



SAFETY DATA SHEET

SDS ID NO.: 0338MAR019
Revision Date: 05/14/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum R100
Synonym: R100 Renewable Diesel, Marathon; Biomass-based Diesel, Marathon
Chemical Family: Petroleum Hydrocarbon
Recommended Use: Fuel.
Use Restrictions: All others.

Supplier Name and Address:
MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)

Not applicable

Label elements

EMERGENCY OVERVIEW

Danger

FLAMMABLE LIQUID AND VAPOR

May be fatal if swallowed and enters airways
 Harmful if inhaled
 Causes skin irritation
 Suspected of causing cancer
 May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
 Toxic to aquatic life with long lasting effects



Appearance Colorless Liquid

Physical State Liquid

Odor Odorless to mild paraffin

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Use explosion-proof electrical/ventilating/lighting/equipment
 Ground/bond container and receiving equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Wash hands and any possibly exposed skin thoroughly after handling
 Avoid release to the environment

Precautionary Statements - Response

IF exposed or concerned: Get medical attention
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If skin irritation occurs: Get medical attention
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor if you feel unwell
 IF SWALLOWED: Immediately call a POISON CENTER or doctor
 Do NOT induce vomiting
 In case of fire: Use CO₂, dry chemical, or foam for extinction
 Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Information:

Name	CAS Number	Weight %
Fuels, Diesel, C9-18-Alkane Branched and Linear	1159170-26-9	0-100
Alkanes, C10-C20 branched and linear	928771-01-1	0-100

4. FIRST AID MEASURES

First Aid Measures

General advice	In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).
Inhalation:	Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.
Skin Contact:	Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists. Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties.
Eye Contact:	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.
Ingestion:	If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse Effects:	Acute: May cause irritation of the skin and mucous membranes. Delayed: Dry skin and possible irritation with repeated or prolonged exposure.
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Indication of any immediate medical attention and special treatment needed

NOTES TO PHYSICIAN:	INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.
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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. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media

Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical

This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Hazardous combustion products

Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data

Sensitivity to Mechanical Impact No.
Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters

Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. 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.

NFPA:

Health 1

Flammability 2

Instability 0

Special Hazards -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.
Protective Equipment:	Use personal protection measures as recommended in Section 8.
Emergency Procedures:	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.
Environmental precautions:	Avoid release to the environment. Avoid subsoil penetration.
Methods and materials for containment:	Contain liquid with sand or soil.
Methods and materials for cleaning up:	Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe Handling Precautions:	NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking. Avoid repeated and prolonged skin contact. Use personal protection measures as recommended in Section 8. Use only non-sparking tools. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.
Storage Conditions:	Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area.
Incompatible materials	Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	ACGIH TLV	OSHA PELs:	OSHA - Vacated PELs	NIOSH IDLH
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-

Notes:

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

Engineering measures:

Local or general exhaust required in an enclosed area or with inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection:	Use goggles or face-shield if the potential for splashing exists.
Skin and body protection:	Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.
Respiratory protection:	Use an approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible exposure limits or excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid
Appearance	Colorless Liquid
Color	Colorless
Odor	Odorless to mild paraffin
Odor Threshold	No available data.
<u>Property</u>	<u>Values (Method)</u>
Melting Point / Freezing Point	No available data.
Initial Boiling Point / Boiling Range	179-309 °C / 354.2-588.2 °F
Flash Point	56-58 °C / 132.8-136.4 °F
Evaporation Rate	No available data.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%)	
Upper Flammability Limit:	No available data.
Lower Flammability Limit:	No available data.
Vapor Pressure	<9 kPa (37.8°C / 100°F)
Vapor Density	>1
Specific Gravity / Relative Density	0.77-0.79
Water Solubility	Insoluble
Solubility in other solvents	No available data.
Partition Coefficient	No available data.
Decomposition temperature:	No available data.
pH:	Not Applicable
Autoignition Temperature	257 °C / 494.6 °F
Kinematic Viscosity	1.9 - 4.1 cP @ 40°C
Dynamic Viscosity	No available data.
Explosive Properties	No available data.
Softening Point	No available data.
VOC Content (%)	No available data.
Density	6.5 lbs/gal
Bulk Density	Not applicable.

