

Section 1 – Chemical Product and Company Identification

Product identifier:	Renewable Hydrocarbon Diesel
Other means of identification	
Synonyms:	REG - 9000™ / RHD, Renewable Diesel, Renewable Synthetic Diesel Fuel, Renewable Diesel Fuel, Bio-Derived Diesel, Biomass-Based Diesel, Diesel Fuel No. 2, R98.9 Diesel Fuel, odorless mineral spirits, paraffinic middle distillate, RD975, REG RDB5, hydrotreated esters and fatty acids, HEFA, HVO, HDRD, HRD, R99.9, RD, paraffinic middle distillate, RHD
Recommended use:	Fuel for use in compression ignition engines, in other combustion applications, a solvent, or an industrial blendstock
Restrictions on use:	Not intended for direct human consumption
Supplier information:	REG Marketing & Logistics Group, LLC 416 S. Bell Ave Ames, IA 50010 (888) 734-8686
Emergency phone number:	For Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident call CHEMTREC Day or Night: +1 703-741-5970 / 1-800-424-9300

Section 2 – Hazard(s) Identification

Classification (in accordance with 29 CFR 1910.1200)

Hazard Class	Hazard Category	Route of Exposure
Aspiration Hazard	Category 1	Ingestion then aspiration
Skin Irritation	Category 2	Absorption / Dermal Contact
Eye Irritation	Category 2A	Absorption / Eye Contact
Flammable Liquid	Category 4	Ignition Source

Signal word: **DANGER**

Pictograms:



Hazard Statements:

- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H227 Combustible liquid
- EUH066 Repeated contact may cause skin dryness or cracking

Hazards not otherwise specified: Static Accumulator (50 picosiemens or less). This product can accumulate static charge by flow or agitation, and a static discharge could cause this product to ignite.

Precautionary statements

Prevention: Wear appropriate protective gloves, protective garments, and eye protection. Avoid breathing mists and sprays. Wash all affected skin thoroughly after handling.

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Keep container tightly closed. Keep away from heat, sparks, open flames, hot surfaces, and other potential ignition sources. Ground / bond container and receiving equipment and take precautionary measures against static discharge – including the use of non-sparking tools and explosion-proof equipment.

- Response:** Do NOT induce vomiting. If swallowed: Immediately call a poison control center or physician.
- Take off contaminated clothing immediately and wash it before reuse. If on skin, wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical attention.
- In case of fire, use dry chemical or foam extinguisher – NOT water stream
- Storage:** Store in a tightly closed container in a cool well-ventilated area.
- Disposal:** Dispose of contents/container in accordance with local, state, and federal regulations.

Section 3 – Composition / Information on Ingredients

Basic components: This product is a complex combination of hydrocarbons obtained by the hydrodeoxygenation and catalytic hydroisomerization of animal fats and vegetable oils followed by distillative fractionation. It consists mostly of branched and linear paraffins having carbon numbers ranging from C₉ to C₁₈.

Chemical Name	Common Name & Synonyms	CAS number	% of product
Fuels, diesel, C9-18-alkane branched & linear	Renewable Hydrocarbon Diesel, RHD, Renewable Diesel	1159170-26-9	93 – 100%
Unsaturated methyl esters	Methyl esters, biodiesel	67762-26-9	< 5.5%
Ultra low sulfur diesel	ULSD	68476-30-2	< 2%

Section 4 – First Aid Measures

First aid measures for exposure

- Inhalation:** If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek medical attention.
- Eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical attention.
- Skin:** Take off contaminated clothing immediately and wash it before reuse. If on skin, wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice.
- Ingestion:** Aspiration Hazard: Do NOT induce vomiting. If swallowed: Immediately call a poison control center or physician.

Most important symptoms / effects

- Acute:** Aspiration into the lungs can cause fatal chemical pneumonitis. If ingestion has occurred, assume there is a risk of aspiration into the lungs – especially if nausea or irritation occurs.
- Delayed / Chronic:** Repeated exposure may cause dryness and cracking of the skin.



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Indication of immediate medical attention and special treatment needed, if necessary:

Aspiration into the lungs can cause fatal chemical pneumonitis. Treat symptomatically and supportively.

