NEXDIESEL RENEWABLE DIESEL (RD99)

SWITCH TO THE HIGHEST QUALITY, 100% SUSTAINABLE DIESEL FUEL



>>NEXGENFUEL

NEXGEN Fuel is a fuel brand dedicated to distributing and marketing the highest quality next generation fuels to private and public fleets, consumers, and environmentally conscious organizations.

Formed in 2015 by Patrick O'Keefe, Nexgen Fuel's mission is to identify and bring next generation alternative fuels to the marketplace. NEXGEN's first fuel is NEXDIESEL (RD99), a petroleum-free, premium renewable diesel.

NEXDIESEL

NEXDIESEL by NEXGEN Fuel is produced from 100% renewable and sustainable raw materials. This low carbon fuel can help both public and private fleets greatly illiminate petroleum diesel usage with the added benefits of less greenhouse gas and carbon dioxide (CO2) emissions leading to improved air quality.

NEXDIESEL has the same chemical properties as petroleum diesel. It meets the diesel specification (ASTM D975). This allows fleets to seamlessly switch with no additional investment or engine modifications. In addition, NEXDIESEL burns cleaner, meaning less maintenance costs for fleets and reduced emissions. NEXDIESEL can be used at 100% concentrate, verses being limited to a 20% blend when using Biodiesel due to engine warranty limitations.

CONTACT US

- ☑ info@nexgenfuel.com
- **C** Toll Free: 1 (800) 244-4516
- (925) 228-2222
- 🗟 (925) 335-3759
- 1340 Arnold Drive, Suite 231 Martinez, CA 94553

WWW.NEXGENFUEL.COM

f facebook.com/nexgenfuel 🛛 🖻 twitter.com/NEXGEN_Fuel

>> NEXDIESEL RENEWABLE DIESEL

WHAT IS NEXDIESEL RENEWABLE DIESEL?

- NEXDIESEL is a hydrocarbon that is chemically indistinguishable to traditional petroleum diesel, but based on its superior quality, it easily outperforms both conventional petroleum diesel and biodiesel.
- NEXDIESEL is 100% renewable and sustainable. It allows any diesel powered vehicle to operate petroleum-free with no operational issues.
- Thanks to a high cetane number (70-90), NEXDIESEL combusts more efficiently, leading to reduced emissions.
- NEXDIESEL can be used in all modern diesel engines without any modification as such and can be blended with petroleum I diesel in various concentrations.
- NEXDIESEL meets the petroleum diesel standard ASTM D975.

- The carbon intensity/life cycle analysis for NEXDIESEL is approximately 60-90% **less** than petroleum diesel.
- NEXDIESEL's use has been proven to reduce greenhouse gas emissions by 10-90% when compared to petroleum diesel.
- Fully compatible with existing distribution and logistical systems and requires no additional investments in this area.
- Excellent cold weather performance means that NEXDIESEL can be used year-round even in very cold climates.
- NEXDIESEL's storage qualities are excellent.

RENEWABLE DIESEL

0-100% Content Blending Ratio. Can be blended with petroleum diesel, biodiesel (FAME), or used directly in any diesel engine.

Meets strictest quality standards set by engine manufacturers and ASTM D975.

Significantly reduces greenhouse gas emissions (PM, NOx, CO, HC).

Excellent storability.

No required engine modifications or fuel logistical system changes.

TRADITIONAL BIODIESEL (FAME)

Maximum 5-20% blend with traditional biodiesel. Using larger percentages may result in engine problems

Does not meet ASTM D975 standard.

Increases NOx emissions when compared to petroleum diesel.

Issues with long-term storage.

VS

Blending restrictions aimed at preventing engine problems limits the benefits.

>>NEXGENFUEL.COM

info@nexgenfuel.com • 1 (800) 244-4516 1340 Arnold Dr, Suite 231 Martinez, CA 94553

>> NEXDIESEL Q&A

COMMON QUESTIONS AND ANSWERS ABOUT NEXDIESEL

WHAT IS NEXDIESEL?

NEXDIESEL (RD99) is a premium quality renewable diesel.

WHAT COLOR IS NEXDIESEL?

NEXDIESEL is clear.

