERIAL SAFETY DATA SHEET

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PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
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3. HAZARDS IDENTIFICATION (CON'T)

INGESTION:

INGESTION MAY RESULT IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES IN THE LUNGS CAN PRODUCE CHEMICAL PNEUMONITIS, PULMONARY EDEMA/HEMORRHAGE AND EVEN DEATH.

CARCINOGEN LISTING:

THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS DETERMINED THAT THERE IS INADEQUATE EVIDENCE FOR THE CARCINOGENICITY OF FUEL OIL IN HUMANS.

IARC HAS DETERMINED THAT THERE IS SUFFICIENT EVIDENCE FOR THE CARCINOGENICITY IN EXPERIMENTAL ANIMALS OF WHOLE ENGINE EXHAUST AND EXTRACTS OF DIESEL ENGINE EXHAUST PARTICLES. IARC DETERMINED THAT THERE IS ONLY LIMITED EVIDENCE FOR THE CARCINOGENICITY IN HUMANS OF DIESEL ENGINE EXHAUST. HOWEVER, IARC'S OVERALL EVALUATION HAS RESULTED IN THE IARC DESIGNATION OF DIESEL ENGINE EXHAUST AS PROBABLY CARCINOGENIC TO HUMANS (GROUP 2A) BECAUSE OF THE PRESENCE OF CERTAIN ENGINE EXHAUST COMPONENTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

PREEXISTING SKIN CONDITIONS AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO COMPONENTS OF FUEL OILS.

4. FIRST AID MEASURES

EYE:

FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. IF SYMPTOMS OR IRRITATION OCCUR, CALL A PHYSICIAN.

SKIN:

WASH WITH SOAP AND LARGE AMOUNTS OF WATER. REMOVE CONTAMINATED CLOTHING. IF SYMPTOMS OF IRRITATION OCCUR, CALL A PHYSICIAN.

INHALATION:

IF AFFECTED, MOVE PERSON TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF NOT BREATHING OR NO HEARTBEAT, GIVE ARTIFICIAL RESPIRATION OR CARDIOPULMONARY RESUSCITATION (CPR). IMMEDIATELY CALL A PHYSICIAN.



PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

4. FIRST AID MEASURES (CON'T)

INGESTION:

DO NOT INDUCE VOMITING. DO NOT GIVE LIQUIDS. IMMEDIATELY CALL A PHYSICIAN.

NOTES TO PHYSICIAN:

NO DATA AVAILABLE.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 130-190 F
AUTOIGNITION TEMP: 637 F
EXPLOSIVE LIMITS (% BY VOLUME IN AIR)
LOWER: 0.7
UPPER: 5.0

FIRE AND EXPLOSION HAZARDS:

THIS PRODUCT HAS BEEN DETERMINED TO BE A COMBUSTIBLE LIQUID PER THE OSHA HAZARD COMMUNICATION STANDARD AND SHOULD BE HANDLED ACCORDINGLY. FOR ADDITIONAL FIRE RELATED INFORMATION, SEE NFPA 30 OR THE NORTH AMERICAN EMERGENCY RESPONSE GUIDE 128.

EXTINGUISHING MEDIA:

FOR SMALL FIRES, CLASS B FIRE EXTINGUISHING MEDIA SUCH AS CO2, DRY CHEMICAL, FOAM (AFFF/ATC) OR WATER SPRAY CAN BE USED. FOR LARGE FIRES, WATER SPRAY, FOG OR FOAM (AFFF/ATC) CAN BE USED. FIRE FIGHTING SHOULD BE ATTEMPTED ONLY BY THOSE WHO ARE ADEQUATELY TRAINED AND EQUIPPED WITH PROPER PROTECTIVE EQUIPMENT.

SPECIAL FIRE FIGHTING INSTRUCTIONS:

AVOID USE OF STRAIGHT WATER STREAMS. WATER SPRAY AND FOAM (AFFF/ATC) MUST BE APPLIED CAREFULLY TO AVOID FROTHING. AVOID EXCESSIVE APPLICATION. USE WATER SPRAY TO COOL EXPOSED SURFACES FROM AS FAR A DISTANCE AS POSSIBLE. KEEP RUN-OFF WATER OUT OF SEWERS AND WATER SOURCES.



