



# Material Safety Data Sheet

MSDS ID NO.: 0339MAR019  
Revision date: 04/08/2011

## 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product name:** Marathon R99  
**Synonym:** R99 Renewable Diesel, Marathon; Biomass-based Diesel, Marathon  
**Chemical Family:** Petroleum Hydrocarbon  
**Formula:**

**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

### Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon R100	928771-01-1	100			

### Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon R100	928771-01-1	100			
No. 2 Diesel	68476-34-6	1	Skin - potential significant contribution to overall exposure by the cutaneous route 100 mg/m <sup>3</sup> TWA		

**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

CAUTION!

VAPORS, FUMES, OR MISTS MAY CAUSE RESPIRATORY TRACT IRRITATION  
MAY BE HARMFUL OR FATAL IF SWALLOWED  
MAY CAUSE LUNG DAMAGE  
OVEREXPOSURE MAY CAUSE CNS DEPRESSION  
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

COMBUSTIBLE LIQUID AND VAPOR  
VAPOR MAY CAUSE FLASH FIRE

STABLE

#### Inhalation:

Breathing high concentrations may be harmful.  
May cause central nervous system depression or effects.  
Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

#### Ingestion:

Swallowing this material may be harmful.  
Aspiration into lungs may cause chemical pneumonia and lung damage.  
Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

#### Skin contact:

Contact may cause reddening, itching and inflammation.

#### Eye contact:

May cause mild eye irritation with tearing, redness, or a stinging or burning feeling. Effects may become more serious with prolonged or repeated exposure.

#### Carcinogenic Evaluation:

#### Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon R100 928771-01-1	NE			

#### Notes:

IARC has determined that there is sufficient evidence for the carcinogenicity in experimental animals of diesel 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.

The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of diesel fuel/fuel oil in humans. IARC determined that there was limited evidence for the carcinogenicity of marine diesel fuel in animals. Distillate (light) diesel fuels were not classifiable as to their carcinogenicity to humans (Group 3A).

**Component Information:**

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
No. 2 Diesel 68476-34-6			A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel Fuel)	

## 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.

**Ingestion:**

If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.

**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:**

INGESTION: If ingested this material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

**Medical Conditions**

**Aggravated**

**By Exposure:**

respiratory system, skin,

## 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:**

For small fires, Class B fire extinguishing media such as CO<sub>2</sub>, 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 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.

**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. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

**Flash point:**

142 F (61 C) minimum

## 5. FIRE FIGHTING MEASURES

<b>Autoignition temperature:</b>	220C (428F)
<b>Flammable limits in air - lower (%):</b>	No data available.
<b>Flammable limits in air - upper (%):</b>	No data available.

### NFPA rating:

Health: 1  
Flammability: 2  
Instability: 0  
Other: -

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control 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

### **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 expose to heat, open flames, 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. Never siphon this product by mouth. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### **PERSONAL PROTECTIVE EQUIPMENT**

<b>Engineering measures:</b>	Local or general exhaust required when using at elevated temperatures that generate vapors or mists.
<b>Respiratory protection:</b>	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 assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.
<b>Skin and body protection:</b>	Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride and polyurethane gloves to prevent skin contact.
<b>Eye protection:</b>	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
<b>Hygiene measures:</b>	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:

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Clear Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Clear
Odor:	Slight Hydrocarbon
Molecular weight:	Not determined.
pH:	No data available.
Boiling point/range (5-95%):	180-320C (356-608F)
Melting point/range:	Not determined.
Decomposition temperature:	Not applicable.
Specific gravity:	C.A. 0.77-0.79
Density:	6.5 lbs/gal
Bulk density:	No data available.
Vapor density:	4-5
Vapor pressure:	Below 9 kPa (@37.8C or 100F)
Evaporation rate:	No data available.
Solubility:	Negligible
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	Kinematic viscosity 2.0 - 4.0 mm <sup>2</sup> /s (40C or 104F)

## 10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Excessive heat, sources of ignition and open flames.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity:

### Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon R100	928771-01-1	No data available	No data available	No data available

### Toxicology Information:

MIDDLE DISTILLATES, PETROLEUM: Long-term repeated (lifetime) skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents. The relevance of these findings to humans is not clear at this time.

DIESEL EXHAUST: Chronic inhalation studies of whole diesel engine exhaust in mice and rats produced a significant increase in lung tumors. Combustion of kerosine and/or diesel fuels produces gases and particulates which include carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur and hydrocarbons. Significant exposure to carbon monoxide vapors decreases the oxygen carrying capacity of the blood and may cause tissue hypoxia via formation of carboxyhemoglobin.

**TARGET ORGANS:** central nervous system, skin, lungs, respiratory system,

## 12. ECOTOXICOLOGICAL INFORMATION

**Mobility:**

May partition into air, soil and water.

**Ecotoxicity:**

May be harmful to aquatic organisms.

**Bioaccumulation:**

Not expected to bioaccumulate in aquatic organisms.

**Persistence/Biodegradation:**

Readily biodegradable in the environment.

## 13. DISPOSAL CONSIDERATIONS

**Cleanup Considerations:**

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. 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.

## 14. TRANSPORT INFORMATION

**49 CFR 172.101:**

**DOT:**

**Transport Information:** This material when transported via US commerce would be regulated by DOT Regulations.

**Proper shipping name:** Fuel Oil, No. 2 ..... or .....Gas Oil  
**UN/Identification No:** NA 1993 .....or.....UN 1202  
**Hazard Class:** 3  
**Packing group:** III  
**DOT reportable quantity (lbs):** Not applicable.

**Proper shipping name:** Fuel Oil, No. 2 ..... or .....Gas Oil  
**UN/Identification No:** NA 1993 .....or.....UN 1202  
**Hazard Class:** 3  
**Packing group:** III

## 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 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
Marathon R100	NA
No. 2 Diesel	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
Marathon R100	NA
No. 2 Diesel	NA

**SARA Section 311/312** The following EPA hazard categories apply to this product:

Acute Health Hazard  
Fire Hazard  
Chronic Health Hazard

**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:
Marathon R100	None
No. 2 Diesel	None

### State and Community Right-To-Know Regulations:

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

Marathon R100

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

Marathon R100

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

No. 2 Diesel

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2444
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:	SN 2444 RQ 10000 lbs
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

**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.

**Prepared by:** Mark S. Swanson, Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Petroleum Company LP (MPC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. MPC assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

**End of Safety Data Sheet**