Version	Revision Date:	SDS Number:	Print Date: 2023-10-30
2.3	2022-12-06	800001033437	Date of last issue: 30.04.2021
			Date of first issue: 06.12.2022

SECTION 1. IDENTIFICATION

Product name : Shell ULS Diesel Extra

Product code : 002D2114

Manufacturer or supplier's details

Manufacturer/Supplier : **Shell Trading Canada**
Suite 4000
500 Centre Street SE
Calgary-AB T2G 1A6
Canada

Telephone : (+1) 800-661-1600
Telefax :

Emergency telephone number : CHEMTREC (24 hr) (+1) 703-527-3887 or (+1) 800-424-9300 (US)

Recommended use of the chemical and restrictions on use

Recommended use : Fuel for on-road 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., This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Aspiration hazard : Category 1

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Carcinogenicity : Category 2

Specific target organ toxicity - repeated exposure	:	Category 2 (Blood, thymus, Liver)
Long-term (chronic) aquatic hazard	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
PHYSICAL HAZARDS:
H226 Flammable liquid and vapour.
HEALTH HAZARDS:
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H373 May cause damage to organs (Blood, Liver, thymus) through prolonged or repeated exposure.
H351 Suspected of causing cancer.
ENVIRONMENTAL HAZARDS:
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :
Prevention:
P201 + P202 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P314 Get medical advice/ attention if you feel unwell.
P321 Specific treatment (see supplemental first aid instructions on this label).
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use appropriate media to extinguish.
P391 Collect spillage.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
May ignite on surfaces at temperatures above auto-ignition temperature.
Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour 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-vapour mixtures can occur.
This product is intended for use in closed systems only.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Mixture
Substance name	:	Shell ULS Diesel Extra
Chemical nature	:	A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C9 through C20 and boiling in the range of approximately 163°C to 357°C (325°F to 675°F). May also contain several additives at <0.1% v/v each.

May contain cetane improver (Ethyl Hexyl Nitrate) at <0.2% v/v.

May contain methyl and ethyl esters from lipid sources

May contain catalytically cracked oils in which polycyclic aromatic compounds, mainly 3-ring but some 4- to 6-ring species are present.

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Fuels, diesel	68334-30-5	<= 100
Distillates (Fischer-Tropsch), C8-26 - Branched and Linear	848301-67-7	0 - 50
Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear)	928771-01-1	0 - 30

Dyes and markers can be used to indicate tax status and prevent fraud.

Further information

Contains:

Chemical name	Identification number	Concentration (% w/w)
Naphthalene	91-20-3	0 - 0.5

SECTION 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : Call emergency number for your location / facility.
Remove to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting, or unresponsive, give 100% oxygen with rescue breathing or Cardio-Pulmonary Resuscitation as required and transport to the nearest medical facility.

In case of skin contact : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.
Obtain medical attention even in the absence of apparent wounds.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue

		rinsing. If persistent irritation occurs, obtain medical attention.
If swallowed	:	Call emergency number for your location / facility. If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. 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	:	Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. 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. Liver damage may be indicated by loss of appetite, jaundice (yellowish skin and eye colour), fatigue, bleeding or easy bruising and sometimes pain and swelling in the upper right abdomen. Damage to blood-forming organs may be evidenced by: a) fatigue and anaemia (RBC), b) decreased resistance to infection, and/or excessive bruising and bleeding (platelet effect).
Protection of first-aiders	:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
Notes to physician	:	Call a doctor or poison control center for guidance. Potential for chemical pneumonitis. Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire.

Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Specific hazards during fire-fighting : Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Oxides of sulphur.
Unidentified organic and inorganic compounds.
Carbon monoxide may be evolved if incomplete combustion occurs.
Will float and can be reignited on surface water.
Flammable vapours may be present even at temperatures below the flash point.
The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.
If possible remove containers from the danger zone.
If the fire cannot be extinguished the only course of action is to evacuate immediately.
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Do not breathe fumes, vapour.
Do not operate electrical equipment.
Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter.

Environmental precautions : Take measures to minimise the effects on groundwater.
Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up : For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely
Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Observe all relevant local and international regulations.
Evacuate the area of all non-essential personnel.
Ventilate contaminated area thoroughly.

Additional advice : For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.
Local authorities should be advised if significant spillages cannot be contained.
Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

SECTION 7. HANDLING AND STORAGE

General Precautions : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Air-dry contaminated clothing in a well-ventilated area before laundering.
Prevent spillages.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Never siphon by mouth.
Contaminated leather articles including shoes cannot be de-

contaminated and should be destroyed to prevent reuse.

Maintenance and Fuelling Activities - Avoid inhalation of vapours and contact with skin.

Advice on safe handling : Ensure that all local regulations regarding handling and storage facilities are followed.
Avoid inhaling vapour and/or mists.
Avoid prolonged or repeated contact with skin.
When using do not eat or drink.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Earth all equipment.
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Avoid splash filling 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. Keep containers closed when not in use. 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. 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.

