Safety Data Sheet

Diesel

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Type/Use

Automotive gas oil. Fuel for on-road diesel-powered engines.

Other Names

Name

Alpine Diesoline 20, Alpine Diesoline 40

Alpine Diesoline 100, Diesoline

Gas Oil, Industrial Diesel Fuel

Light Marine Diesel Fuel, Low Emission Distillate HP

Diesoline 50, Diesel 50

Diesel 10, Marine Gas Oil

Supplier

Shell Company of Australia Ltd.
Level 2, 8 Redfern Road,
Hawthorn East, Victoria 3123
(ABN 46 004 610 459)
AUSTRALIA

Telephone Numbers

Emergency Tel.

1800 651 818

Telephone/Fax Number

Tel: 03 9666 5444 Fax: 03 8823 4800

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation Description

Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C9 to C25 range. May contain catalytically cracked oils in which polycyclic aromatic compounds, mainly 3-ring but some 4- to 6-ring species, are present. May also contain several additives at <0.1% v/v each. Dyes and markers can be used to indicate tax status and prevent fraud. May contain cetane improver (Ethyl Hexyl Nitrate) at <0.2% v/v.

Name	CAS	EINECS	Proportion	Hazard	R Phrase
Fuels, diesel	68334-30-5	269-822-7	0-100 %	Xn, N	R40, R65, R66, R51/53
Fuels, diesel, no.2	68476-34-6	270-676-1	0-100 %	Xn, N	R40, R65, R66, R51/53

Other Information

See Section 16 'Other Information' for full text of each relevant Risk Phrase.

3. HAZARDS IDENTIFICATION

Hazards Identification

HAZARDOUS SUBSTANCE.

NON-DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Human Health Hazards
Harmful, may cause lung damage if swallowed. Limited evidence of a carcinogenic effect. Prolonged or repeated exposure to skin may give rise to dermatitis. Under conditions of poor personal hygiene, excessive exposure may lead to irritation, oil acne and folliculitis and development of warty growths which may subsequently become malignant.

Safety Hazards
Not classified as flammable, but will burn. 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.

Environmental 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.

4. FIRST AID MEASURES

Symptoms and Effects
Not expected to give rise to an acute hazard under normal conditions of use. Aspiration into the lungs may occur directly or following ingestion. This may cause chemical pneumonitis which may be fatal. If ingested may lead to irritation of the mouth, irritation of the throat, irritation of the digestive tract, and vomiting. Splashes into the eye may cause irritation.

Inhalation
Remove to fresh air. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If heartbeat absent, give external cardiac compression. Monitor breathing and pulse. Seek urgent medical advice.

Skin
Wash skin with water using soap if available. Contaminated clothing must be removed as soon as possible. It must be laundered before reuse. 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.

Eye
Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion
DO NOT INDUCE VOMITING. Protect airway if vomiting begins. Give nothing by mouth. If breathing but unconscious, place in recovery position. If breathing has stopped, apply artificial respiration. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

Advice to Doctor
Treat symptomatically. In cases of ingestion, consider gastric lavage. Gastric lavage must only be undertaken after cuffed endotracheal intubation in view of the risk of aspiration. Administration of carbon for medicinal use (carbo medicinalis) may reduce absorption from the digestive tract. In cases of chemical pneumonitis, antibiotic and corticosteroid therapy should be considered, but only under expert guidance and with special care facilities. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function.

5. FIRE FIGHTING MEASURES

Specific Hazards
Combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates (smoke), and gases, including carbon monoxide, oxides of sulphur, and unidentified organic and inorganic compounds. Flammable vapours may be present even at temperatures below the flash point.

Extinguishing 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 in a jet.

Protective Equipment
Proper protective equipment must be worn, this should include breathing apparatus when approaching a fire in a confined space.

Other Information
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 fire fighting and cooling attempts should be carried out from a safe location.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Remove all possible sources of ignition in the surrounding area. Evacuate all personnel. Do not breathe fumes, vapour. Do not operate electrical equipment. Avoid contact with skin, eyes, clothing. Ventilate contaminated area thoroughly. 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.

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.

