1. COMPANY AND PRODUCT IDENTIFICATION

Product Name	:	Diesel oil, Petro, Diesel Fuel
Application Uses	:	Diesel, Automotive Gas Oil.
Company Name	:	Verasuwan Company Limited
Company Address	:	53/2, 53/8 Moo 5, Setthakij 1 Road, Nadee, Muang Samutsakorn 74000, Thailand
E-mail	:	verasuwan@gmail.com
Emergency Telephone	:	(+66)-34-468-801

2. HAZARDS INDENTIFICATION

GHS classification :
Flammable Liquids, Category 4
Aspiration Hazard, Category 1
Skin Corrosion/Irritation, Category 3
Carcinogenicity Category 2B
Aquatic Toxicity (Acute), Category 2
Aquatic Toxicity (Chronic), Category 2

GHS label elements Symbols
Symbols/Pictograms :


Signal words : Danger

GHS Hazard statements :

PHYSICAL HAZARDS:
Flammable liquid.
HEALTH HAZARDS:
May be fatal if swallowed and enters airways.
Causes mild skin irritation.
Suspected of causing cancer.
ENVIRONMENTAL HAZARDS:
Toxic to aquatic life with long lasting effects.

GHS Precautionary statements

Prevention :
Keep out of reach of children.
Read label before use.
Read Safety Data Sheet before use.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from sparks, open flames and hot surfaces.
No smoking.
Wear protective gloves and eye/face protection.
Avoid release to the environment.

Response :
GENERAL
If medical advice is needed, have product container or label at hand. – This statement applies only where the substance is available to the general public.
If exposed or concerned: Get medical advice/attention. Collect spillage.

Swallowed :
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting.

Skin	:	If skin irritation occurs: Get medical advice/attention.
Storage	:	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	:	In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.
Human Health Hazards	:	Harmful, may cause lung damage if swallowed. Irritating to skin. Aspiration into the lungs may cause chemical pneumonitis which can be fatal.
Safety hazards	:	Combustible liquid. Liquid can ignite leading to a flash fire, or an explosion in a confined space. 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.
Environments hazards	:	Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.
Other information	:	This product is intended for use as a fuel in a closed system. If used for any other purpose, in open systems or as a spray, ignition and exposure risks will increase and a careful risk assessment should be carried out

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Information on Composition : A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range C9 through C20, with an average of C15, and boiling in the range of 160°C to 400°C, with a flashpoint above 60°C. Very small amounts of performance enhancing additives may be included.

Hazardous Ingredients (GHS)

Chemical Identity	CAS	Identification number	Concentration(%)
Diesel Fuel	68334-30-5	269-822-7	100%

4. FIRST AID MEASURES

General Information

Inhalation	:	If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms persist seek medical attention.
Skin Contact	:	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop, seek medical attention.
Eye Contact	:	If in eyes, hold eyelids apart and flush the eyes continuously with running water. Continue flushing for several minutes until all contaminants are washed out completely. Seek medical attention.
Ingestion	:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. Wash out mouth and lips with

water. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

First aid facilities	:	An eyewash facility, and a general washing facility.
Notes to Physician	:	Treat symptomatically.
Other Information	:	-

5. FIRE FIGHTING MEASURES

Specific Hazards	:	Thermal decomposition can lead to release of irritating and toxic gases and vapors.
Hazardous Combustion products	:	Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates and gases, including carbon monoxide and unidentified organic and inorganic compounds.
Extinguish media	:	Foam, fine water spray and dry chemical powder. Carbon dioxide, Clean Agents (e.g. Inergen, Argonite etc.), sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use water jet.
Advice for firefighters	:	Keep adjacent drums and tanks cool by spraying with water from a safe location. If possible remove them from the danger zone. If adequate cooling cannot be achieved, the area needs to be evacuated, and further firefighting and cooling attempts should be carried out from a safe location.
Hazchem Code	:	3Z

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations.

Personal precautions, protective equipment and emergency procedures : Vapor can travel for considerable distances both above and below the ground surface. Underground services (drains, pipelines, cable ducts) can provide preferential flow paths. Remove all possible sources of ignition in the surrounding area. Contaminated clothing may be a fire hazard and therefore should be soaked with water before being removed. Ventilate contaminated area thoroughly. Do not breathe fumes, vapor. Do not operate electrical equipment. Avoid contact with skin, eyes, clothing. Wear chemical resistant knee length safety boots and PVC jacket and trousers. Wear safety glasses or full face shield if splashes are likely to occur.

Extinguish or remove all sources of ignition. Wear appropriate personal protective equipment and clothing to prevent exposure. Stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. Cloth, paper and other materials that are used to absorb spills present a fire hazard. Avoid their accumulation by disposing of them safely and immediately. If contamination of sewers or waterways occurs inform the local water authorities and EPA in accordance with local

regulations.