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6. ACCIDENTAL RELEASE MEASURES

ISOLATE AND EVACUATE AREA. SHUT OFF SOURCE IF SAFE TO DO SO. ELIMINATE ALL IGNITION SOURCES. ADVISE NATIONAL RESPONSE CENTER (800-424-8802) IF SUBSTANCE HAS ENTERED A WATERWAY. NOTIFY LOCAL HEALTH AND POLLUTION CONTROL AGENCIES, IF APPROPRIATE. CONTAIN LIQUID WITH SAND OR SOIL. RECOVER AND RETURN FREE LIQUID TO PROPER CONTAINERS. USE SUITABLE ABSORBENT MATERIALS SUCH AS VERMICULITE, SAND, OR CLAY TO CLEAN UP RESIDUAL LIQUIDS.

7. HANDLING AND STORAGE

COMPLY WITH ALL APPLICABLE OSHA, NFPA AND CONSISTENT LOCAL REQUIREMENTS. USE APPROPRIATE GROUNDING AND BONDING PRACTICES. STORE IN PROPERLY CLOSED CONTAINERS THAT ARE APPROPRIATELY LABELED AND IN A COOL, WELL-VENTILATED AREA. DO NOT EXPOSE TO HEAT, OPEN FLAME, STRONG OXIDIZERS OR OTHER SOURCES OF IGNITION. DO NOT CUT, DRILL, GRIND OR WELD ON EMPTY CONTAINERS SINCE THEY MAY CONTAIN EXPLOSIVE RESIDUES. AVOID REPEATED AND PROLONGED SKIN CONTACT. EXERCISE GOOD PERSONAL HYGIENE INCLUDING REMOVAL OF SOILED CLOTHING AND PROMPT WASHING WITH SOAP AND WATER. NEVER SIPHON THIS PRODUCT BY MOUTH.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

ENGINEERING CONTROLS:

LOCAL OR GENERAL EXHAUST REQUIRED WHEN SPRAYING OR USING AT ELEVATED TEMPERATURES.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION:

USE APPROVED ORGANIC VAPOR CHEMICAL CARTRIDGE OR SUPPLIED AIR RESPIRATORS WHEN MATERIAL PRODUCES VAPORS THAT EXCEED PERMISSIBLE LIMITS OR EXCESSIVE VAPORS ARE GENERATED. OBSERVE RESPIRATOR PROTECTION FACTOR CRITERIA CITED IN ANSI Z88.2. SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED FOR FIRE FIGHTING.

SKIN PROTECTION:

NEOPRENE, NITRILE, POLYVINYL ALCOHOL (PVA), POLYVINYL CHLORIDE AND POLYURETHANE GLOVES TO PREVENT SKIN CONTACT.



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8. EXPOSURE CONTROL / PERSONAL PROTECTION (CON'T)

EYE PROTECTION:

NO SPECIAL EYE PROTECTION IS NORMALLY REQUIRED. WHERE SPLASHING IS POSSIBLE, WEAR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE EQUIPMENT:

NO SPECIAL PROTECTIVE CLOTHING IS NORMALLY REQUIRED. SELECT PROTECTIVE CLOTHING DEPENDING ON INDUSTRIAL OPERATIONS.

USE MECHANICAL VENTILATION EQUIPMENT THAT IS EXPLOSION-PROOF.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	400-640 F
MELTING POINT:	NO DATA AVAILABLE
SPECIFIC GRAVITY (H2O=1):	C.A. 0.8
PACKING DENSITY (KG/M3):	NO DATA AVAILABLE
% SOLUBILITY IN WATER:	NEGLIGIBLE
VAPOR DENSITY (AIR=1):	4-5
VAPOR PRESSURE:	1-10 MMHG @ 100 F
PH INFORMATION:	NO DATA AVAILABLE
% VOLATILES BY VOL:	NO DATA AVAILABLE
EVAPORATION RATE:	NO DATA AVAILABLE
APPEARANCE:	RED LIQUID
ODOR:	SLIGHT HYDROCARBON
ODOR THRESHOLD (PPM):	NO DATA AVAILABLE

ADDITIONAL PROPERTIES:

DENSITY: 6.76 LBS/GALLON
AVERAGE MOLECULAR WEIGHT: 180

10. STABILITY AND REACTIVITY

STABILITY:

THE MATERIAL IS STABLE AT 70 F, 760MM PRESSURE.