Section 5 – Fire Fighting Measures

Suitable extinguishing media:	Firefighting foam, dry chemical, carbon dioxide, or other clean extinguishing agents (such as Halon or Halotron). Water mist may be effective for extinguishing soaked oily materials if applied by experienced fire-fighting personnel.
Unsuitable extinguishing media:	Do not use a solid water stream, as it may scatter and spread the fire
Specific hazards arising from the chemical:	Static accumulator (50 picosiemens or less), unless performance additive has been added to mitigate static accumulation. This product can accumulate static charge by flow or agitation, and a static discharge could cause this product to ignite. This product can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Heated liquid can release vapors that may readily form flammable mixtures at or above its flash point. If container is not properly cooled, it can rupture in the heat of a fire.
Hazardous combustion products include:	Carbon monoxide, carbon dioxide, nitrogen oxides, and hydrocarbons
Protective equipment and precautions for firefighters:	Incipient stage fires may be controlled with a portable fire extinguisher. For fires beyond the incipient stage, evacuate all unnecessary personnel. Emergency responders in the immediate area should wear standard firefighting protective equipment, including self-contained breathing apparatus (SCBA) and full bunker gear. In case of external fires in proximity to storage containers, use water spray to keep containers cool, if it can be done safely. Prevent runoff from entering streams, sewers, storm drains, or drinking water supply.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:	Keep all sources of ignition away from spill / release. The use of explosion-proof equipment is recommended. Wear protective garments, impervious oil resistant boots, protective nitrile gloves, and safety glasses. If product has been heated, wear appropriate thermal and chemical protective equipment. If splash is a risk, wear splash resistant goggles and face shield. Shut off source of spill, if safe to do so. Contain spill to the smallest area possible. Isolate immediate hazard area and remove all nonessential personnel. Prevent spilled product from entering streams, sewers, storm drains, unauthorized treatment drainage systems, and natural waterways. Place dikes far ahead of the spill for later recovery and disposal. Immediate cleanup of any spill is recommended. If material spills into or upon any navigable waters and causes a film or sheen on the surface of the water, immediately notify the National Response Center at 1-800-424-8802.
Methods for containment and clean-up	
Small spill / incidental release:	Small spills can be cleaned up with absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.
Large spill / release:	A spill remediation contractor with oil booms and skimmers may be needed for larger spills or spills that come into contact with a waterway or sensitive wetland. Recover as much product as possible by pumping it into totes or similar intermediate containers. Remove any remaining product with



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absorbent inert media (oil dri, sand, or earth), or absorbent pads. Use soapy water or degreaser to remove oily residue from the affected area, then rinse area with water. Place saturated materials in an appropriate oily waste container (metal can with a metal lid or an enclosed oily waste dumpster), and dispose of according to local, state, and federal regulations.

Other information:

Materials saturated with this product, such as oily rags, used oil dri, soaked insulation pads, etc., may spontaneously combust due to product decomposition in the presence of oxygen. Place all such materials into appropriate oily waste containers (such as metal cans with metal lids or oily waste dumpsters with lids), and dispose of according to local, state, and federal regulations.

Section 7 – Handling and Storage

Precautions for safe handling:

Open container slowly to relieve any pressure. When transferring product, use pipes, hoses, and tanks that are electrically bonded and grounded to prevent the accumulation of static electricity. This product can accumulate static charge by flow or agitation, and a static discharge could cause ignition. Use explosion-proof electrical equipment (ventilation, lights, material handling, etc...). Wash thoroughly after handling and before eating, drinking or using toilet facilities. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

“Empty” containers can retain residue that may be ignitable. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks or other sources of ignition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Conditions for safe storage, including incompatibilities:

Use and store this material in cool, dry, well ventilated areas away from all sources of ignition. Storage tanks should have an appropriate ventilation and pressure relief system. Store only in approved containers, and keep them tightly closed. Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases. Open containers should be carefully resealed and kept upright to avoid leakage. Protect the container against physical damage.

