



# SAFETY DATA SHEET

*Renewable Diesel Fuel*

## 1. Identification

**Product identifier** Green Diesel R100 Renewable Diesel

**Other means of identification**  
**SDS number** R100-V-GHS

**Synonyms** Green Diesel, Renewable Diesel, R99, R100  
 See section 16 for complete information.

**Recommended use** This product is intended for use as a refinery feedstock, fuel or for use in engineered processes. Use in other applications may result in higher exposures and require additional controls, such as local exhaust ventilation and personal protective equipment.

**Recommended restrictions** None known.

**Manufacturer / Importer / Supplier / Distributor information**  
**Manufacturer/Supplier** Valero Marketing & Supply Company and Affiliates  
 One Valero Way  
 San Antonio, TX 78269-6000  
 210-345-4593  
**General Assistance** CorpHSE@valero.com  
**E-Mail** Industrial Hygienist  
**Contact Person**  
**Emergency Telephone** 24 Hour Emergency 866-565-5220  
 1-800-424-9300 (CHEMTREC USA)

## 2. Hazard(s) identification

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Skin corrosion/irritation	Category 2
	Carcinogenicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2 (blood, thymus, liver)
	Aspiration hazard	Category 1
<b>OSHA defined hazards</b>	Not classified.	

### Label elements



**Signal word** Danger

**Hazard statement** Flammable liquid and vapor. Harmful if inhaled. Causes skin irritation. Suspected of causing cancer. May cause damage to organs (blood, thymus, liver) through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

### Precautionary statement

**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. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not breathe mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area.

**Response** If skin irritation occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. If swallowed: Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse. In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction. Do NOT induce vomiting.

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

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** Static accumulating flammable liquids

Environmental hazards Hazardous to the aquatic environment, long-term hazard Category 2

Supplemental information

Hazard symbol



Hazard statement Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Avoid release to the environment.

Response Collect spillage.

### 3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Fuels, diesel, C9-18-alkane branched and linear	1159170-26-9	100

### 4. First-aid measures

**Inhalation** If symptomatic, move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.

**Skin contact** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Eye contact** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Remove contact lenses, if present and easy to do. Get medical attention. In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.

**Ingestion** Call a physician or poison control center immediately. DO NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration.

**Most important symptoms/effects, acute and delayed** Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Liver enlargement. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Indication of immediate medical attention and special treatment needed** In case of shortness of breath, give oxygen. Symptoms may be delayed. Keep victim under observation. Treat symptomatically. The toxicological properties of this material have not been fully investigated.

**General information** If exposed or concerned: get medical attention/advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

### 5. Fire-fighting measures

**Suitable extinguishing media** Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical** Vapor may cause flash fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge. The product can accumulate electrostatic charges, which may cause an electrical spark (ignition source).

**Special protective equipment and precautions for firefighters** Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**Fire-fighting equipment/instructions** Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. In the event of fire, cool tanks with water spray. Cool containers exposed to flames with water until well after the fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Vapors may form explosive air mixtures even at room temperature. Prevent buildup of vapors or gases to explosive concentrations. Do not move cargo or vehicle if cargo has been exposed to heat. Water runoff can cause environmental damage. Use compatible foam to minimize vapor generation as needed.

**Specific methods** Prevent build-up of vapors or gasses to explosive concentrations.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Local authorities should be advised if significant spills cannot be contained. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

### Methods and materials for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Extinguish all flames in the vicinity. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Cover with plastic sheet to prevent spreading. Collect spillage. Following product recovery, flush area with water. Prevent product from entering drains. Do not allow material to contaminate ground water system. Clean surface thoroughly to remove residual contamination. Wipe up with absorbent material (e.g. cloth, fleece).

Never return spills in original containers for re-use.

### Environmental precautions

If facility or operation has an "oil or hazardous substance contingency plan", activate its procedures. Stay upwind and away from spill. Wear appropriate protective equipment including respiratory protection as conditions warrant. Do not enter or stay in area unless monitoring indicates that it is safe to do so. Isolate hazard area and restrict entry to emergency crew. Flammable. Review Firefighting Measures, Section 5, before proceeding with clean up. Keep all sources of ignition (flames, smoking, flares, etc.) and hot surfaces away from release. Contain spill in smallest possible area. Recover as much product as possible (e.g. by vacuuming). Stop leak if it can be done without risk. Use water spray to disperse vapors. Spilled material may be absorbed by an appropriate absorbent, and then handled in accordance with environmental regulations. Prevent spilled material from entering sewers, storm drains, other unauthorized treatment or drainage systems and natural waterways. Contact fire authorities and appropriate federal, state and local agencies. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, contact the National Response Center at 1-800-424-8802. For highway or railways spills, contact Chemtrec at 1-800-424-9300.

