

Section 1: Product and Company Identification

Manufacturer Kern Energy – 7724 East Panama Lane – Bakersfield – CA 93307-9210
(661) 845-0761 – sds@KernEnergy.com – www.KernEnergy.com

Chemical Name: R100 Renewable Diesel
Chemical Family: Petroleum Hydrocarbon
Trade Name R100 Renewable Diesel
Synonyms: R100 Renewable Diesel
Recommended Uses: Diesel Fuel
CAS #: 1159170-26-9 and 928771-01-1
RTECS #: None
SDS Number: KOP080
SDS Date: April 13, 2023

CHEMTREC (800) 424-9300
or (703) 527-3887
POISON CONTROL CENTER
(800) 346-5922

Section 2: Hazard Identification

Signal Word: **DANGER**

Pictograms: Flame - Health Hazard – Exclamation Mark Environment



Physical Hazards: Flammable Liquids – Category 3 - Flammable liquid and vapor.

Health Hazards: Acute Toxicity, Inhalation - Category 4 - Harmful if inhaled.
Skin Corrosion/Irritation – Category 2 - Causes skin irritation.
Eye Damage/Irritation – Category 2B - Causes eye irritation.
Specific Target Organ Toxicity (repeated Exposure) – Category 2.
Aspiration Hazard – Category 1 - May be fatal if swallowed and enters airways.

Environmental Hazards: Chronic Aquatic Toxicity – Category 2 - Harmful to aquatic life with long lasting effects.

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.

Response: **In case of fire:** Use CO₂, foam or water fog to extinguish. Do not use direct water stream. **If inhaled:** Remove person to fresh air and keep comfortable for breathing. Seek medical attention if you feel unwell. **If on skin:** Wash with plenty of water. See First Aid on this label for specific treatment. If skin irritation occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. **If exposed or concerned:** Get medical advice/attention. Immediately get medical attention. Do NOT induce vomiting. **Collect spillage.**

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

Disposal: Dispose of contents/containers in accordance with local, state and national regulations.

HNOC:* None Known

Supplemental Info: NFPA Rating: (Scale 0-4) Health = 1, Fire = 2, Reactivity = 0
HMIS Rating: Fire 2, Health 2, Physical 0, Chronic

* Hazard(s) not otherwise classified or not covered by GHS.

Section 3: Composition / Information on Ingredients

Component	CAS No.	Percent
Fuels, Diesel, C9-18-Alkane Branched and Linear	1159170-26-9	0-99
Alkanes, C10-C20 branched and linear	928711-01-1	0-99
Diesel Fuel No. 2	68476-34-6	1

Section 4: First Aid Measures

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.

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.

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.

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.

NOTE TO PHYSICIANS: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

Section 5: Fire Fighting Measures

Small Fire: Dry chemical, CO₂, water spray or foam.

Large Fires:

- Water spray, fog or foam.
- Use water spray or fog, do not use straight streams.
- Move containers from fire area if you can do it without risk.

Fire Involving Tanks or Tank Car / Truck Trailer Loads:

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzle.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of hissing sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fires, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Fire Fighting Equipment/Instructions: Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For large fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

Special protective equipment for fire-fighters: Use NIOSH/MSHA approved positive pressure self-contained breathing apparatus and fully protective clothing such as bunker gear if needed to prevent exposure. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines.

Further information: Vapors may form explosive mixture with air. Flammable vapor production at ambient temperature in the open is expected to be minimal unless the oil is heated above its flash point. When heated above flash point and mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Section 6: Accidental Release Measures

Recovery and Neutralization: Carefully contain and stop the source of the spill, if safe to do so. Eliminate any source of ignition near the spill and the associated vapors. Stop all work in vicinity and remove personnel immediately. Monitor release area with a combustible gas detection device.

Materials and Methods for Clean-Up: Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Do not flush to sewer. Prevent the contamination of soil, surface waters, and groundwater. Wear appropriate personal protective equipment. Assure all equipment used in the clean-up effort is grounded. Use non-sparking tools only. Fire suppression foam may be used to reduce vapors. Remove and properly dispose of contaminated soils using approved containers in compliance with local regulations. Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Environmental Precautions: Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. Report spills to local authorities. If appropriate or required, report spills to the US Coast Guard National Response Center (800) 424-8802. EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 101(14) - Petroleum Exclusion - excludes crude oil and fractions of crude oil - including the hazardous substances, such as benzene, that are indigenous in those petroleum substances.

Section 7: Handling and Storage

Handling Procedures: Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when this product is loaded into tanks previously containing low flash point products (such as gasoline) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures: Keep containers closed and clearly labeled. Use approved vented storage containers. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities: Keep away from strong oxidizers.

Unusual Hazards: This product should not be used in portable heating devices. Toxic fumes may accumulate and cause death.

Static Electricity Hazard: Static electricity charges may accumulate and present a hazardous condition while handling this material. Ground and bond containers when transferring materials. Perform a Job Safety Analysis and train all persons involved in operations that have the potential to generate static charges or flammable vapors. Implement proper mitigation techniques. Improper filling of portable containers presents the risk of fire. Only fill containers on the ground. Do not fill containers that are inside a vehicle or truck/trailer bed. For additional information refer to: OSHA Standard 29 CFR 1910.106 – "Flammable and Combustible Liquids" Cal OSHA CCR Title 8 – General Industry Safety Orders, Group 20 – "Flammable Liquids, Gases, and Vapors" NFPA 77 – "Recommended Practices on Static Electricity" American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents"

Section 8: Exposure Control and Personal Protection

Component Exposure Limits:

Fuels, Diesel, C9-18-Alkane Branched and Linear (1159170-26-9)

There are no OSHA PELs, ACGIH TLVs, or NIOSH RELs for this component.