Storage

Other data	:	Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labeled and closable containers. Tank storage: 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. Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Keep container tightly closed and in a cool, well-ventilated place. Keep in a cool place. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. Keep in a bunded area with a sealed (low permeability) floor, to provide containment against spillage. Prevent ingress of water.
Packaging material	:	Suitable material: For containers, or container linings use mild steel, stainless steel., Aluminium may also be used for applications where it does not present an unnecessary fire hazard., Examples of suitable materials are: high density polyethylene (HDPE) and Viton (FKM), which have been specifically tested for compatibility with this product., For container linings, use amine-adduct cured epoxy paint., For seals and gaskets use: graphite, PTFE, Viton A, Viton B. Unsuitable material: Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene., However, some may be suitable for glove materials.
Specific use(s)	:	See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance
Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Naphthalene	91-20-3	TWA	10 ppm 50 mg/m3	NIOSH REL
		ST	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z-1
		TWA	10 ppm	ACGIH
Fuels, diesel	68334-30-5	TWA (Vapour and inhalable aerosols)	100 mg/m3 (total hydrocarbons)	CA BC OEL
		TWA (Inhalable fraction and vapor)	100 mg/m3 (total hydrocarbons)	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp

Engineering measures : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
Use sealed systems as far as possible.
Firewater monitors and deluge systems are recommended.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Eye washes and showers for emergency use.

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Do not ingest. If swallowed, then seek immediate medical assistance

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

Select a filter suitable for the combination of organic gases and vapours and particles [Type A/Type P boiling point

>65°C (149°F)].

Hand protection
Remarks : 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. When prolonged or frequent repeated contact occurs. Nitrile rubber. For incidental contact/splash protection Neoprene, PVC gloves may be suitable. 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. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
If a local risk assessment deems it so then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.

Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where risk of splashing, also wear an apron.

Thermal hazards : Not applicable

Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Hygiene measures : Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control

measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Do not ingest. If swallowed, then seek immediate medical assistance.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	Undyed
Odour	:	Stenched
Odour Threshold	:	Data not available
pH	:	Not applicable
Melting point/freezing point	:	Data not available
Initial boiling point and boiling range	:	150 - 400 °C / 302 - 752 °F
Flash point	:	40 - 60 °C / 104 - 140 °F
Evaporation rate	:	Data not available
Flammability		
Flammability (solid, gas)	:	Not applicable

Lower explosion limit and upper explosion limit / flammability limit		
Upper explosion limit	:	6 %(V)
Lower explosion limit	:	1 %(V)
Vapour pressure	:	<= 0.4 kPa (38.0 °C / 100.4 °F) Method: Unspecified <= 0.6 kPa (50.0 °C / 122.0 °F) Method: Unspecified
Relative vapour density	:	Data not available
Relative density	:	Data not available
Density	:	820 - 860 kg/m3 (15.0 °C / 59.0 °F)
Solubility(ies)		
Water solubility	:	negligible
Solubility in other solvents	:	Data not available
Partition coefficient: n-octanol/water	:	log Pow: ca. 2 - 15
Auto-ignition temperature	:	> 220 °C / 428 °F
Decomposition temperature	:	Data not available
Viscosity		
Viscosity, kinematic	:	1.3 - 4.1 mm2/s (40 °C / 104 °F)
Explosive properties	:	Classification Code: Not classified
Oxidizing properties	:	Not applicable
Conductivity	:	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 anti-static additives can greatly influence the conductivity of a liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability	:	Stable under normal use conditions.
Possibility of hazardous reactions	:	No hazardous reaction is expected when handled and stored according to provisions
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, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

SECTION 11. TOXICOLOGICAL 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).

Information on likely routes of exposure
Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (rat): > 5,000 mg/kg Remarks: Low toxicity
Acute inhalation toxicity	:	LC 50 (rat): >1-<=5 mg/l Exposure time: 4 h Remarks: Harmful if inhaled.
Acute dermal toxicity	:	LD 50 (Rabbit): > 2,000 mg/kg Remarks: Low toxicity

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC50: > 5 mg/l
Exposure time: 4 h
Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC50: > 5 mg/l
Exposure time: 4 h
Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Product:

Remarks: Irritating to skin.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Not irritating to skin.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Not irritating to skin.
Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Product:

Remarks: Slightly irritating to the eye.
Based on available data, the classification criteria are not met.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Not irritating to eye.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Not irritating to eye.
Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Not a sensitiser.
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Product:

Genotoxicity in vivo : Remarks: Positive in in-vitro, but negative in in-vivo mutagenicity assays.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Genotoxicity in vitro : Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Remarks: Not mutagenic.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Genotoxicity in vitro : Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Remarks: Not mutagenic.
Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: Limited evidence of carcinogenic effect

Repeated skin contact has resulted in irritation and skin cancer in animals.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Not a carcinogen.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Not a carcinogen.
Based on available data, the classification criteria are not met.