Environmental precautions	:	Prevent from spreading or entering into drains and surface waters (e.g. lakes, ponds, ditches, rivers and streams) by using sand, earth, or other appropriate non-combustible barriers. Inform local authorities if impacts cannot be prevented.
Methods and material for containment and clean up (Small Spillages)	:	To minimize soil and groundwater contamination, absorb liquid with sand earth or other recommended adsorbent material, as soon as safe to do so after the spill. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations. Do not dispose into an interceptor.
Methods and material for containment and clean up (Large Spillages)	:	Prevent from spreading by making a barrier with sand, earth or other containment material. Dispose of as for small spills. Maritime Spillages: Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

7. HANDLING AND STORAGE

Precautions for Safe Handling	:	Avoid naked flames. The vapor is heavier than air, spreads along the ground and distant ignition is possible. Avoid prolonged or repeated contact with skin. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Prevent spillages. Never siphon by mouth. When using do not eat, drink or smoke. Avoid contact with skin, eyes and respiratory system. If using pressurized equipment, take extra care to avoid injection under the skin. Only use in well-ventilated areas. Take precautionary measures against static discharges. Ensure all equipment is properly bonded. Use local exhaust ventilation if there is risk of inhalation of vapors, mists or aerosols. Cloth, paper and other materials that are used to absorb spills present a fire hazard. Avoid their accumulation by disposing of them safely and immediately. In addition to any specific recommendations given for controls of risks to health, safety and the environment, an assessment of risks must be made to help determine controls appropriate to local circumstances.
Conditions for safe storage	:	This product must never be stored in buildings occupied by people. Drums and small containers should be stored in well-ventilated areas, flameproof cabinets or stores. Keep container tightly closed in a dry, well ventilated place away from direct sunlight and other sources of heat or ignition. Keep in a bunded area with a sealed (low permeability) floor, to provide containment against spillage. Stack drums to a height not exceeding 3 meters without the use of racking. Locate tanks away from heat and other sources of ignition. Seek specialist advice for the design, construction and operation of bulk storage facilities.
Product transfer	:	Electrostatic charges may be generated during pumping. Ensure electrical continuity by bonding all equipment. 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. When filling tanks there is always a danger of static discharge leading to explosion. This is particularly hazardous when switch loading tanks. Product transfer may give rise to light hydrocarbon vapor in the headspace of tanks. This vapor may explode if there is a source of ignition such as static discharge. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care. Conditions, such as filling empty Filter Water Separator vessels, that lead to the formation of hydrocarbon mists are also particularly hazardous.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational Exposure Limits

The following exposure standards have been established for the product by the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labor.

Material	Source	Type	ppm	mg/m^3	Notation
Fuels, Diesel (total hydrocarbon, vapours and aerosol)	Inhalation fraction and vapour	TWA	-	100	ACGIH, 2015

Additional Information : TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week. STEL (Short Term Exposure Limit): The average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

Biological Limit Value (BLV) : Data not available.

Appropriate Engineering Controls : Provide sufficient ventilation to keep airborne levels below the exposure limits. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a flameproof exhaust ventilation system is required. Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 2430.3.1: 1997: Classification of hazardous areas - Examples of area classification - General, for further information concerning ventilation requirements.

Individual protection measures, such as personal protective equipment

Eye protection : Chemical safety glasses or face shield recommended as appropriate. Final choice of appropriate eye/face protection will vary according to individual circumstances including methods of handling or engineering controls as determined by appropriate risk assessments. Eye protection should conform to Australian/New Zealand Standard AS/NZS 1337- Eye Protectors for Industrial Applications.

Hand Protection	:	Wear gloves of impervious material e.g. nitrile or neoprene rubber gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance. The use of barrier cream is recommended.
Protective Clothing	:	Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.
Respiratory protection	:	If engineering controls are not effective in controlling airborne exposure, then an approved respirator with a replaceable organic vapour filter should be used. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	pale yellow clear and bright liquid
Odor	:	characteristic oil odor
Boiling point	:	IBP: 170 ^{o}C, End point: 357 ^{o}C
Melting / freezing point	:	Not available
Flash point	:	60 ^{o}C (close cup)
Flammability limits	:	Lower: 1% v/v Upper: 6% v/v
Auto-ignition temperature	:	230 ^{o}C
Flammability (solid, gas)	:	Flammable liquid and vapor.
Vapor pressure	:	<0.54 mmHg at 25 ^{o}C
Density	:	820 kg/m^{3} at 15 ^{o}C
Water solubility	:	Negligible
Viscosity, kinetic	:	Not available
Vapor density (air=1)	:	>1
Coefficient Water/Oil Distr.	:	Not available