Alkanes, C10-C20 branched and linear (928711-01-1)

There are no OSHA PELs, ACGIH TLVs, or NIOSH RELs for this component.

Diesel Fuel No. 2 (68476-34-6)

ACGIH: 10 ppm TWA 15 ppm STEL Skin - potential significant contribution to overall exposure by the cutaneous route

Engineering Measures: Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment

Respiratory: A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Hands: Gloves constructed of nitrile, neoprene, or PVC are recommended.

Eyes: Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Skin and Body: Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

Section 9: Physical and Chemical Properties

Appearance:	Colorless Liquid.
Odor:	Mild Paraffin
Physical State:	Liquid
pH:	Not Applicable
Vapor Pressure:	1.3 psia @100°F
Vapor Density:	>1
Boiling Point/Range:	No Available Data
Melting Point:	NA
Solubility (H₂O):	No Available Data
Specific Gravity:	0.77-0.79
Flash Point:	132-137°F
Flammability Limit:	No Available Data
Auto Ignition:	494°F (257°C)

Section 10: Stability and Reactivity

Chemical Stability: This is a stable material. This product is considered stable during handling and storage under normal ambient conditions of pressure and temperature.

Hazardous Reaction Potential: Will not occur.

Conditions to Avoid: Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products: Keep away from strong acids and oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Burning produces carbon dioxide and carbon monoxide. May release acrid smoke and irritating fumes.

Hazardous Polymerization: Hazardous polymerization will not occur.

Section 11: Toxicological Information**Component Acute Toxicity:**

Fuels, Diesel, C9-18-Alkane Branched and Linear (1159170-26-9)

Inhalation LC50 Rat >1 to <5 mg/L 4 h.

Alkanes, C10-C20 branched and linear (928711-01-1)

Inhalation LC50 Rat >1 to <5 mg/L 4 h.

Diesel Fuel No. 2 (68476-34-6)

Oral LD50 Rat 5 g/kg (Rat);

Dermal LD50 2 g / kg (Rabbit);

Inhalation LC50 Rat >1 to <5 mg/L 4 h.

Potential Health Effects:

Skin Corrosion: Irritating to skin. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Contact with eyes may cause mild irritation.

Ingestion may be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Inhalation may be harmful. Inhalation of high vapor concentrations may cause irritation of the respiratory system.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization: This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity: This product is not reported to have any mutagenic effects.

Component Carcinogenicity Diesel Fuel No. 2 (68476-30-2) ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel).

Reproductive Toxicity: This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure: This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure: Thymus. Liver. Bone marrow.

Aspiration Respiratory Organs Hazard

May be fatal if swallowed or vomited and enters airways.

Section 12: Ecological Information**Ecotoxicity**

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

Component Analysis: Diesel Fuel No. 2 (68476-34-6) Test & Species Conditions 96 Hr. LC50 Fathead Minnow 35 mg/L [flow-through]

Bioaccumulation: Has the potential to bioaccumulate.

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

Section 13: Disposal Considerations

Waste Disposal Instructions: See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. Recycle unused material. This product may meet the definition of a hazardous waste under RCRA (40 CFR 261) or definitions of a hazardous waste by State or local regulation. Analysis of the waste generated must be tested to correctly categorize the material for disposal. If this product meets the definition of a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Disposal of Contaminated Containers or Packaging: Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14: Transportation Information

	DOMESTIC	INTERNATIONAL
DOT SHIPPING NAME:	Fuel Oil, No. 2	Fuel Oil, No. 2
DOT HAZARD CLASS:	3 – Flammable Liquid	3 – Flammable Liquid
DOT IDENTIFICATION NUMBER:	NA 1993	UN 1202
DOT PACKING GROUP:	III	III

Section 15: Regulatory Information

OSHA – This material is classified as hazardous under OSHA regulations.

SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4): This material contains none of the chemicals required to be identified under SARA 313.

SARA 311/312 - Hazard Classes

- | | |
|--------------------------------------|-----|
| 1. Immediate (acute) health effects: | Yes |
| 2. Delayed (chronic) health effects: | Yes |
| 3. Fire Hazard: | Yes |
| 4. Sudden Release of Pressure: | No |
| 5. Reactivity Hazard: | No |

State Regulations: None of the components appear on one or more of the following state hazardous substances lists.

CALIFORNIA PROPOSITION 65 WARNING: Not Listed.

Canada DSL/NDSL Inventory: This product contains the following component(s) that are listed on the Non-Domestic Substance List (NDSL): 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."

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%

No. 2 Diesel Fuel, B3, D2A, D2B, 0.1%

Section 16: Other Information

Disclaimer: The information and recommendations contained herein are based upon tests believed to be reliable. However, Kern Energy (Kern) 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 may be required. Kern assumes no responsibility for results obtained or for incidental or consequential, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.