

Safety Data Sheet

Section 1: Identification

Product identifier

- Product Name** • **Generic ULS Renewable Diesel (R99)**
- Synonyms** • NP MV (S-15PPM) (R99 HDRD)
- SDS Number/Grade** • D0096GN

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

- Recommended use** • Diesel blending component, Fuel for use in diesel powered engines
- Restrictions on use** • This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier

Details of the supplier of the safety data sheet

- Manufacturer** • Motiva Enterprises LLC
PO BOX 4540
Houston, TX 77210-4540
United States
www.Motiva.com

Emergency telephone number

- Manufacturer** • 1-800-424-9300 - CHEMTREC

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Flammable Liquids 3
Aspiration 1
Carcinogenicity 2
Specific Target Organ Toxicity Repeated Exposure 2

Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • Flammable liquid and vapour
May be fatal if swallowed and enters airways
Suspected of causing cancer.
May cause damage to organs - Blood, Thymus, Liver through prolonged or repeated exposure

Precautionary statements

- Prevention** • Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground and/or bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe mist, vapours and/or spray.
 Wear protective gloves/protective clothing/eye protection/face protection.

Response • In case of fire: Use to extinguish.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 Do NOT induce vomiting.
 Get medical advice/attention if you feel unwell.

Storage/Disposal • Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

HCS 2012 Other Information

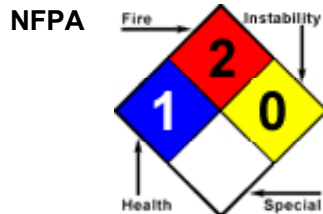
- May ignite on surfaces at temperatures above auto-ignition temperature
 Vapor in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapor concentrations are within the flammability range
 This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapor mixtures can occur.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Other information



Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition		
Chemical Name	Identifiers	%
Alkanes, C10-20 branched and linear	CAS:928771-01-1	99% TO 100%
Diesel fuels	CAS:68334-30-5	0% TO 1%

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If signs/symptoms continue, get medical attention.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove contaminated clothing and shoes. Wash skin with soap and water. If irritation develops and persists, get medical attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

- Do not use mouth-to-mouth method if victim ingested the substance. Do NOT induce vomiting. Obtain medical attention immediately if ingested. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media

- LARGE FIRES: Water spray, fog or alcohol-resistant foam.
SMALL FIRES: Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media

- Do not use water in a jet.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Containers may explode when heated. Many liquids are lighter than water. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.

Hazardous Combustion Products

- Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs.

Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk. LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out. If the fire cannot be extinguished the only course of action is to evacuate immediately.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Ventilate the area before entry. CAUTION: Victim may be a source of contamination. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE) Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharge. Keep unauthorized personnel away. Stay upwind. Keep out of low areas.

Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal.
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal.
Dike far ahead of spill for later disposal.
Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely Remove contaminated soil and dispose of safely.
A vapor suppressing foam may be used to reduce vapors.
All equipment used when handling the product must be grounded.
LARGE SPILLS: Water spray may reduce vapor; but may not prevent ignition in closed spaces.
Do not flush away residues with water. Retain as contaminated waste.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Use only in well ventilated areas. Keep away from heat, sparks, and flame. Do not use sparking tools. Take precautionary measures against static charges. This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapor mixtures can occur. All equipment used when handling the product must be grounded. May ignite on surfaces at temperatures above auto-ignition temperature. Do NOT use compressed air for filling, discharging, or handling operations. Vapor in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapor concentrations are within the flammability range. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Never siphon by mouth. This product is intended for use in closed systems only. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Do not ingest. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Air-dry contaminated clothing in a well-ventilated area before laundering. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Do not cut, drill, grind, weld or perform similar operations on or near containers. Containers, even those that have been emptied, can contain explosive vapours. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air vapour mixtures can occur. Be aware of

handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care.

Conditions for safe storage, including any incompatibilities

Storage

- Take suitable precautions when opening sealed containers, as pressure can build up during storage. Drums should be stacked to a maximum of 3 high. Packaged product must be kept tightly closed and stored in a diked (bunded) well-ventilated area, away from, ignition sources and other sources of heat. Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Keep in a cool place. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines		
	Result	ACGIH
Diesel fuels (68334-30-5)	TWAs	100 mg/m ³ TWA (inhalable fraction and vapor, as total hydrocarbons)

Exposure controls

Engineering Measures/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. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Select a filter suitable for the combination of organic gases and vapours [Type A/Type P boiling point $>65^{\circ}\text{C}$ (149°F)].

Eye/Face

- Wear safety goggles.

Skin/Body

- Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber. Incidental contact/Splash protection: Neoprene rubber. PVC For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Suitability and

durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Pale red-brown liquid with typical hydrocarbon odor.
Color	Pale red-brown.	Odor	Hydrocarbon
Odor Threshold	No data available		
General Properties			
Boiling Point	170 to 390 °C(338 to 734 °F)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	= 0.84 Water=1	Water Solubility	Negligible < 0.1 %
Viscosity	2 to 4.5 Centistoke (cSt, cS) or mm ² /sec @ 40 °C(104 °F)		
Volatility			
Vapor Pressure	< 0.4 kPa @ 38 °C(100.4 °F)	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	55 to 75 °C(131 to 167 °F)	UEL	No data available
LEL	No data available	Autoignition	210 °C(410 °F)
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Other Information

- Low conductivity: < 100 pS/m. The conductivity of this material makes it a static accumulator. A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, and antistatic additives can greatly influence the conductivity of a liquid.