Clean-up Methods - Small Spillages
To minimize soil and groundwater contamination, absorb liquid with sand earth or other recommended sorbant material, as soon as possible. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations. Do not disperse using water.

Clean-up Methods - Large Spillages
Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. 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.

Other Information
Local authorities should be advised if significant spillages cannot be contained. Observe all relevant local regulations.

7. HANDLING AND STORAGE

Exposures in Normal Use
Maintenance and fuelling activities - Avoid inhalation of vapours and contact with skin when emptying containers.

Handling
Avoid naked flames. The vapour is heavier than air, spreads along the ground and distant ignition is possible. When using do not eat, drink or smoke. Never siphon by mouth. Only use in well-ventilated areas. Take precautionary measures against static discharges. Ensure all equipment is properly earthed. If using pressurised equipment, take extra care to avoid injection under the skin. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. 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. 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.

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 metres 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.

Storage Temperatures
Ambient.

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. 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.

Tank Cleaning
Cleaning, inspection and maintenance of storage tanks is a specialist operation that requires the implementation of strict procedures and precautions. These include issuing of work permits, gas-freeing of tanks, using a manned harness, lifelines, and wearing air-supplied breathing apparatus. Prior to entry and whilst cleaning is underway, the atmosphere within the tank must be monitored using an oxygen meter and explosimeter. Additional precautions are required where the tank may previously have contained leaded gasoline.

Recommended Materials
For containers or container linings, use mild steel or 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), polypropylene (PP), 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 Materials
Synthetic materials such as plastics and fibreglass 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.

Other Information
Ensure that all local and international regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Fuels, diesel	ACGIH	TWA	100	mg/m3	
Oil mist, mineral	ACGIH	TWA	5	ppm	
	ACGIH	TWA	10	mg/m3	

ACGIH ACGIH Threshold Limit Values.

Exposure Controls
The level of personal protection and the types of controls necessary will vary depending on exposure conditions. Select controls based on a risk assessment of local circumstances. Use sealed systems as far as possible. Use local, intrinsically safe, exhaust ventilation if there is a risk of inhalation of vapours, mists, or aerosols. Provide eye washes and showers for emergency use.

Respiratory Protection
Care should be taken to keep exposures below applicable occupational exposure limits. If this cannot be achieved, use of a respirator fitted with an organic vapour cartridge combined with a particulate pre-filter should be considered. Where air-filtering respirators are unsuitable (e.g. where airborne concentrations are high, there is a confined space or a risk of oxygen deficiency) use appropriate positive pressure breathing apparatus.

Hand Protection
Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile, Neoprene or PVC gloves may be suitable. (Breakthrough time of > 240 minutes). Breakthrough times for gloves vary depending on, e.g. chemical resistance, material thickness, frequency and duration of contact. Selection should also take into account other usage requirements, e.g. dexterity, heat resistance, other chemical substances handled. 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
Wear safety glasses or full face shield if splashes are likely to occur.

Body Protection
Minimise all forms of skin contact. In the event of risk from splashing wear e.g. Nitrile, PVC, or neoprene rubber apron. Wear safety shoes or boots which are chemical and petroleum distillate resistant.

Environmental Exposure Controls
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

Exposure Measurement 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 Occupational Exposure Limit and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Information on suitable methods is available on request.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour	Colourless/pale straw/yellow.
Physical State	Liquid.
Odour	Characteristic. May contain a reodorant.
pH Value	Data not available.
Vapour Pressure	<0.1 kPa at 20ºC.
Initial Boiling Point	circa 170ºC.
Final Boiling Point	circa 360ºC.
Solubility in Water	Negligible.

Density	820 to 845 kg/m3 at 15°C.
Flash Point	>60.5ºC.
Flammable Limits - Upper	6%(V/V) maximum.
Flammable Limits - Lower	1%(V/V) minimum.
Auto-Ignition Temperature	>220ºC.
Kinematic Viscosity	2 to 7 mm2/s at 40°C.
Vapour Density (Air=1)	Greater than 5.
Partition co-efficient, n-octanol/water	log Pow 3 to 6.
Other Information	The above properties are generic. There may be parameters for which National Specifications apply.