IS RENEWABLE DIESEL A POPULAR FUEL?

To date, over 3 Billion gallons of Renewable Diesel have been sold worldwide, primarily in a blend with petroleum diesel.

CAN I SWITCH BACK AND FORTH BETWEEN NEXDIESEL RENEWABLE DIESEL AND PETROLEUM DIESEL?

NEXDIESEL and petroleum diesel are chemically identical allowing users to switch between the two without any engine issues. No engine modifications are required for using NEXDIESEL Renewable Diesel.

DOES NEXDIESEL RENEWABLE DIESEL HAVE BETTER EMISSIONS CHARACTERISTICS?

NEXDIESEL has significantly reduced tailpipe emissions 10 – 90% and the lifecycle carbon dioxide reduction is 60 – 90% less than petroleum depending on feedstock used.

WHAT CHARACTERISTICS ARE BETTER FOR NEXDIESEL VERSES PETROLEUM DIESEL?

NEXDIESEL has a very high cetane rating which means that it combusts more completely in the engine. This leads to reduced tailpipe emissions, more power and better fuel mileage. NEXDIESEL Renewable Diesel has excellent cold weather properties which allow it to be used in severe cold climates without gelling.

ARE THERE ANY NEGATIVE CHARACTERISTICS FOR NEXDIESEL WHEN COMPARED TO PETROLEUM DIESEL?

None. NEXDIESEL is one of the highest quality diesel fuels in the world with superior properties compared to fossil diesel and biodiesel.

IS NEXDIESEL RENEWABLE DIESEL THE SAME THING AS BIODIESEL?

NEXDIESEL Renewable Diesel and Biodiesel are not the same but are made from the same feedstocks. However, the more advanced manufacturing process used to create NEXDIESEL results in one of the highest quality diesels in the world.

NEXDIESEL is chemically identical to petroleum diesel yet is biomass derived.

WHAT IS NEXDIESEL RENEWABLE DIESEL MADE FROM?

NEXDIESEL can be made from any triglyceride which includes animal fats, waste cooking oils, and vegetable oils.

WHAT IS THE MANUFACTURING PROCESS OF RENEWABLE DIESEL AS COMPARED TO BIODIESEL?

Renewable Diesel is a hydrocarbon like petroleum diesel. Biodiesel is not. Through an advanced manufacturing process, Renewable Diesel is made by adding hydrogen to vegtable oil/animal fat feedstocks, resulting in a premium hydrocarbon fuel.

When manufacturing Biodiesel, the process includes thinning the viscosity of the feedstock by replacing glycerol with methanol, a lighter alcohol. Biodiesel is not chemically identical to petroleum diesel whereas Renewable Diesel is.

>>NEXGENFUEL.COM

info@nexgenfuel.com • 1 (800) 244-4516 1340 Arnold Dr, Suite 231 Martinez, CA 94553

>> NEXDIESEL DISTRIBUTORS



GOLDEN GATE PETROLEUM ggpetroleum.com

Founded in 1946, Golden Gate Petroleum is one of the largest petroleum and biofuel distributors in the Western United States. Golden Gate first started distributing alternative fuels in 1996 and became the first US distributor for NEXDIESEL renewable diesel in 2013.

Our service area covers all of California and Nevada. Golden Gate Petroleum sells a number of other products including bulk lubricants, petroleum diesel, race gas, propane, fuel oil, gasoline, and biodiesel to both commercial users and retail customers. Some of the types of trade we currently service are government, state, and county transportation fleets, car dealerships, farmers, construction fleets, manufacturing companies, and many more. Golden Gate Petroleum currently provides thousands of businesses throughout the Western United States with high levels of service and quality products.

PHONE: 1 (800) 244-4516 FAX: (925) 335-3786 EMAIL: info@ggpetroleum.com ADDRESS: 1340 Arnold Drive, Suite 231 Martinez, CA 94553



WESTGATE PETROLEUM

westgatepetroleum.com

Locally owned and operated in Lake County, Westgate Petroleum was established in 2004 and is a premier distributor of quality fuels and lubricants. Westgate sells a number of products including bulk lubricants, diesel, race gas, propane, fuel oil, gasoline, biodiesel, and NEXDIESEL on a commercial/retail scale. Some of the types of trade we currently service are government, state, and county transportation fleets, car dealerships, farmers, construction fleets and more.