CONDITIONS TO AVOID:

EXCESSIVE HEAT, SOURCES OF IGNITION.

HAZARDOUS DECOMPOSITION PRODUCTS:

CARBON MONOXIDE, ALDEHYDES, AROMATIC, OTHER HYDROCARBONS.



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10. STABILITY AND REACTIVITY (CON'T)

INCOMPATIBLE MATERIALS:

STRONG OXIDIZERS SUCH AS NITRATES, PERCHLORATES, CHLORINE, FLUORINE.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

CONDITIONS TO AVOID:

NO DATA AVAILABLE.

ADDITIONAL COMMENTS:

NO DATA AVAILABLE.

11. TOXICOLOGICAL INFORMATION

LIFETIME SKIN PAINTING STUDIES IN ANIMALS WITH SIMILAR DISTILLATE FUELS HAVE PRODUCED WEAK TO MODERATE CARCINOGENIC ACTIVITY FOLLOWING PROLONGED AND REPEATED EXPOSURE. SIMILAR MIDDLE DISTILLATES, WHEN TESTED AT NONIRRITATING DOSE LEVELS, DID NOT SHOW ANY SIGNIFICANT CARCINOGENIC ACTIVITY INDICATING THAT THIS TUMORIGENIC RESPONSE IS LIKELY RELATED TO CHRONIC IRRITATION AND NOT TO DOSE. REPEATED DERMAL APPLICATION HAS PRODUCED SEVERE IRRITATION AND SYSTEMIC TOXICITY IN SUBACUTE TOXICITY STUDIES. SOME COMPONENTS OF DISTILLATE FUELS, I.E., PARAFFINS AND OLEFINS, HAVE BEEN SHOWN TO PRODUCE A SPECIES SPECIFIC, SEX HORMONAL DEPENDENT KIDNEY LESION IN MALE RATS FROM REPEATED ORAL OR INHALATION EXPOSURE. SUBSEQUENT RESEARCH HAS SHOWN THAT THE KIDNEY DAMAGE DEVELOPS VIA THE FORMATION OF ALPHA-2U-GLOBULIN, A MECHANISM UNIQUE TO THE MALE RAT. HUMANS DO NOT FORM ALPHA-2U-GLOBULIN, THEREFORE, THE KIDNEY EFFECTS RESULTING FROM THIS MECHANISM ARE NOT RELEVANT IN HUMANS. KEROSENE AND NO.1 FUEL OIL WERE FOUND TO BE POSITIVE IN A FEW MUTAGENICITY TESTS WHILE NEGATIVE IN THE MAJORITY OF OTHERS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND HUMAN HEALTH IS NOT KNOWN.

COMBUSTION OF KEROSENE AND/OR DIESEL FUELS PRODUCES GASES AND PARTICULATES WHICH INCLUDE CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN AND/OR SULFUR AND HYDROCARBONS. EXPOSURE TO HIGH CONCENTRATIONS OF CARBON MONOXIDE CAN CAUSE HYPOXIA VIA THE FORMATION OF CARBOXYHEMOGLOBIN. CHRONIC INHALATION STUDIES OF WHOLE DIESEL ENGINE EXHAUST IN MICE AND RATS PRODUCED A SIGNIFICANT INCREASE IN LUNG TUMORS.

12. ECOLOGICAL INFORMATION

LIQUID CAN BE TOXIC TO AQUATIC LIFE AND CAUSE FOULING OF THE SHORELINE AT HIGH CONCENTRATIONS. THE AQUATIC 24 HOUR TLM IS 2,990 PPM IN FRESHWATER BLUEGILL FISH. HOWEVER, KEROSENE AND FUEL OILS DO NOT BIOCONCENTRATE IN THE FOOD CHAIN. IF PRODUCT IS RELEASED TO SOIL OR WATER, IT IS EXPECTED TO BIODEGRADE UNDER BOTH AEROBIC AND ANAEROBIC CONDITIONS.



MARATHON ASHLAND
Petroleum LLC

MATERIAL SAFETY DATA SHEET

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PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

13. DISPOSAL CONSIDERATIONS

THIS PRODUCT AS PRODUCED IS NOT SPECIFICALLY LISTED AS AN EPA RCRA HAZARDOUS WASTE ACCORDING TO FEDERAL REGULATIONS (40 CFR 260-271). HOWEVER, WHEN DISCARDED OR DISPOSED OF, IT MAY MEET THE CRITERIA OF AN "IGNITABLE" HAZARDOUS WASTE. THIS MATERIAL COULD ALSO BECOME A HAZARDOUS WASTE IF MIXED OR CONTAMINATED WITH A LISTED HAZARDOUS WASTE. IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE IF DISPOSAL MATERIAL IS HAZARDOUS ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS.