## 7. Handling and storage

### Precautions for safe handling

Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity.

Wear personal protective equipment. Do not breathe gas/fumes/vapor/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. Use only with adequate ventilation. Wash thoroughly after handling. The product is extremely flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. When using, do not eat, drink or smoke. Avoid release to the environment.

### Conditions for safe storage, including any incompatibilities

Flammable liquid storage. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. The pressure in sealed containers can increase under the influence of heat. Keep container tightly closed in a cool, well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

## 8. Exposure controls/personal protection

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment.

### Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses. If splash potential exists, wear full face shield or chemical goggles.

#### Skin protection

Hand protection Avoid exposure - obtain special instructions before use. Wear protective gloves. Protective gloves.

Other Wear chemical-resistant, impervious gloves. Full body suit and boots are recommended when handling large volumes or in emergency situations. Flame retardant protective clothing is recommended.



<b>Respiratory protection</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workplace exposure limits for product or components are exceeded, NIOSH approved equipment should be worn. Proper respirator selection should be determined by adequately trained personnel, based on the contaminants, the degree of potential exposure and published respiratory protection factors. This equipment should be available for nonroutine and emergency use.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Consult supervisor for special handling instructions. Avoid contact with eyes. Avoid contact with skin. Keep away from food and drink. Wash hands before breaks and immediately after handling the product. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Colorless liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Odorless to mild paraffin.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	354.2 - 588.2 °F (179 - 309 °C)
<b>Flash point</b>	132.8 - 136.4 °F (56.0 - 58.0 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	> 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	494.6 °F (257 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	1.9 - 4.1 cP (40°C)
<b>Other information</b>	
<b>Density</b>	0.77 g/ml (15°C)

## 10. Stability and reactivity

<b>Reactivity</b>	The product is non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Stable under normal temperature conditions and recommended use.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks. Ignition sources. Contact with incompatible materials. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
<b>Incompatible materials</b>	Strong oxidizing agents. Reducing agents. Acids. Alkalis.

**Hazardous decomposition products** No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

**Ingestion** May cause lung damage if swallowed.  
**Inhalation** Harmful if inhaled.  
**Skin contact** Causes skin irritation.  
**Eye contact** Direct contact with eyes may cause temporary irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritation of nose and throat. Irritation of eyes and mucous membranes. Skin irritation. Liver enlargement. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. May cause damage to organs through prolonged or repeated exposure.

### Information on toxicological effects

**Acute toxicity** Harmful if inhaled. Harmful: may cause lung damage if swallowed.  
**Skin corrosion/irritation** Causes skin irritation.  
**Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.  
**Respiratory sensitization** Not a respiratory sensitizer.  
**Skin sensitization** Not a skin sensitizer.  
**Germ cell mutagenicity** Based on available data, the classification criteria are not met.  
**Carcinogenicity** International Agency for Research on Cancer (IARC): Whole diesel engine exhaust – IARC Group 1. Exposure may cause lung cancer and also noted a positive association with an increased risk of bladder cancer.  
**Reproductive toxicity** Based on available data, the classification criteria are not met.  
**Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.  
**Specific target organ toxicity - repeated exposure** May cause damage to organs (blood, thymus, liver) through prolonged or repeated exposure.  
**Aspiration hazard** May be fatal if swallowed and enters airways.  
**Further information** Symptoms may be delayed.

## 12. Ecological information

**Ecotoxicity** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
**Persistence and degradability** Not available.  
**Bioaccumulative potential** Not available.  
**Mobility in soil** Not available.  
**Other adverse effects** Not available.

## 13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations. This material and its container must be disposed of as hazardous waste. Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.  
**Hazardous waste code** D001: Waste Flammable material with a flash point <140 °F  
**Waste from residues / unused products** Dispose of in accordance with local regulations.  
**Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

## 14. Transport information

### DOT

**UN number** UN1202  
**UN proper shipping name** Diesel fuel  
**Transport hazard class(es)** Combustible Liquid  
**Subsidiary class(es)** -  
**Packing group** III  
**Environmental hazards**  
**Marine pollutant** Yes  
**Special precautions for user** Not available.

Special provisions 144, B1, IB3, T2, TP1  
Packaging exceptions 150  
Packaging non bulk 203  
Packaging bulk 242

**IATA**

UN number UN1202  
UN proper shipping name Gas oil  
Transport hazard class(es) 3  
Subsidiary class(es) -  
Packaging group III  
Environmental hazards Yes  
Labels required Not available.  
ERG Code 3L  
Special precautions for user Not available.