10. STABILITY AND REACTIVITY

Stability
Stable under normal use conditions.

Conditions to Avoid
Heat, flames and sparks.

Materials to Avoid
Strong oxidizing agents e.g. chlorates and ammonium nitrate.

Hazardous Decomposition Products
Hazardous decomposition products are not expected to form during normal storage.

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 a knowledge of the components and the toxicology of similar products.

Acute Toxicity - Oral
LD50 > 5000 mg/kg. Ingestion may lead to vomiting and aspiration into the lungs, this may result in chemical pneumonitis, which may be fatal.

Acute Toxicity - Dermal
LD50 > 2000 mg/kg.

Acute Toxicity - Inhalation
LC50 expected to be >5mg/l.

Eye Irritation
Slightly irritating.

Skin Irritation
Slightly irritating.

Respiratory Irritation
Expected to be slightly irritating.

Skin Sensitisation
Not a skin sensitizer.

Carcinogenicity
Dermal application to mice causes skin tumours.

Mutagenicity
In-vitro mutagenicity studies show that mutagenic activity is related to 4-6 ring polycyclic aromatic content.

Reproductive 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.

12. ECOLOGICAL INFORMATION

Basis for Assessment
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. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Mobility
Floats on water. Contains volatile components. Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. If it enters soil, it will adsorb to soil particles and will not be mobile. Large volumes may penetrate soil and could contaminate groundwater.

Persistence / Degradability
Major components are inherently biodegradable. Persists under anaerobic conditions. The volatile components oxidise rapidly by photochemical reactions in air.

Bioaccumulation
Contains components which may have the potential to bioaccumulate. May cause tainting of fish and shellfish.

Ecotoxicity
Poorly soluble mixture. 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.

13. DISPOSAL CONSIDERATIONS

Waste Disposal
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 to deal satisfactorily with this type of product should be established beforehand. 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.

Product Disposal
As for waste disposal.

Container Disposal
Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor. Do not pollute the soil, water or environment with the waste product.

14. TRANSPORT INFORMATION

Transport Information
Not dangerous for transport under ADG, IMO and IATA/ICAO regulations.

ADG UN Class
None Allocated

ADG Packing Group
None Allocated

ADG Hazchem Code
None Allocated

IMDG Hazard Class
None Allocated

IMDG Packing Group
None Allocated

IATA Hazard Class
None Allocated

IATA Packing Group
None Allocated

Other Information
Not a Marine Pollutant under IMDG. MARPOL rules apply for bulk shipments by sea.

15. REGULATORY INFORMATION

EC Symbols	Xn N
EC Risk Phrase	R40 Limited evidence of a carcinogenic effect. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness and cracking.
EC Safety Phrase	S2 Keep out of reach of children. S29 Do not empty into drains. S36/37 Wear suitable protective clothing and gloves. S61 Avoid release to the environment. Refer to special instructions/safety data sheet. S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

AICS (Australia)
All components listed.

National Legislation
National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011]
List of Designated Hazardous Substances [NOHSC:10005].
Approved Criteria for Classifying Hazardous Substances [NOHSC:1008].
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003].
Australian Dangerous Goods Code.
Standard Uniform Scheduling of Drugs and Poisons.

Hazard Category
Harmful, Carcinogenic (Category 3), Dangerous for the environment

Packaging & Labelling
Contains fuels, diesel.

16. OTHER INFORMATION

Revisions Highlighted
No amendments made to information.

SDS Distribution
This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.

References
For detailed advice on Personal Protective equipment, refer to the following Australian Standards :-
HB 9 (Handbook 9) Manual of industrial personal protection.
AS/NZS 1337 Eye protectors for industrial applications.
AS/NZS 1715 Selection, use and maintenance of respiratory protective devices.
AS/NZS 1716 Respiratory protective devices.

Poisons Schedule
NS.

Restrictions
This product must not be used in applications other than those recommended 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, or as a skin cleanser.

List of R Phrases in Section 2
R40 Limited evidence of a carcinogenic effect.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness and cracking.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Technical Contact Numbers
(03) 9666 5444.

Further Information
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 does not constitute a guarantee for any specific property of the product.
... End Of SDS ...