14. TRANSPORTATION INFORMATION

49 CFR 172.101:

PROPER SHIPPING NAME:	FUEL OIL, NO. 2
DOT CLASSIFICATION:	3
DOT IDENTIFICATION NUMBER:	NA 1993
PACKING GROUP:	PG III



PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

15. REGULATORY INFORMATION

THE FOLLOWING REGULATIONS APPLY TO THIS PRODUCT:

OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200):

THIS PRODUCT HAS BEEN EVALUATED AND DETERMINED TO BE HAZARDOUS AS DEFINED IN OSHA'S HAZARD COMMUNICATION STANDARD.

EPA TOXIC SUBSTANCES CONTROL ACT (40 CFR PART 710):

THIS PRODUCT AND/OR ITS COMPONENTS ARE LISTED ON THE TSCA CHEMICAL INVENTORY.

EPA SARA TITLE III SUPERFUND AMENDMENTS & REAUTHORIZATION ACT - EMERGENCY PLANNING & COMMUNITY RIGHT-TO-KNOW ACT OF 1986.

EXTREMELY HAZARDOUS SUBSTANCES (40 CFR PART 355):

THIS PRODUCT CONTAINS THE FOLLOWING COMPONENT(S) IDENTIFIED ON APPENDIX A AND B OF THE EXTREMELY HAZARDOUS SUBSTANCE LIST (AT A LEVEL OF 1% OR GREATER IF HAZARDOUS; 0.1% OR GREATER IF CARCINOGENIC): NONE.

EMERGENCY RELEASE NOTIFICATIONS (40 CFR PART 355):

THIS PRODUCT CONTAINS THE FOLLOWING COMPONENT(S) IDENTIFIED EITHER AS AN EXTREMELY HAZARDOUS SUBSTANCE (40 CFR 355) OR A CERCLA HAZARDOUS SUBSTANCE (40 CFR 302) WHICH IN CASE OF A SPILL OR RELEASE MAY BE SUBJECT TO EMERGENCY RELEASE REPORTING REQUIREMENTS: NONE.

MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR PART 370):

THE FOLLOWING EPA HAZARD CATEGORIES APPLY TO THIS PRODUCT:

IMMEDIATE (ACUTE) HEALTH HAZARD
FIRE HAZARD

MSDS'S OR A LIST OF MSDS'S AND THEIR HAZARDS (SEE EPA HAZARD CATEGORIES ABOVE) MAY BE REQUIRED TO BE SUBMITTED TO THE STATE EMERGENCY RESPONSE COMMISSION (SERC), LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) AND LOCAL FIRE DEPARTMENT (LFD).

IN ADDITION, A TIER II OR TIER I FORM MAY BE REQUIRED TO BE SUBMITTED ANNUALLY TO THE SERC, LEPC AND LFD IF APPLICABLE THRESHOLD REPORTING QUANTITIES ARE EXCEEDED. CURRENT FEDERAL THRESHOLDS ARE:

10,000 POUNDS OR MORE OF AN OSHA HAZARDOUS SUBSTANCE
OR
500 POUNDS OR THE THRESHOLD PLANNING QUANTITY, WHICHEVER IS LESS, OF AN EXTREMELY HAZARDOUS SUBSTANCE.

NOTE: THRESHOLDS MAY VARY ACCORDING TO LOCAL AND STATE REGULATIONS.

TOXIC CHEMICAL RELEASE REPORTING (40 CFR PART 372):

THIS PRODUCT CONTAINS THE FOLLOWING COMPONENT(S) (AT A LEVEL OF 1% OR GREATER IF HAZARDOUS; 0.1% OR GREATER IF CARCINOGENIC) THAT MAY BE SUBJECT TO REPORTING ON THE TOXIC RELEASE INVENTORY (TRI) FORM R: NONE.

STATE AND COMMUNITY RIGHT-TO-KNOW REGULATIONS:

THIS MATERIAL MAY BE REGULATED BY LOUISIANA'S RIGHT-TO-KNOW LAW (REGULATORY STATUTE 30:2361).