**IMDG**

UN number UN1202  
UN proper shipping name DIESEL FUEL  
Transport hazard class(es) 3  
Subsidiary class(es) -  
Packaging group III  
Environmental hazards  
Marine pollutant Yes  
Labels required Not available.  
EmS F-E, S-E  
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

**15. Regulatory information**

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - Yes  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** Yes

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**US state regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**US. Massachusetts RTK - Substance List**

Not regulated.

**US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

Not regulated.

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

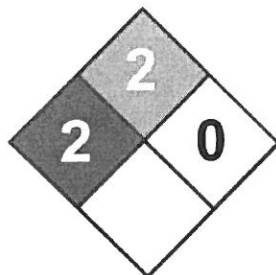
**16. Other information, including date of preparation or last revision**

**Issue date** 13-August-2013

**Revision date** -

**Version #** 01

**NFPA Ratings**



**References**

EPA: ACQUIRE database  
 US. IARC Monographs on Occupational Exposures to Chemical Agents  
 HSDB® - Hazardous Substances Data Bank  
 National Toxicology Program (NTP) Report on Carcinogens  
 ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

**Disclaimer**

This material Safety Data Sheet (SDS) was prepared in accordance with 29 CFR 1910.1200 by Valero Marketing & Supply Co., ("VALERO"). VALERO does not assume any liability arising out of product use by others. The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.

**Renewable Diesel S**

Release #: R1815405

Sample ID: 1170507813

Batch #/Vessel: FMT3206

Location: T180-10

TANK FINAL

Sample Date: 5/15/2017 12:01:00AM

Test	Component	Method of Test	Specification		Test Results	UOM
			Min	Max		
API GRAVITY	API GRAVITY	D1298	30.0		49.8	DEG API
ASH	ASH	D482		0.010	< 0.001	WT%
ASTM Color	COLOR	D1500		L2.5	L0.5	
BSW	BS&W			0.05	< 0.05	VOL%
CORROSION	CORR @ 122	D130		1b	1a	%
Elec. Conductivity	Electric. CondDiesl	D2624		250	0	pS/m
DISTILLATION	IBP	D-86		RPT	274	DEG F
DISTILLATION	5%	D-86		RPT	404	DEG F
DISTILLATION	10%	D-86		RPT	466	DEG F
DISTILLATION	20%	D-86		RPT	508	DEG F
DISTILLATION	30%	D-86		RPT	526	DEG F
DISTILLATION	40%	D-86		RPT	536	DEG F
DISTILLATION	50%	D-86		RPT	542	DEG F
DISTILLATION	60%	D-86		RPT	547	DEG F
DISTILLATION	70%	D-86		RPT	552	DEG F
DISTILLATION	80%	D-86		RPT	556	DEG F
DISTILLATION	90%	D-86	540	640	563	DEG F
DISTILLATION	95%	D-86		RPT	571	DEG F
DISTILLATION	EP	D-86		690	587	DEG F
DISTILLATION	% REC	D-86		RPT	97.6	VOL%
FLASH	FLASH PM	D93	130		136	DEG F
Ramsbottom-10%	Carbon Residue			0.35	0.02	WT%
HAZE	HAZE	D4176		2	1	
POUR POINT	POUR POINT	D5950		RPT	18	DEG F
VISCOSITY @40C	VIS @ 40C	D445	1.9	4.1	2.8	cSt
NACE	NACE	TM0172		B++	B+	
DuPont Pad Rating	Pad Rating	Dupont 21-61 Pad		7	1	#
Lubricity	Lub Major Axis			RPT	0.64	MM
Lubricity	Lub Minor Axis			RPT	0.57	MM
Lubricity	Wear Scar Diameter			RPT	608	µm
D4737Cetane Proc A	D4737 Cetane Index	D4737	40.00		91.78	INDEX
D976-CETANE INDEX	D976-CETANE INDE>	D976	40.0		78.2	INDEX
D976-CETANE INDEX	Aromatics via D976	D976	40.00		78.21	INDEX
SULFUR ANTEK	ANTEK SULFUR	D5453		11.0	0.3	PPM
Cloud-DGD	CLOUD	D7397		20	17	DEG F

Reviewed By:

Lab Manager



**Renewable Diesel S**

Release #: R1815405

Sample ID: 1170507813

Batch #/Vessel: FMT3206

Location: T180-10

TANK FINAL

Sample Date: 5/15/2017 12:01:00AM

Test	Component	Method of Test	Specification		Test Results	UOM
			Min	Max		

Reviewed By: \_\_\_\_\_

Lab Manager

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May-15-17

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