IARC	Group 2B: Possibly carcinogenic to humans	
	Naphthalene	91-20-3
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	Reasonably anticipated to be a human carcinogen	
	Naphthalene	91-20-3

Reproductive toxicity

Product:

Effects on fertility :
Remarks: Not a developmental toxicant.
Based on available data, the classification criteria are not met.
Does not impair fertility.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Effects on fertility :

Remarks: Does not impair fertility.
Not a developmental toxicant.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Effects on fertility :

Remarks: Does not impair fertility.
Not a developmental toxicant.
Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Remarks: Not classified.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.
Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.
Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Target Organs: Blood, thymus, Liver
Remarks: May cause damage to organs or organ systems through prolonged or repeated exposure.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Further information

Product:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Information given is based on a knowledge of the components and the ecotoxicology of similar products.
Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: LL/EL/IL50 > 1 <= 10 mg/l
Toxic

Toxicity to crustacean (Acute toxicity) :
Remarks: LL/EL/IL50 > 1 <= 10 mg/l
Toxic

Toxicity to algae/aquatic plants (Acute toxicity) :
Remarks: LL/EL/IL50 > 1 <= 10 mg/l
Toxic

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) : Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) : Remarks: LL/EL/IL50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:

Toxicity to fish (Acute toxicity) : LL50: > 1,000 mg/l
Remarks: Based on available data, the classification criteria are not met.

Toxicity to crustacean (Acute : LL50: > 1,000 mg/l

toxicity)		Remarks: Based on available data, the classification criteria are not met.
Toxicity to algae/aquatic plants (Acute toxicity)	:	LL50: > 1,000 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to fish (Chronic toxicity)	:	NOEC: 100 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to crustacean(Chronic toxicity)	:	NOEC: 32 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to bacteria	:	LL50: > 100 mg/l Remarks: Based on available data, the classification criteria are not met.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):

Toxicity to fish (Acute toxicity)	:	LL50: > 1,000 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to crustacean (Acute toxicity)	:	LL50: > 1,000 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to algae/aquatic plants (Acute toxicity)	:	LL50: > 1,000 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to fish (Chronic toxicity)	:	NOEC: 100 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to crustacean(Chronic toxicity)	:	NOEC: 32 mg/l Remarks: Based on available data, the classification criteria are not met.
Toxicity to bacteria	:	LL50: > 100 mg/l Remarks: Based on available data, the classification criteria are not met.

Persistence and degradability

Product:

Biodegradability	:	Remarks: Readily biodegradable. Not Persistent per IMO criteria. International Oil Pollution Compensation (IOPC) Fund definition: “A non-persistent oil is oil, which, at the time of shipment,

consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340ºC (645ºF) and (b) at least 95% of which, by volume, distils at a temperature of 370ºC (700ºF) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:

Biodegradability : Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Readily biodegradable.
Oxidises rapidly by photo-chemical reactions in air.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):

Biodegradability : Remarks: Readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: ca. 2 - 15

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:

Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):

Bioaccumulation : Remarks: Contains constituents with the potential to bioaccumulate.

Mobility in soil

Product:

Mobility : Remarks: Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day.
If product enters soil, one or more constituents will be mobile and may contaminate groundwater.
Large volumes may penetrate soil and could contaminate groundwater.
Floats on water.

Components:

Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:

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

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Mobility : Remarks: Floats on water.
Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day.
Large volumes may penetrate soil and could contaminate groundwater.

Other adverse effects

Product:
Additional ecological information : Films formed on water may affect oxygen transfer and damage organisms.

Components:
Distillates (Fischer-Tropsch), C8-26 - Branched and Linear:
Additional ecological information : Films formed on water may affect oxygen transfer and damage organisms.

Renewable hydrocarbons, diesel type fraction (Alkanes, C10-20-branched and linear):
Additional ecological information : Films formed on water may affect oxygen transfer and damage organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Recover or recycle if possible.
Send to drum recoverer or metal reclaimer.It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Drain container thoroughly.Do not dispose into the environment, in drains or in water courses.
After draining, vent in a safe place away from sparks and fire.Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor

should be established beforehand.
MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container.
Comply with any local recovery or waste disposal regulations. Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

Local legislation
Remarks : Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14. TRANSPORT INFORMATION

TDG

UN number	:	1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
Marine pollutant	:	no

International Regulations

IATA-DGR

UN/ID No.	:	UN 1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3

IMDG-Code

UN number	:	UN 1202
Proper shipping name	:	DIESEL FUEL
Class	:	3
Packing group	:	III
Labels	:	3
Marine pollutant	:	yes

Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information **:** Classified under TDG regulations for domestic road and rail transport, if shipped by vessel or air please ensure that the DG classification is compliant for the mode of transport being used.

SECTION 15. REGULATORY INFORMATION

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

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

IARC has classified diesel exhaust emissions as a Class 1 carcinogen - carcinogenic to humans. Steps should be taken to prevent personal exposure to diesel exhaust emissions.
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

The components of this product are reported in the following inventories:

DSL : All components listed.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships;

n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

This product is intended for use in closed systems only.
A vertical bar (|) in the left margin indicates an amendment from the previous version.

Revision Date : 2022-12-06

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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