PRODUCT NAME: MAPLLC NO. 2 FUEL OIL DYED (0.05% SULFUR MAX)
MSDS NO: 0117MAR019

16. OTHER INFORMATION

NFPA CLASSIFICATION

HEALTH: 1
FIRE: 2
REACTIVITY: 1
OTHER: -

HMS CLASSIFICATION

HEALTH: 1
FIRE: 2
REACTIVITY: 1
PERSONAL PROTECTION: *

HAZARD RATING

0 - LEAST
1 - SLIGHT
2 - MODERATE
3 - HIGH
4 - EXTREME

COMMENTS:

* SEE SECTION 8 FOR GUIDANCE IN SELECTION OF PERSONAL PROTECTIVE EQUIPMENT.

*** DISCLAIMER ***

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS, TO THE BEST OF MARATHON ASHLAND PETROLEUM LLC'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABLENESS AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

MOBIL OIL CORPORATION MATERIAL SAFETY DATA BULLETIN

REVISED:01/23/92

***** I. PRODUCT IDENTIFICATION *****

CAT-DIESEL'ENG CD 15W-40

SUPPLIER:	MOBIL OIL CORP.	24-HOUR EMERGENCY (CALL COLLECT):
		(609) 737-4411
CHEMICAL NAMES AND SYNONYMS:	PET. HYDROCARBONS AND ADDITIVES	CHEMTREC:
		(800) 424-9300
USE OR DESCRIPTION:	ENGINE OIL	PRODUCT AND MSDS INFORMATION:
		(800) 662-4525

***** II. TYPICAL CHEMICAL AND PHYSICAL PROPERTIES *****

APPEARANCE: Amber Liquid	ODOR: Mild	PH: NA
VISCOSITY AT 100 F, SUS: 565.0	AT 40 C, CS: 110.0	
VISCOSITY AT 210 F, SUS: 81.0	AT 100 C, CS: 15.3	
FLASH POINT F(C): > 410(210)	(ASTM D-92)	
MELTING POINT F(C): NA	POUR POINT F(C): -10(-23)	
BOILING POINT F(C): > 600(316)		
RELATIVE DENSITY, 15/4 C: 0.89	SOLUBILITY IN WATER: Negligible	
VAPOR PRESSURE-mm Hg 20C: < .1		

NA=Not Applicable NE=Not Established D=Decomposes
FOR FURTHER INFORMATION, CONTACT YOUR LOCAL MARKETING OFFICE.

***** III. POTENTIALLY HAZARDOUS INGREDIENTS *****

None

SEE SECTIONS XII AND XIII FOR REGULATORY AND FURTHER COMPOSITIONAL DATA.

SOURCES: A-ACGIH-TLV, A*=Suggested-TLV, M=Mobil, O-OSHA, S=Supplier
NOTE: Limits shown for guidance only. Follow applicable regulations.

***** IV. HEALTH HAZARD DATA *****

--- INCLUDES AGGRAVATED MEDICAL CONDITIONS, IF ESTABLISHED ---
THRESHOLD LIMIT VALUE: 5.00 mg/m3 Suggested for Oil Mist
EFFECTS OF OVEREXPOSURE: Slight eye irritation. Slight skin irritation.

***** V. EMERGENCY AND FIRST AID PROCEDURES *****

--- FOR PRIMARY ROUTES OF ENTRY ---

EYE CONTACT: Flush thoroughly with water. If irritation persists, call a physician.

SKIN CONTACT: Wash contact areas with soap and water.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 liter(pint) ingested, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room or poison control center for assistance. Do not induce vomiting or give anything by mouth to an unconscious person.

***** VI. FIRE AND EXPLOSION HAZARD DATA *****

FLASH POINT F(C): > 410(210) (ASTM D-92)

FLAMMABLE LIMITS. LEL: .6% UEL: 7.0%

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing.

Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. For fires in enclosed areas, firefighters must use self-contained breathing apparatus. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

***** VII. REACTIVITY DATA *****

STABILITY (Thermal, Light, etc.): Stable

CONDITIONS TO AVOID: Extrem: heat.

INCOMPATIBILITY (Materials to Avoid): Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide.

HAZARDOUS POLYMERIZATION: Will not occur.