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Avoid heat, sparks, open flames and other ignition sources. In certain circumstances product can ignite due to static electricity.

Incompatible materials

- Strong oxidising agents.

Hazardous decomposition products

- Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulfur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Section 11 - Toxicological Information

Information on toxicological effects

Other Material Information

- Basis for assessment: Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Components		
Diesel fuels (0% TO 1%)	68334-30-5	<p>Acute Toxicity: Ingestion/Oral-Rat LD50 • 7500 mg/kg; Ingestion/Oral-Rat LD50 • >5000 mg/kg; Skin-Rabbit LD50 • >2000 mg/kg;</p> <p>Irritation: Skin-Rabbit • 500 µL 24 Hour(s) • Severe irritation;</p> <p>Multi-dose Toxicity: Inhalation-Rat TClO • 2 g/m³ 6 Hour(s) 3 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i> Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration: Other changes; Blood: Changes in erythrocyte (RBC) count; Skin-Rat TDLo • 14 g/kg 14 Day(s)-Intermittent; <i>Blood:</i> Normocytic anemia; <i>Blood:</i> Leukopenia; <i>Nutritional and Gross Metabolic:</i> Gross Metabolite Changes: Weight loss or decreased weight gain</p>

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Aspiration 1
Carcinogenicity	OSHA HCS 2012 • Carcinogenicity 2
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 2

Potential Health Effects

Inhalation

Acute (Immediate)

- Expected to be of low toxicity if inhaled.

Chronic (Delayed)

- No data available

Skin

- Acute (Immediate)** • Expected to be non-irritating to skin.
- Chronic (Delayed)** • No data available

Eye

- Acute (Immediate)** • Expected to be non-irritating to eyes.
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • Material may be aspirated into lungs during ingestion and/or subsequent vomiting. Aspiration of this material will cause severe lung injury, chemical pneumonitis, pulmonary edema or death.
- Chronic (Delayed)** • No data available

Other

- Chronic (Delayed)** • Causes damage to Blood, Liver, Thymus through prolonged or repeated exposure.

Carcinogenic Effects

- Repeated and prolonged exposure may cause cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Diesel fuels	68334-30-5	Group 2B-Possible Carcinogen	Not Listed
Diesel fuels as Exhaust, diesel	NDA	Group 1-Carcinogenic	Reasonably Anticipated to be Human Carcinogen

Key to abbreviations

- LD = Lethal Dose
- TC = Toxic Concentration
- TD = Toxic Dose

Section 12 - Ecological Information

Toxicity

- Practically non toxic to fish. Practically non toxic daphnia and other aquatic invertebrates. Practically non toxic algae.

Persistence and degradability

- Readily biodegradable.

Bioaccumulative potential

- Contains constituents with the potential to bioaccumulate.

Mobility in Soil

- Large volumes may penetrate soil and could contaminate groundwater. Floats on water. Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day.

Other adverse effects

- Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s)

Section 13 - Disposal Considerations

Waste treatment methods

- Product waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
- Packaging waste** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	NA1993	Diesel fuel	3	III	None
TDG	UN1202	DIESEL FUEL	3	III	None
IMO/IMDG	UN1202	DIESEL FUEL	3	III	None
IATA/ICAO	UN1202	Diesel fuel	3	III	None

- Special precautions for user** • None specified.
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** • No data available

Section 15 - Regulatory Information

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

SARA Hazard Classifications • Fire, Acute, Chronic

State Right To Know			
Component	CAS	NJ	PA
Alkanes, C10-20 branched and linear	928771-01-1	No	No
Diesel fuels	68334-30-5	No	Yes

Inventory		
Component	CAS	TSCA
Alkanes, C10-20 branched and linear	928771-01-1	Yes
Diesel fuels	68334-30-5	Yes

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- Diesel fuels 68334-30-5 Not Listed
- Alkanes, C10-20 branched and linear 928771-01-1 Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Diesel fuels 68334-30-5 Not Listed
- Alkanes, C10-20 branched and linear 928771-01-1 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Diesel fuels 68334-30-5 Not Listed
- Alkanes, C10-20 branched and linear 928771-01-1 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Diesel fuels	68334-30-5	Not Listed
• Alkanes, C10-20 branched and linear	928771-01-1	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Diesel fuels	68334-30-5	Not Listed
• Alkanes, C10-20 branched and linear	928771-01-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Diesel fuels	68334-30-5	Not Listed
• Alkanes, C10-20 branched and linear	928771-01-1	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Diesel fuels	68334-30-5	Not Listed
• Alkanes, C10-20 branched and linear	928771-01-1	Not Listed

Other Information

- California Prop 65 - WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information**Revision Date**

- 14/February/2017

Last Revision Date

- 10/February/2017

Preparation Date

- 15/May/2015

Other Information

- Code(s): 400007309.

Disclaimer/Statement of Liability

- This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Key to abbreviations

NDA = No Data Available