

Section 1 - Identification of Chemical Product and Company

Freedom Fuels Australia Pty Ltd

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Emergency Contacts:

| | |
|---------------------------|--------------|
| Transport & Terminalling | 0400 334 634 |
| Retail: | 0448 132 812 |
| Workplace Health & Safety | 0407 599 508 |

Substance: Petroleum fraction - can contain up to 20% Biodiesel.

Trade Name: **B20 Diesel**

Other Names: Gas oil - can contain up to 20% Biodiesel.

Product Use: Fuel for compression ignition diesel engines.

Creation Date: **July, 2009**

This version issued: **July, 2009** and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code. However, this is a C1 Combustible Liquid and for storage meets the definition of Dangerous Goods.

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

Safety Phrases: S2, S46, S61, S24/25, S36/37. Keep out of reach of children. If swallowed, contact a doctor or Poisons Information Centre immediately and show this MSDS or label. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

SUSDP Classification: S5.

ADG Classification: None allocated. Not a Dangerous Good under the ADG Code.

UN Number: None allocated

Emergency Overview

Physical Description & Colour: Clear colourless to straw coloured liquid with fluorescent green dye.

Odour: Mild characteristic odour.

Major Health Hazards: limited evidence of a carcinogenic effect, if aspirated, may cause lung damage, repeated exposure may cause skin dryness or cracking.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

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Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating, but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is believed to be mildly irritating, to eyes, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: Fuels, Diesel is classified by SWA as a Class 3 Carcinogen, possibly carcinogenic to humans. See the SWA website for further details. A web address has not been provided as addresses frequently change.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 3 - Composition/Information on Ingredients

| Ingredients | CAS No | Conc, % | TWA (mg/m ³) | STEL (mg/m ³) |
|---------------|------------|---------|--------------------------|---------------------------|
| Fuels, diesel | 68334-30-5 | >90 | not set | not set |
| Biodiesel | not set | max 20 | not set | not set |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible. Contains small quantities of polycyclic aromatic hydrocarbons (PAHs).

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Gently blot away excess liquid. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently blot material from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed, while holding the eyelid(s) open. Obtain medical advice immediately if irritation occurs. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

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Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: This product is classified as a C1 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: Suitable extinguishing media are carbon dioxide, dry chemical, foam, water fog.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. **DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL.** Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of direct line of the scene and away from windows. Do not use water jets.

Flash point: >61°C, ASTM D93

Upper Flammability Limit: 5.0%

Lower Flammability Limit: 0.7%

Autoignition temperature: No data.

Flammability Class: C1

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses.

Immediately call the Fire Brigade. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include Viton, Nitrile, neoprene. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type A cartridge, suitable for organic vapours.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store packages of this product in a cool place. Make sure that containers of this product are kept tightly closed. Keep containers dry and away from water. Keep containers of this product in a well ventilated area. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits **TWA (mg/m³)** **STEL (mg/m³)**

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

Protective Material Types: We suggest that protective clothing be made from the following materials: Viton, nitrile, neoprene.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties:

Physical Description & colour: Clear colourless to straw coloured liquid with fluorescent green dye.

Odour: Mild characteristic odour.

Boiling Point: 180-380°C at 100kPa (ASTM D 86)

Freezing/Melting Point: No specific data. Liquid at normal temperatures.

Volatiles: No specific data. Expected to be low at 100°C.

Vapour Pressure: < 0.1 kPa (Test Method: ASTM D 323)

Vapour Density: No data.

Specific Gravity: 0.820-0.850 at 15°C (ASTM D 1298)

Water Solubility: Insoluble.

pH: Not applicable.

Volatility: No data.

Odour Threshold: No data.

Evaporation Rate: No data.

Coeff Oil/water Distribution: No data

Viscosity: 2.0 - 4.5 mm²/s at 40°C (Test Method: ASTM D 445)

Autoignition temp: No data.

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.

Incompatibilities: strong oxidising agents.

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Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Diesel fuels are toxic when ingested, sometimes resulting in regurgitation and aspiration, which can cause chemical pneumonia; the same is true for any hydrocarbon in a particular range of viscosity.

In rodents exposed by inhalation to diesel fuel at concentrations up to 0.2 mg/litre, a neurodepressive effect was seen in mice but not in rats at the higher concentrations. Subchronic exposure by inhalation to various distillate fuels induced specific alpha2-microglobulin nephropathy in male rats; this effect is considered irrelevant for humans.

Diesel fuels were neither embryotoxic nor teratogenic in animals exposed orally or by inhalation.

There is no clear evidence of mutagenic activity in bacteria, and the results of other tests for genotoxicity *in vitro* and *in vivo* were equivocal.

Classification of Hazardous Ingredients

| Ingredient | Risk Phrases |
|---------------|-------------------|
| Fuels, Diesel | Conc>=1%: Xn; R40 |

Section 12 - Ecological Information

Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

The individual constituents of diesel fuel are inherently biodegradable, but the rates of biodegradation depend heavily on physical and climatic conditions and on microbial composition.

Aquatic organisms, in particular molluscs, bioaccumulate hydrocarbons to varying extents, but the hydrocarbons are depurated on transfer to clean water. Diesel fuel may be bioaccumulated; no data are available about biomagnification.

Spills of diesel fuel have an immediate detrimental effect on the environment, causing substantial mortality of biota. Recolonization may occur after about one year, depending on the animal or plant species and the chemical and physical content of the spill residues.

Aquatic organisms that survive diesel fuel spills can be affected by external oil contamination and tissue accumulation: abnormal development and altered metabolic rates are signs of the resulting stress.

Section 13 - Disposal Considerations

Disposal: The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product solutions and any by-products should at all times comply with the requirements environmental protection and waste disposal legislation and any regional local authority requirements.

Section 14 - Transport Information

ADG Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

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Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

A summary report on diesel fuels may be found at <http://www.inchem.org/documents/ehc/ehc/ehc171.htm>
It contains details on health and environmental effects of exposure to the substance.

Acronyms:

| | |
|---------------------|---|
| ADG Code | Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition) |
| AICS | Australian Inventory of Chemical Substances |
| SWA | Safe Work Australia, formerly ASCC and NOHSC |
| CAS number | Chemical Abstracts Service Registry Number |
| Hazchem Code | Emergency action code of numbers and letters that provide information to emergency services especially firefighters |
| IARC | International Agency for Research on Cancer |
| NOS | Not otherwise specified |
| NTP | National Toxicology Program (USA) |
| R-Phrase | Risk Phrase |
| SUSDP | Standard for the Uniform Scheduling of Drugs & Poisons |
| UN Number | United Nations Number |

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the SWA document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]

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