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under normal conditions of storage and handling.
Hazardous Polymerization	:	Will not occur.
Conditions to avoid	:	Heat, open flames, sparks and other sources of ignition.
Incompatible materials	:	Strong oxidizing agents.
Hazardous Decomposition products	:	Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	:	Fuels are typically made from blending several refinery streams. Toxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Information given is based on product data, a knowledge of the components and the toxicology of similar products.
Acute oral toxicity	:	LD50 (Oral): >5,000 mg/kg. Ingestion may lead to vomiting and aspiration into the lungs, this may result in chemical pneumonitis, which may be fatal.
Acute dermal toxicity	:	LD50 (Dermal): >2,000 mg/kg
Acute inhalation toxicity	:	LC50 expected to be >5mg/l. Vapours may cause drowsiness and dizziness.
Mutagenicity	:	In-vitro mutagenicity studies show that mutagenic activity is related to 4-6 ring polycyclic aromatic content.
Carcinogenicity	:	Dermal application to mice causes skin tumours. It may contain polycyclic aromatic hydrocarbons (PAHs) some of which has been shown by experimental studies to cause induce cancer
Reproductive and Developmental Toxicity	:	Not a developmental toxicant.
Human Effects	:	Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis and may make the skin more susceptible to irritation and penetration by other materials. Under conditions of poor personal hygiene, excessive exposure may lead to irritation, oil acne and foliculitis and development of warty growths which may subsequently become malignant.
Other Information	:	High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.
Eye	:	May cause irritation in contact with the eyes, which can result in redness, stinging and lachrymation.
Skin	:	May cause irritation to the skin resulting in itching and redness of the skin. Poisoning may occur from prolonged or massive skin contact.
Inhalation	:	Vapors may cause headache, nausea with vomiting,

		dizziness, confusion and other effects of central nervous system depression. Loss of consciousness can occur at high concentrations followed by convulsions and death. **NOTE:** Below 40°C the vapor pressure is too low to cause any health hazard. High concentrations will build up in poorly ventilated areas and at higher temperatures.
Ingestion	:	May cause irritation to the gastrointestinal system. Symptoms may include abdominal pain, nausea, vomiting, diarrhea or depression of the central nervous system including nausea, headaches, dizziness, fatigue, loss of coordination, unconsciousness and possibly narcosis. Small amounts of liquid aspirated into the respiratory system during ingestion or vomiting may lead to aspiration into the lungs with a possibility of chemical pneumonia or lung damage.
Chronic Effects	:	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Prolonged and repeated exposure through inhalation or swallowing of this material can result in harmful effects including central nervous system effects. Systemic effects of chronic exposure can also include damage to heart, kidneys and liver. Prolonged or repeated skin contact may also result in skin dryness and cracking, skin irritation leading to dermatitis.

12. ECOLOGICAL INFORMATION

Low toxicity to aquatic organism.

Mobility	:	Floats on water. Contains volatile components. Evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate groundwater.
Persistence/ degradability	:	Major components are inherently biodegradable. Persists under anaerobic conditions. The volatile components oxidize rapidly by photochemical reactions in air.
Bioaccumulative potential	:	Contains components with the potential to bio-accumulate.
Exotoxicity	:	Fuels are typically made from blending several refinery streams. Eco-toxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Product is classified as toxic to aquatic organisms, LL/EL50: 1- 10 mg/L. (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Films formed on water may affect oxygen transfer and damage organisms.
Environment Protection	:	Do not discharge this material into drains, sewers and waterways.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	:	Waste arising from a spillage or tank cleaning should be disposed of in accordance with applicable local and national regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise flammable nature.

14. TRANSPORT INFORMATION

Land Transport Rule Dangerous Goods Amendment 2010 Rule 45001/2 - NZS 5433; 2007.
Classified as Dangerous Goods for transport according to the NZS 5433:2007 Transport of Dangerous Goods on Land.

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Fuels, diesel) Not regulated
Class	:	9
Packing group	:	III
Hazchem Code	:	3Z

IMDG
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID,
	:	N.O.S. (Fuels, diesel) Not regulated
Class	:	9
Packing group	:	III
Material pollutant	:	Yes

IATA (Country variations may apply)
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID,
	:	N.O.S. (Fuels, diesel) Not regulated
Class	:	9
Packing group	:	III

15. Regulatory Information

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

Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

Classified as Dangerous Goods according to Land Transport Rule Dangerous Goods Amendment 2010 Rule 45001/2 - NZS 5433; 2007.

ERMA	HSNO Approval Code: HSR001441
NZIoC	All components of this product are listed on the New Zealand Inventory of Chemicals (NZIoC).
AICS	All components of this product are listed on the Australian Inventory of Chemical Substances (AICS).

Restrictions
This product must not be used in applications other than those recommended without first seeking the advice of the supplier.

16. Other Information

SDS Version Number	:	1.1
SDS Effective Date	:	1-June-2018
SDS Regulation	:	The content and format of this SDS is in accordance with HSNO Approved Code of Practice (No. HSNO CoP 8-1 09-06): Preparation of Safety Data Sheets.
Uses and Restrictions	:	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