PHONE: (707) 263-6512 FAX: (707) 263-0225 EMAIL: info@westgatepetroleum.com ADDRESS: 3740 Highland Springs Road Lakeport, CA 95453



info@nexgenfuel.com • 1 (800) 244-4516 1340 Arnold Dr, Suite 231 Martinez, CA 94553



State of California



Edmund G. Brown Jr.

Air Resources Board Mary D. Nichols Chairman State Water Resources Control Board Felicia Marcus Chair

July 31, 2013

Certified Unified Program Agencies (CUPAs) Underground Storage Tank (UST) Operators Petroleum Fuel Marketers, Refiners, and Blenders Renewable Diesel Producers/Importers Other Interested Stakeholders

Renewable Diesel Should Be Treated the Same as Conventional Diesel

This is a joint statement by the Air Resources Board (CARB) and the State Water Resources Control Board intended to clarify questions that have been raised regarding the status of renewable diesel. As discussed below, renewable diesel should be treated the same as conventional CARB diesel for all purposes, including storage in underground storage tanks (USTs).

For purposes of this statement, conventional CARB diesel is petroleum-based diesel that meets specified aromatics, sulfur content, and lubricity standards, as well as ASTM International standard specification, ASTM D975-12a. Similarly, renewable diesel also meets ASTM D975-12a, but it is made from non-petroleum sources. Specifically, renewable diesel meets the definition of "hydrocarbon oil" and the physical and chemical properties specified in ASTM D975-12a. For comparison, Attachment 1 shows the ASTM D975-12a specifications and typical properties for conventional CARB diesel and samples of renewable diesels recently tested by various researchers. As shown, both the tested conventional CARB diesel and renewable diesel samples fall well within the ASTM D975-12a specifications.

Despite renewable diesel being comparable to conventional CARB diesel, there have been questions regarding the ability of marketers and others to store renewable diesel in USTs. Further, questions have been raised about the compatibility of renewable diesel with leak detection systems used in USTs currently storing conventional CARB diesel. We consider renewable diesel to be a "drop in" fuel that can be blended with conventional CARB diesel in any amount and used with existing infrastructure and diesel engines. Accordingly, renewable diesel that meets the requirements for conventional CARB diesel and ASTM D975-12a should be treated no differently than conventional CARB diesel that is legal for sale in California.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <u>http://www.arb.ca.gov</u>. Various Stakeholders

Page 2

Our staffs would be happy to discuss any questions you may have with regard to renewable diesel or this letter. Please contact Mr. Floyd Vergara, Chief, Alternative Fuels Branch, at (916) 327-5986 or <u>fvergara@arb.ca.gov</u> for air-related questions, and Ms. Shahla Farahnak, Assistant Deputy Director, Groundwater Quality Branch, at (916) 341-5737 or <u>sfarahnak@waterboards.ca.gov</u> for water-related questions.

Sincerely,

Sincerely,

Richard W. Corev

Executive Officer California Air Resources Board

Attachment

Tom Howard Executive Director State Water Resources Control Board

cc: Ms. Shahla Farahnak, Assistant Deputy Director, Groundwater Branch, State Water Resources Control Board