***** VIII. SPILL OR LEAK PROCEDURE *****

ENVIRONMENTAL IMPACT: Report spills as required to appropriate authorities. U. S. Coast Guard regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to Coast Guard toll free number (800) 424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate waste disposal facility in accordance with current applicable laws and regulations, and product characteristics at time of disposal.

WASTE MANAGEMENT: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

***** IX. SPECIAL PROTECTION INFORMATION *****

EYE PROTECTION: Normal industrial eye protection practices should be employed.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

***** X. SPECIAL PRECAUTIONS *****

No special precautions required.

***** XI. TOXICOLOGICAL DATA *****

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Slightly toxic ---Based on testing of similar products and/or the components.

DERMAL TOXICITY (RABBITS): Slightly toxic ---Based on testing of similar products and/or the components.

INHALATION TOXICITY (RATS): Not applicable ---Harmful concentrations of mists and/or vapors are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

EYE IRRITATION (RABBITS): May cause slight irritation. ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): May cause slight irritation on prolonged or repeated contact. ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at Mobil Environmental and Health Sciences Laboratory by dermal application to rats 5 days/week for 90 days at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations including microscopic examination of internal organs and clinical chemistry of body fluids, showed no adverse effects.

---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of similar oils showed no evidence of carcinogenic effects.

---OTHER TOXICOLOGY DATA---

Studies have shown that mice developed skin cancer after repeated application of used gasoline engine oil to the skin for the lifetime of the animals. No effort was made to wash the oil off between applications. Used oil from diesel engines did not produce this effect. Because of the effects observed in the laboratory tests, service station workers, engine mechanics, and all persons who regularly handle used motor oil should take precautions to minimize contact with the oil. Good personal hygiene practices, including washing any skin contact areas and removing oil soaked clothing, should be followed.

***** XII. REGULATORY INFORMATION *****

GOVERNMENTAL INVENTORY STATUS: All components registered in accordance with TSCA and EINECS.

DOT:

Shipping Name: Not applicable
Hazard Class: Not applicable

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined not to be hazardous.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III:
This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312 - FORMERLY 302) REPORTABLE HAZARD CATEGORIES: None

This product contains the following SARA (313) Toxic Release Chemicals:

ZINC (ELEMENTAL ANALYSIS) 7440-66-6 0.12%

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
ZINC (ELEMENTAL ANALYSIS) (.12%)	7440-66-6	15
ZINC DIALKYL DITHIOPHOSPHATE (.90%)	68457-79-4	15

--- KEY TO LIST CITATIONS ---

- 1 - OSHA Z, 2 - ACGIH, 3 - IARC, 4 - NTP, 5 - NCI,
- 6 - EPA CARC, 7 - NFPA 49, 8 - NFPA 325M, 9 - DOT HMT, 10 - CA RTK,
- 11 - IL RTK, 12 - MA RTK, 13 - MN RTK, 14 - NJ RTK, 15 - MI 293,
- 16 - FL RTK, 17 - PA RTK, 18 - CA P65.

--- NTP, IARC, AND OSHA INCLUDE CARCINOGENIC LISTINGS ---

NOTE: MOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

***** XIII. INGREDIENTS *****

INGREDIENT DESCRIPTION	PERCENT	CAS NUMBER
CONTAINS ONE OR MORE OF THE FOLLOWING	> 70.00	
BASE OILS:		
DISTILLATES (PETROLEUM), SOLVENT-DEWAXED HEAVY PARAFFINIC		64742-65-0
DISTILLATES (PETROLEUM), HYDROTREATED HEAVY PARAFFINIC		64742-54-7
PROPRIETARY INGREDIENT	< 18.00 NJT	800967-5117P
PROPRIETARY INGREDIENT	< 2.00	
ZINC	0.13	7440-66-6

***** APPENDIX *****

FOR MOBIL USE ONLY: MCN: , MHC: 1* 1* NA 1* 1*, MPPEC: A, PPEC: A,
US91-070 APPROVE 04/18/91 REQ: US - MARKETING

 INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS.

PREPARED BY: MOBIL OIL CORPORATION
 ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT, PRINCETON, NJ
 FOR FURTHER INFORMATION, CONTACT:
 MOBIL OIL CORPORATION, PRODUCT FORMULATION AND QUALITY CONTROL
 3225 GALLOWES ROAD, FAIRFAX, VA 22037 (800) 227-0707 X3265