10. STABILITY AND REACTIVITY

<u>Reactivity</u>	The product is non-reactive under normal conditions.
<u>Chemical stability</u>	The material is stable at 70°F, 760 mmHg pressure.
<u>Possibility of hazardous reactions</u>	None under normal processing.

Hazardous polymerization

Will not occur.

Conditions to avoid

Excessive heat, sources of ignition, open flame.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

None known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION**Potential short-term adverse effects from overexposures**

Inhalation	Harmful if inhaled. Inhalation of high vapor concentrations may cause irritation of the respiratory system. May cause drowsiness or dizziness.
Eye contact	Causes mild eye irritation.
Skin contact	Irritating to skin. Effects may become more serious with repeated or prolonged contact.
Ingestion	May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Acute Toxicological data

Name	Oral LD50	Dermal LD50	Inhalation LC50
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	>1 - <5 mg/l (Rat) 4 h
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	>1 - <5 mg/l (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs & Symptoms	Acute: May cause irritation of the skin and mucous membranes. Delayed: Dry skin and possible irritation with repeated or prolonged exposure.
Sensitization	Not expected to be a skin or respiratory sensitizer.
Mutagenic effects	None known.

Carcinogenicity

Cancer designations are listed in the table below.

Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	Not Listed	Not Listed	Not Listed	Not Listed
Alkanes, C10-C20 branched and linear 928771-01-1	Not Listed	Not Listed	Not Listed	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure Not classified.

Specific Target Organ Toxicity (STOT) - repeated exposure Thymus. Liver. Bone marrow.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Name	Algae/aquatic plants	Fish	Toxicity to Microorganisms	Crustacea
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	-	-
Alkanes, C10-C20 branched and linear 928771-01-1	-	-	-	-

Persistence and degradability Expected to be inherently biodegradable.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
This material may be a flammable liquid waste.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Methods of Contaminated Packaging Disposal
Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):

UN Proper shipping name: Fuel Oil, No. 2 orGas Oil
UN/Identification No: NA 1993or.....UN 1202
Transport Hazard Class(es): 3
Packing group: III

TDG (Canada):

UN Proper shipping name: Fuel Oil, No. 2 orGas Oil
UN/Identification No: NA 1993or.....UN 1202
Transport Hazard Class(es): 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.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Fuels, Diesel, C9-18-Alkane Branched and Linear	NA
Alkanes, C10-C20 branched and linear	NA

SARA Section 304: This product does not contain any component(s) identified 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
Fuels, Diesel, C9-18-Alkane Branched and Linear	NA
Alkanes, C10-C20 branched and linear	NA

SARA: The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA Section 313: This product does not contain components, which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R):

Name	CERCLA/SARA 313 Emission reporting:
Fuels, Diesel, C9-18-Alkane Branched and Linear	None
Alkanes, C10-C20 branched and linear	None

State and Community Right-To-Know Regulations:

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

Fuels, Diesel, C9-18-Alkane Branched and Linear

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.

Alkanes, C10-C20 branched and linear

Louisiana Right-To-Know:	Not Listed.
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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.

Canada DSL/NDL Inventory: This product contains the following component(s) that are listed on the Non-Domestic Substance List (NDL): CAS# 1159170-26-9

Canadian Regulatory Information: "This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the (M)SDS contains all the information required by the Controlled Products Regulations."

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Fuels, Diesel, C9-18-Alkane Branched and Linear	B3,D2A,D2B	0.1%
Alkanes, C10-C20 branched and linear	B3,D2A,D2B	0.1%



NOTE: Not Applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety
Revision Date: 05/14/2015

Revision Note:

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The 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, unless specified in the text.