

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name of the substance	Green Diesel R100 Renewable Diesel
Identification number	-
Registration number	01-2120043692-58-0022
Synonyms	Green Diesel, Renewable Diesel, R99, R100
SDS number	R100-GHS
Issue date	07-December-2022
Version number	01
Revision date	-
Supersedes date	-

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Motor fuels. Blendstock for motor fuels. Heating fuels. Refinery feedstock.
Uses advised against	No other uses are advised.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	Valero Energy Ltd 27th Floor
Address	1 Canada Square London E14 5AA United Kingdom
Telephone	01/210 345 4593 (General information; US)
e-mail	CorpHSE@valero.com
Contact person	Industrial Hygienist
1.4. Emergency telephone number	0044/(0)18 65 407333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards		
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Renewable hydrocarbons (diesel type fraction)

Hazard pictograms



Signal word Danger

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

Prevention

P102 Keep out of reach of children.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P331 Do NOT induce vomiting.

Storage

P405

Store locked up.

Disposal

P501

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

Supplemental information on the label

EUH066 - Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients**3.1. Substances****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Renewable hydrocarbons (diesel type fraction)	100	- 700-571-2	01-2120043692-58-0022	-	
Classification: Asp. Tox. 1;H304					

List of abbreviations and symbols that may be used above

#: This substance has workplace exposure limit(s).

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2. Most important symptoms and effects, both acute and delayed

Aspiration may cause pulmonary oedema and pneumonitis. Direct contact with eyes may cause temporary irritation. Repeated exposure may cause skin dryness or cracking.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures**General fire hazards**

Combustible liquid.

5.1. Extinguishing media**Suitable extinguishing media**Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).**Unsuitable extinguishing media**

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

The product is combustible, and heating may generate vapours which may form explosive vapour/air mixtures. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters**Special protective equipment for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Wear appropriate personal protective equipment.

For emergency responders Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). 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. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
Renewable hydrocarbons (diesel type fraction) (CAS -)			
Long-term, Systemic, Dermal	18 mg/kg bw/day	40	
Long-term, Systemic, Inhalation	94 mg/m ³	10	
Long-term, Systemic, Oral	18 mg/kg bw/day	40	

Workers

Components	Value	Assessment factor	Notes
Renewable hydrocarbons (diesel type fraction) (CAS -)			
Long-term, Systemic, Dermal	42 mg/kg bw/day	24	
Long-term, Systemic, Inhalation	147 mg/m ³	6	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Renewable hydrocarbons (diesel type fraction) (CAS -)			
Freshwater	0.01 mg/l	100	
Marine water	0.01 mg/l	100	
Sediment (freshwater)	3.81 mg/kg		
Sediment (marine water)	3.73 mg/kg	100	
Soil	761 mg/kg		
STP	10 mg/l	100	

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection should meet standard EN 166.
Skin protection	
- Hand protection	Wear suitable gloves tested to EN374. Full contact: Glove material: Nitrile rubber. Use gloves with breakthrough time of >480 minutes. Minimum glove thickness 0.225 mm. Incidental contact: Glove material: Nitrile or Neoprene. Use gloves with breakthrough time of >30 minutes. Minimum glove thickness 0.225 mm.
- Other	Wear suitable protective clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P2) can be used.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Colour	Colourless.
Odour	Odourless to mild paraffin.
Odour threshold	Not available.
pH	7.3
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	>= 289 - <= 307 °C (>= 552.2 - <= 584.6 °F)
Flash point	68.5 °C (155.3 °F) Closed cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit – upper (%)	Property has not been measured.
Vapour pressure	>= 1.5 - <= 2.4
Vapour density	Property has not been measured.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	< 0.1 mg/l at 20°C
Partition coefficient (n-octanol/water)	8.4 at 20°C
Auto-ignition temperature	215 °C (419 °F)
Decomposition temperature	Property has not been measured.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	784.6 kg/m ³
Flammability	Property has not been measured.
Kinematic viscosity	3.375 mm ² /s at 40°C (104°F).

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms Aspiration may cause pulmonary oedema and pneumonitis. Direct contact with eyes may cause temporary irritation. Repeated exposure may cause skin dryness or cracking.

11.1. Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Renewable hydrocarbons (diesel type fraction) (CAS -)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Respiratory sensitisation Based on available data, the classification criteria are not met.

Skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

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 Based on available data, the classification criteria are not met.

Aspiration hazard May be fatal if swallowed and enters airways.

Mixture versus substance information The product is a substance.

Other information None known.

SECTION 12: Ecological information

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

12.2. Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential Potential to bioaccumulate is low.

Partition coefficient n-octanol/water (log Kow)

Green Diesel R100 Renewable Diesel 8.4, at 20°C

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Expected to have low mobility in soil.

12.5. Results of PBT and vPvB assessment This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

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

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Retained direct EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

This product is classified and labelled in accordance with the retained CLP Regulation (EC) No 1272/2008, as amended for Great Britain. This Safety Data Sheet is compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.

Follow the requirements of the Control of Substances Hazardous to Health Regulations 2002 [SI 2002/2677], as amended, when using this material.

15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.

IMDG: International Maritime Dangerous Goods.

IMO: International Maritime Organization.

PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TWA: Time Weighted Average.

vPvB: Very persistent and very bioaccumulative.

References

Chemical safety report.

CONCAWE

ECHA: European Chemical Agency.

Information on evaluation method leading to the classification of mixture

Not applicable.

Full text of any statements, which are not written out in full under sections 2 to 15

H304 May be fatal if swallowed and enters airways.

Training information

Follow training instructions when handling this material.

Disclaimer

This material Safety Data Sheet (SDS) was prepared in accordance with EC No 1272/2008 by Valero Energy Ltd. Valero Energy Ltd. 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.