Section 8 – Exposure Controls / Personal Protection

Precautions for safe handling

Component exposure limits:

Name	CAS #	ACGIH Exposure Limit	OSHA PEL	Form	Weight %
Fuels, diesel, C ₉₋₁₈	1159170-26-9	None	None	Liquid, Vapor or Aerosol	98-100%
ULS Diesel	68476-30-2	100 mg/m ³ TWA	None	Vapor & Aerosol	<2%
Unsaturated methyl esters	67762-26-9	None	None	Liquid	<5.5%

Appropriate engineering controls:

Keep product enclosed in primary containment (hoses, pipes, tanks, etc.) to avoid contact with skin. Handle in accordance with good industrial hygiene and safety practices.

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures

include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers should be available for emergency use. Firewater monitors and deluge systems are recommended. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Do not ingest. If swallowed then seek immediate medical assistance.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eyes / face:

Chemical splash goggles are recommended. However, if a local risk assessment determines that chemical splash goggles may not be required, safety glasses should be selected to provide adequate eye protection. If splash potential exists, add the use of a face shield.

Skin:

Wear disposable nitrile gloves for incidental contact. For more substantial contact, wear thicker nitrile or other similar oil-resistant gloves. Wear protective garments, such as a chemical apron, chemical resistant coveralls, or chemical resistant coat and pants, along with impervious oil-resistant boots. Remove soaked protective equipment, decontaminate with soapy water, and rinse thoroughly before reuse. Note: product will cause natural rubbers to degrade at a very rapid rate. Such protective equipment will need to be carefully inspected after decontamination to see if it is still in serviceable condition. Any defective or worn out equipment should be immediately discarded.

Respiratory:

No exposure limits are available for this product as a mixture, but appropriate organic vapor or supplied air respiratory protection may be worn if irritation or discomfort is experienced. Where required, respiratory protection must be provided and used in accordance with all local, state, and federal regulations.

Section 9 – Physical and Chemical Properties

Physical State:	Liquid	Color:	Clear to yellow/green tint (<i>May also be colored red – if sold for off road use</i>)
Odor:	Odorless to mild paraffin	Odor Threshold:	No information available
pH:	No information available	Melting/Freezing Point:	No information available
Boiling Point/Range:	150-315° C (300-600° F)	Flash Point:	>60° C (>140° F)
Evaporation Rate:	No information available	Flammability (solid/liq):	No information available
LFL:	0.6%	UFL:	4.7%
Vapor Pressure:	<0.3 mmHg @ 20° C	Vapor Density:	>1
Density:	0.77 g/ml @ 15° C	VOC:	No information available
Solubility (H2O):	Insoluble	Solubility (<i>other</i>):	No information available
Auto Ignition Temp.:	No information available	Decomposition Temp.:	No information available
Viscosity (at 40° C):	1.9 – 4.1 cP	Partition coefficient (n-octanol/water) :	No information available

Section 10 – Chemical Stability and Reactivity Information

Reactivity:	When handled and stored appropriately, no dangerous reactions are known
Chemical stability:	Stable in closed containers at room temperature under normal storage and handling conditions. Hazardous polymerization will not occur.
Possibility of hazardous reactions:	When handled and stored appropriately, no dangerous reactions are known. If product is heated beyond its flash point, vapors can cause a flash fire. See Sections 5 and 6 regarding spontaneous combustion of product-saturated absorbent materials.
Conditions to avoid:	Ignition sources, accumulation of static electricity, heating product to its flash point, or allowing the product to cool below its melting point (otherwise it may solidify and not be transferable until it is reheated).
Incompatible materials:	Keep away from strong oxidizing agents, strong reducing agents, strong acids, and strong bases.
Hazardous decomposition products:	Carbon monoxides, carbon dioxide, nitrogen oxides, hydrocarbons, water vapor

Section 11 – Toxicological Information

Likely routes of exposure:	Absorption, ingestion, and inhalation
Symptoms	
Inhalation:	Coughing or irritation (vapor, mist, or aerosols)
Eye contact:	Redness or irritation and tearing
Skin contact:	Redness, or irritation
Ingestion:	Nausea, vomiting, or feeling unwell
Acute toxicity	
Oral:	No information available
Dermal:	No information available
Inhalation:	No information available
Skin corrosion / irritation:	No testing was available. However, prolonged or repeated skin contact may irritate the skin and produce dermatitis.
Serious eye damage / eye irritation:	No testing was available. However, oil mist may irritate the eyes.
Sensitization (<i>Respiratory or Skin</i>):	No information available
Germ cell mutagenicity:	No information available
Carcinogenicity:	No information available



