



Material Safety Data Sheet

MSDS ID NO.: 0191MAR019
Revision date: 12/07/2010

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code: MR1621, MR1623, MR1625
Product name: Marathon Marafluid 4 Transmission & Drive Train Fluid
Synonym: Marafluid 4; SAE 30 Marafluid 4; SAE 50 Marafluid 4; 10W Marafluid 4
Chemical Family: Motor/Lube Oil
Formula: Mixture

Manufacturer:
Marathon Petroleum Company LP
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Lube oil is a complex mixture of highly refined lubricating base stocks and additives.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Marafluid 4 Transmission & Drive Train Fluid	Mixture	100			

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Distillates, Petroleum Solvent-Refined Heavy Paraffinic	64741-88-4	0-80			Mineral Oil Mist (MOM) =5 mg/m ³ TWA = 10 mg/m ³ STEL
Residual Oils (Petroleum). Solvent Refined	64742-01-4	0-70			Mineral Oil Mist (MOM) =5 mg/m ³ TWA = 10 mg/m ³ STEL
Additives	Not specified	5-7			
Zinc Alkyl Dithiophosphate	68649-42-3	1.1-1.5			

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

THIS LUBRICANT IS A NON-VOLATILE AND NON-COMBUSTIBLE, AMBER COLORED LIQUID, BUT WILL IGNITE AND BURN AT ELEVATED TEMPERATURES.

Inhalation:

No acute effects expected from routine operations. Overheating of product may produce vapors which can cause respiratory irritation, dizziness and nausea.

Ingestion:

Product has a low order of acute toxicity. This is based on data from components or similar products.

Skin contact:

Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.

Eye contact:

Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Marafluid 4 Transmission & Drive Train Fluid Mixture	NE			

Notes:

The International Agency for Research on Cancer (IARC) has determined that there is no evidence that severely solvent-refined oils are carcinogenic to experimental animals.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Distillates, Petroleum Solvent- Refined Heavy Paraffinic 64741-88-4	Supplement 7 [1987], Monograph 33 [1984]			Present
Residual Oils (Petroleum). Solvent Refined 64742-01-4	Supplement 7 [1987], Monograph 33 [1984]			Present

4. FIRST AID MEASURES

Eye Contact:

Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Skin Contact:

Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

If product is accidentally injected into or under the skin, regardless of wound size or initial absence of symptoms, the individual should be evaluated immediately by a physician as a surgical emergency.

Ingestion:

Not expected to be acutely toxic. If large amounts are swallowed, immediately call a physician.

4. FIRST AID MEASURES

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

NOTES TO PHYSICIAN:

No data available.

Medical Conditions Aggravated By Exposure:

Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

Suitable 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.

Specific hazards:

This material is not combustible per the OSHA Hazard Communication Standard, but will ignite and burn at elevated temperatures.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray 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.

Flash point:

440, 480, 500 F (COC)

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

Health: 1

Flammability: 1

Instability: 0

Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Advise local and state emergency services agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

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Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and 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 cut, drill, grind or weld on empty containers since they may contain explosive residues. Do not pressurize or expose to heat, open flames, strong oxidizers or other sources of ignition.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
- Respiratory protection:** Not required under normal conditions and adequate ventilation. Approved organic vapor chemical cartridge or supplied air respirators should be worn when significant vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Use chemical resistant gloves such as neoprene, nitrile, or PVA to prevent prolonged or repeated skin contact.
- Eye protection:** No special eye protection is normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Amber
Odor:	Hydrocarbon
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range (5-95%):	No data available.
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	0.885, 0.900 or 0.904 @ 60 F
Density:	7.37, 7.46 or 7.53 lbs/gal @ 60 F
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	<1 mm Hg @ 100 F
Evaporation rate:	No data available.
Solubility:	<1%
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	>4.9
VOC content(%):	No data available.
Viscosity:	48.5, 97.5 or 241 cSt @40 C 7.0, 10.9 or 19.8 cSt @ 100 C

10. STABILITY AND REACTIVITY

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Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide, aldehydes, hydrogen sulfide, oxides of sulfur and oxides of nitrogen.
Materials to avoid:	Strong oxidizers such as nitrates, chlorates, peroxides.
Conditions to avoid:	Heat and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Maraf fluid 4 Transmission & Drive Train Fluid	Mixture	LD50 = 2.18 to >4 mg/l [Rat]	LD50 >2 gm/kg [Rabbit]	LD50 >5 ml/kg [Rat]

Toxicology Information:

Based on data from components this product is considered to have a low order of acute oral and dermal toxicity. Chronic skin painting studies with severely solvent refined neutral oils did not produce evidence of skin cancer in mice.

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccumulation:

No data available.

Persistence/Biodegradation:

Water accommodated fractions (WAF) of highly refined base oils did not produce acute toxicity in fish (100-1000 mg/l), fresh water algae (500 mg/l) or daphnia (10,000 mg/l) in 48-96 hour LC50 studies.

Used motor and/or lube oils can be toxic to birds and fish.

13. DISPOSAL CONSIDERATIONS

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Cleanup Considerations:

This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Don't pollute. Conserve resources. Send used product to recycling center. Dispose of cleanup materials in accordance with applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce is NOT REGULATED by DOT regulations.

Packing group: Not applicable.

DOT reportable quantity (lbs): Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined not to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Distillates, Petroleum Solvent- Refined Heavy Paraffinic	NA
Residual Oils (Petroleum). Solvent Refined	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Distillates, Petroleum Solvent-Refined Heavy Paraffinic	NA
Residual Oils (Petroleum). Solvent Refined	NA
Additives	NA
Zinc Alkyl Dithiophosphate	NA

SARA Section 311/312

The following EPA hazard categories apply to this product:

None

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Distillates, Petroleum Solvent-Refined Heavy Paraffinic	None
Residual Oils (Petroleum). Solvent Refined	None
Additives	None
Zinc Alkyl Dithiophosphate	= 1.0 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Distillates, Petroleum Solvent-Refined Heavy Paraffinic

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Residual Oils (Petroleum). Solvent Refined

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed

Distillates, Petroleum Solvent-Refined Heavy Paraffinic

Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	carcinogen
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Additives

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Zinc Alkyl Dithiophosphate

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 3012
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	= 100 lb Annual usage threshold
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 3012 TPQ 500 lb (Category Code N982. Includes any unique chemical substance that contains the named metal as part of that chemical structure)
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Distillates, Petroleum Solvent-Refined Heavy Paraffinic

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: No data available.

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End of Safety Data Sheet