> Mr. Floyd Vergara, Chief Alternative Fuels Branch, Air Resources Board

Attachment 1 Table of Sample Renewable Diesel Properties

	Test Method	D975-12a ¹	Sample Fuel Properties							
			ARB Study ²		CRC Study ³					
Property			Conv. CARB Diesel	Renewable Diesel	RD1	RD2	RD3	RD4	RD5	RD6
Flash Point, °C	D93	38 min	148	146	68.25	59.5	72	76	46	89.25
Water and Sediment, % vol	D2709	0.05 max								
	D1796	0.5 max	< 0.02	< 0.02	0.0022	0.0034	0.0031	0.0007	0.0016	0.0034
Distillation Temperature, °C90 %, % vol recovered	D86	282 - 338	322	286	294	291	301	315	297	292
Kinematic Viscosity, mm ² /S at 40°C	D445	1.3 - 24.0	2.7	2.5	2.605	2.525	2.096	3.613	1.878	2.841
Ash, % mass, max	D482	0.10 max	< 0.001	< 0.001						
Sulfur, ppm (μg/g)	D5453	15 max	4.7	0.3	1	1	0.8	0.6	0.7	19.2
% mass	D2622	0.05 max								
% mass	D129	2.00 max								
Copper strip corrosion rating	D130	No. 3 max	1b	1a						
(3 h at a minimum control temperature of 50 °C)										
Cetane number	D613	30 min	55.8	72.3	74.5	72.1	54.8	74.7	47.6	74.7
One of the following properties must be met:						-				
(1) Cetane index	D976-80	40 min	56.8	76.9						
(2) Aromaticity, % vol	D1319	35 max								
Operability Requirements			•	•						
Cloud point, °C, max	D2500	Report	-6.6	-27.1	-3.6	-14.4	-20.3	-12.7	<-54	-4.2
or		·								
LTFT/CFPP, °C, max	D4539 / D6371	Report			-8	-16	-27	-15		-9
Ramsbottom carbon residue on 10% distillation residue, % mass	D524	0.35 max	0.03	0.02						
Lubricity, HFRR @ 60°C, micron, max	D6079 / D7688	520 max			576	591	370	538	603	
Conductivity, pS/m or Conductivity Units (C.U.), min	D2624 / D4308	25 min	55	135						
Total Aromatic Content	D5186-96	N/A	18.7	0.4	0.3	0.5	20.35	0.6	2.6	0.7
PAH	D5186-96	N/A N/A	1.5	0.4	0.08	0.5	3.5	<0.0	<0.31	<0.1
Nitrogen Content, ppmw	D4629-96	N/A	1.3	1.3	0.03	0.01	7.1	0.1	0.2	0.5
Derived Cetane #	IQT*	N/A		74.7	77.75	73.3	52.15	89.15	44.1	79.05
Gravity, API	D287-82	N/A	39.3	51.3	50.5	50.3	39.4	48.5	38.2	49.7
IBP	D207-02	N/A	337	326	325	311.8	357.4	332.9	316.3	394.1
10%, °F	D86	N/A	408	426	437.7	415.4	391.5	518.9	367.8	478.5
50%, °F	D86	N/A	519	521	533.4	527.6	477.2	572.3	434.2	535.9
EP, °F	D86	N/A N/A	659	568	585.2	573.4	602.8	646.7	619.1	578.6
Pour Point, °C	D-97	N/A N/A	-12	-47	-6	-21	-36	-18	-69	-9
¹ ASTM International D975-12a, Standard Specification	-	1	-12	-41	-0	-21	-30	-10	-09	-9

¹ASTM International D975-12a, Standard Specification for Diesel Fuel Oils ²Biodiesel Characterization and NOx Mitigation Study - Durbin et al., 2011

³CRC Report No. AVFL-19-2, 2013



FOR IMMEDIATE RELEASE

Contact: Lori O'Keefe Phone: (925) 228-2222 Email: lori@ggpetroleum.com Date: October 7, 2015

CITY OF OAKLAND AND GOLDEN GATE PETROLEUM ON FOREFRONT OF CARBON REDUCTION FOR MUNICIPAL FLEETS

NEXDIESEL AIDS CITY IN REDUCING EMISSIONS, CLEANER AIR

MARTINEZ, CA – The City of Oakland, CA made its announcement on Oct. 5, when the first of its vehicles filled up with NEXDIESEL renewable diesel during a gathering of the Public Works Department, its supplier Golden Gate Petroleum and fuel manufacturer, Neste. Golden Gate sells Neste's NEXBTL renewable diesel under its own brand NEXDIESEL renewable diesel.

The partnership between the City of Oakland and Golden Gate Petroleum to bring NEXDIESEL renewable diesel to their diesel-powered fleet will mutually help the city meet its commitment to become one of the top cities in the US committed to reducing its carbon footprint.

"The switch to renewable diesel supports our efforts to make Oakland a more sustainable, innovative, and vibrant City," said Mayor Libby Schaaf. "The significant reduction in emissions provided by renewable diesel will create a healthier and safer environment for all of us."

By switching to renewable diesel, Oakland paves the way to reducing emissions and meeting California's Greenhouse Gas reduction mandates. Oakland's Fleet of 250 diesel-powered vehicles and equipment are now running on renewable diesel, equating to over 230,000 gallons of usage per year. This is a significant reduction in the use of petroleum diesel.

"Golden Gate Petroleum is extremely pleased to supply NEXDIESEL renewable diesel to Oakland's Fleet. Oakland is the first major US city to convert their entire diesel fleet to this sustainable fuel. Oakland is a true leader in taking steps towards reducing emissions, and should be commended for their efforts in taking steps to improve air quality and combat climate change," said Pat O'Keefe, Vice President of Golden Gate Petroleum and CEO of NEXGEN Fuel.

For the past two years, Golden Gate Petroleum has been working closely with Neste, the world's largest producer of renewable diesel, to make this fuel available to both public and private fleets in California.

Renewable diesel has the same chemical properties as petroleum diesel and it also meets the petroleum diesel specification (ASTM D975), allowing fleets to seamlessly switch with no additional investment or engine modifications. In addition, renewable diesel burns cleaner, meaning less maintenance costs and reduced emissions.

Golden Gate Petroleum, a 69-year-old petroleum and biofuel distributor, was one of the first to market Neste's NEXBTL renewable diesel in the US, making the fuel available to commercial fleets throughout California in early 2013. Since bringing the fuel to market, Golden Gate Petroleum has converted many public and private fleets. Through their hard work and dedication in raising awareness of this sustainable fuel, Golden Petroleum is experiencing a dramatic increase in demand for renewable diesel. To date, Golden Gate has sold over 60 million gallons of this low-carbon alternative fuel making a tremendous impact on air quality throughout California.

In 2015, NEXGEN Fuel was formed by Vice President of GGP, Patrick O'Keefe. NEXGEN's mission is to identify and bring next-generation alternative fuels to the marketplace. NEXGEN's first fuel is Neste's NEXBTL renewable diesel, which it is selling under the name NEXDIESEL.

About Golden Gate Petroleum

Golden Gate Petroleum was founded in 1946 and is one of the largest petroleum and biofuel distributors in the Western United States. Golden Gate first started distributing alternative fuels in 1996 and became the first US distributor for NEXDIESEL renewable diesel in 2013. Learn more at www.ggpetroleum.com.

About NEXGEN Fuel

NEXGEN Fuel is a new fuel brand dedicated to distributing and marketing the highest quality, next generation fuels to private and public fleets, consumers, and environmentally conscious organizations. The first NEXGEN fuel to be offered is NEXDIESEL Renewable Diesel, a superior quality diesel fuel. Learn more at <u>www.nexgenfuel.com</u>.

About City of Oakland

The City of Oakland is recognized as one of the leading local governments in addressing climate change challenges. The City has adopted ambitious greenhouse gas reduction goals through its Energy and Climate Action Plan, which includes reducing emissions from governmental operations by 36 percent by 2020. Oakland has received more than 30 recognitions for its advances in sustainability over the past 10 years, and is a signatory to multiple climate accords at state, national, and international levels.

About Neste

Neste is a forerunner in oil refining and renewable solutions. We offer our customers cleaner traffic solutions and industrial products based on cutting-edge research. We are the leading producer of renewable diesel in the world, with an annual production volume of more than 2 million tons. We are also the world's largest producer of renewable fuels from waste and residues. Our sustainable practices have received recognition in the Dow Jones Sustainability World Index and the Global 100 list of the world's most sustainable companies. Learn more at www.neste.us or <u>www.neste.com</u>.



FOR IMMEDIATE RELEASE

Contact: Lori O'Keefe Phone: (925) 228-2222 Email: lori@ggpetroleum.com

Date: August 21, 2015

NEXGEN FUEL TAKES COMMERCIAL FLEETS BY STORM WITH RENEWABLE DIESEL

RETAIL BRAND TO BE OFFERED TO CONSUMERS IN LATE FALL

MARTINEZ, CA – Commercial fleets across Northern California are flocking to NEXGEN Renewable Diesel (RD99), a premium low-carbon fuel distributed through Golden Gate Petroleum. The fuel allows for high performance from diesel engines while greatly reducing greenhouse gases and improving air quality.

NEXGEN Renewable Diesel (RD99) is produced from 100% renewable and sustainable raw materials, containing zero petroleum. It is a clean and powerful fuel, reducing emissions while increasing engine performance. It also meets the petroleum diesel specification (ASTM D975) for use in all diesel engines.

Golden Gate Petroleum, a 69-year-old petroleum and biofuel distributor, was first to market RD99 renewable diesel in the United States making the fuel available to commercial fleets throughout the Bay Area starting in early 2013. Since distribution began, the company has seen a huge increase in demand as the fuel has become more widely known.

"Starting from zero customers to selling multiple millions of gallons a month is an accomplishment that I am extremely proud of," said Patrick O'Keefe, Golden Gate's Vice President & Sales Manager.

O'Keefe realized this quality fuel with the same chemical properties as petroleum diesel could quickly allow his fleet customers to switch to a 100% petroleum free fuel with no additional investment or fleet engine modifications. In addition, RD99 is cleaner burning meaning less maintenance costs for fleets and lower emissions to improve air quality.

"Because renewable diesel is a "drop-in" fuel that can be used in any diesel engine to achieve significant emission reductions, we are anxious to see more widespread adoption in the Sacramento Region" said Tim Taylor, Division Manager, Sacramento Metropolitan Air Quality Management District.

No market had existed for RD99 to be distributed to public or private fleets prior to Golden Gate's push to supply its clients with Renewable Diesel. RD99 can be used at 100% concentrate, verses being limited to a 20% blend when using Biodiesel. Providing customers with RD99 that doesn't need to be blended with petroleum is a game changer for fleets wanting get away from petroleum based fuels while lowering their carbon footprint by 60 - 70%.

"Due to modern emissions systems in our newer trucks, (ironically) it became difficult to use blends greater than B20, which was very frustrating. I was elated when Golden Gate first offered us access to NEXGEN Renewable Diesel in 2013, allowing us to resume using a fuel derived 100% from renewable resources. Since then we have been using Renewable Diesel, trouble-free and clean-burning," said Rick Kirkby, Principal, Acme Bread Company.

O'Keefe grew up in the petroleum business but recognized a need to offer alternative fuels to his customer base. He spearheaded Golden Gate's efforts to become one of the first and largest distributors of biodiesel in the United States in 1996. This success lead him to contact Neste, maker of NEXBTL renewable diesel, in early 2013. The partnership lead to a long-term contract to bring the fuel to the US.

Since that time, Golden Gate has sold over 60 million gallons and nearly all of their biodiesel users have been converted to RD99. This is the equivalent of taking over 100,000 vehicles off the road based on EPA calculations.

Golden Gate is currently distributing NEXGEN Renewable Diesel (RD99) to both public and private fleets though out California. Leveraging its 69 years of servicing fleets and experience gained by being the US's first and largest distributor of RD99, the company objective is to give customers the option to seamlessly transition to using a 100% petroleum-free fuel.

In Early Fall 2015, O'Keefe is planning on launching NEXGEN Fuel at retail stations throughout California and Northern Nevada, which will make the fuel available to smaller fleets and consumers directly. Larger fleets can still get fuel delivered directly to their location in bulk quantities. NEXGEN's first retail fuel headed to market, NEXdiesel, is powered by Neste's NEXBTL.

About Golden Gate Petroleum

Golden Gate Petroleum was founded in 1946 and is one of the largest petroleum and biofuel distributors in the Western United States. Golden Gate first started distributing alternative fuels in 1996 and became the first US distributor for NEXBTL renewable diesel (RD99) in 2013. For more information please go to http://www.ggpetroleum.com.

About NEXGEN

Nexgen Fuel is a new retail fuel brand dedicated to bringing next generation fuels to the retail public. Nexgen's first fuel will be NEXDiesel, powered by Neste's NEXBTL renewable diesel. It will be available at various Northern California retail locations in early Fall 2015. Nexgen Fuel plans to rapidly expand across the country with both renewable diesel and gasoline substitute next generation fuels. For more information please go to <u>www.nexgenfuel.com</u>.

###