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Component carcinogenicity:	No information was available for the listed components of this product. However, IARC, NTP, and NIOSH list diesel exhaust particulates as a possible carcinogen.
Reproductive / developmental toxicity:	No information available
Specific target organ toxicity	No information available
Single exposure:	No information available
Repeated exposure:	No information available
Aspiration hazard:	Due to kinematic viscosity below 5.0 cSt, OSHA regulations state this product may be fatal if it is swallowed and then enters the airways.

Section 12 – Ecological Information

Acute ecotoxicity - short-term exposure

Fish:	No information available
Invertebrates:	No information available
Algae:	No information available
Persistence and degradability:	Biodegradation at >44% (per ASTM D5864-05)
Bioaccumulative potential:	No information available
Mobility in soil:	No information available
Other adverse effects:	No information available

Section 13 – Disposal Considerations

Disposal (<i>waste / unwanted product</i>):	If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, may be subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult federal, state and local regulations to ensure they are followed.
Disposal (<i>containers with residue</i>):	Container contents should be completely used and containers should be emptied prior to discarding. Containers must be disposed in compliance with federal, state, and local regulations. To assure proper disposal of empty containers, consult federal, state and local regulations and disposal authorities.



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Section 14 – Transport Information

	International	Domestic
ID Number	UN1202	NA1993
Proper Shipping Name	Diesel fuel	Combustible liquid, n.o.s. (Renewable Diesel)
Transport Hazard Class	3	Comb liq
Packing Group	III	III
Marine Pollutant	No	No
Transport in Bulk Requirements	242 (see 49 CFR §173.242)	241 (see 49 CFR §173.241)
Special Note	This material may be reclassified as a combustible liquid (49 CFR 173.120(b))	

Section 15 – Regulatory Information

Inventory Listings

TSCA Listed Exempt
 DSL Listed Exempt

U.S. Federal Regulations

SARA 311/312 Hazard Categories:

Acute Health Hazard Yes No
 Chronic Health Hazard Yes No
 Fire Hazard Yes No
 Sudden Release of Pressure Hazard Yes No
 Reactive Hazard Yes No

Clean Water Act: This product contains chemical(s) regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

CERCLA: This material, as supplied, does contain some substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). Although there is a “petroleum exclusion” clause which exempts crude oil (along with fractions of crude oil and products – both finished and intermediate) from the CERCLA 103 reporting requirements, there may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65:

WARNING! This product may contain some chemicals known to the State of California to cause cancer or reproductive harm:

Fuels, diesel, No 2 (diesel engine exhaust is listed as a possible carcinogen)



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U.S. State Right-to-Know Regulations:

Pennsylvania	US Pennsylvania Worker and Community Right-to-know Law (34 PA. Code Chap. 301-323)
<i>Component</i>	<i>CAS Number</i>
Fuels, diesel, No 2	68476-34-8
New Jersey	US New Jersey Worker and Community Right-to-know Act (New Jersey Statute Annotated Section 34:5A-5)
<i>Component</i>	<i>CAS Number</i>
Fuels, diesel, No 2	68476-34-8

Section 16 – Other Information

Hazard Statements

- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H227 Combustible liquid
- EUH066 Repeated contact may cause skin dryness or cracking

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NFPA:

1	Health
2	Flammability
0	Reactivity

Revision Note: Updated Section 1.

WARNING: POTENTIALLY HAZARDOUS MATERIAL. IMPROPER USE OR MISHANDLING CAN RESULT IN SERIOUS INJURY OR DEATH. THIS PRODUCT CONTAINS SUBSTANCES WHICH, IF MODIFIED, MAY BE FLAMABLE AND MAY BURN OR EXPLODE IF HEATED OR EXPOSED TO FLAME OR OTHER IGNITION SOURCE OR WATER, OXIDIZING AGENTS, ACIDS OR OTHER CHEMICALS. AVOID INGESTION, INHALATION AND CONTACT WITH SKIN AND EYES.

Disclaimer:

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS