

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** **FUEL OIL**

**Other name(s):** Diesel, Diesel oil, Diesel Fuel, Distillate

**Recommended Use of the Chemical and Restrictions on Use** Diesel engine fuel.

**Supplier:** Ixom Operations Pty Ltd  
**ABN:** 51 600 546 512  
**Street Address:** Level 8, 1 Nicholson Street  
East Melbourne Victoria 3002  
Australia

**Telephone Number:** +61 3 9906 3000  
**Emergency Telephone:** **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings, IBC's, or any other receptacle not exceeding 500 kg(L).

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

### Classification of the chemical:

Flammable liquids - Category 4  
Aspiration hazard - Category 1  
Skin Irritation - Category 2  
Acute Inhalation Toxicity - Category 4  
Carcinogenicity - Category 2  
Specific target organ toxicity (repeated exposure) - Category 2  
Acute Aquatic Toxicity - Category 2  
Chronic Aquatic Toxicity - Category 2

**SIGNAL WORD:** DANGER



### Hazard Statement(s):

H227 Combustible liquid.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Product Name: FUEL OIL  
Substance No: 000031009901

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Version: 5

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## Precautionary Statement(s):

### Prevention:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking.
- P260 Do not breathe 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 or doctor/physician.
- P331 Do NOT induce vomiting.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 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.
- P370+P378 In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet 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 and container in accordance with local, regional, national, international regulations.

**Poisons Schedule (SUSMP):** S5 Caution.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Fuels, diesel	68334-30-5	>99%	H227 H304 H315 H332 H351 H373 H411

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

### Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

### Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

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## Eye Contact:

If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

## Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Get to a doctor or hospital quickly.

## Indication of immediate medical attention and special treatment needed:

Treat symptomatically and as for exposure to hydrocarbon solvents. Aspiration can result in pulmonary oedema. Inhalation or ingestion of diesel fuel can result in acute and persistent lung effects.

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media:

Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal protein foam can be used.

### Unsuitable Extinguishing Media:

Water jet. Burning liquid will float on water.

### Hazchem or Emergency Action Code: - 3Z

### Specific hazards arising from the chemical:

Combustible liquid. May form flammable vapour mixtures with air.

### Special protective equipment and precautions for fire-fighters:

Avoid all ignition sources. On burning will emit toxic fumes, including those of oxides of carbon, oxides of nitrogen and oxides of sulfur. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

## 6. ACCIDENTAL RELEASE MEASURES

### Emergency procedures/Environmental precautions:

Shut off all possible sources of ignition. Clear area of all unprotected personnel. Shut off leak if possible without risk. Work up wind. Use water spray to disperse vapour.

Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

### Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Wear protective equipment to prevent skin and eye contact. Avoid breathing in vapours. Work up wind or increase ventilation. Shut off all possible sources of ignition. Slippery when spilt. Avoid accidents, clean up immediately. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Use non-sparking tools. Do not sweep or flush product into sewers or waterways.

## 7. HANDLING AND STORAGE

Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

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## Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Vapour may travel a considerable distance to source of ignition and flash back. This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations. Take precautionary measures against static discharges. Open bungs slowly to release any pressure build up in drums. Do not use as a cleaning solvent or other non-motor fuel uses. Keep out of reach of children.

## Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Store away from sources of heat or ignition. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters:** No value assigned for this specific material by Safe Work Australia.

Supplier recommended Exposure Standard:

Fuels, diesel: 5 mg/m<sup>3</sup> (stable aerosol) for 8 hour time-weighted average (TWA). (1)

Fuels, diesel: 200 mg/m<sup>3</sup> (vapour) for 8 hour time-weighted average (TWA). (1)

Fuels, diesel: 100 mg/m<sup>3</sup>, SKIN (total hydrocarbons, inhalable) for 8 hour time-weighted average (TWA). \* ACGIH Exposure Standard from supplier.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

Skin - ACGIH - The designation of 'Skin' refers to the potential significant contribution to the overall exposure by the cutaneous route, including mucous membranes and the eyes, either by contact with vapours or, of probable greater significance, by direct skin contact with the substance.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**Biological Exposure Indices:** Polycyclic aromatic hydrocarbons (PAH).

### Appropriate engineering controls:

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.

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Wear overalls, safety glasses and impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid
<b>Colour:</b>	Clear . May be dyed.
<b>Odour:</b>	Petroleum / Solvent
<b>Solubility:</b>	Immiscible with water.
<b>Specific Gravity:</b>	0.82 - 0.85 @15°C
<b>Relative Vapour Density (air=1):</b>	>2 @101 kPa
<b>Vapour Pressure (20 °C):</b>	0.066 kPa
<b>Flash Point (°C):</b>	64
<b>Flammability Limits (%):</b>	0.6 - 7.0
<b>Autoignition Temperature (°C):</b>	Not available
<b>Boiling Point/Range (°C):</b>	>185
<b>pH:</b>	Not applicable
<b>Viscosity:</b>	2 cSt @40°C
<b>Partition Coefficient:</b>	>3.5 (n-octanol/water, log Pow)
<b>Freezing Point/Range (°C):</b>	< 18 (Pour point)

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	No information available.
<b>Chemical stability:</b>	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerisation will not occur. May react with halogens. Can accumulate static charges which may cause an ignition.
<b>Conditions to avoid:</b>	Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to moisture. Avoid build up of static electricity. Avoid contact with foodstuffs.
<b>Incompatible materials:</b>	Incompatible with strong oxidising agents , strong acids , alkalis , halogens .
<b>Hazardous decomposition products:</b>	Oxides of carbon. Oxides of nitrogen. Oxides of sulfur. Hydrocarbons.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

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- Ingestion:** Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Breathing in vomit may lead to aspiration pneumonia (inflammation of the lung).
- Eye contact:** May be an eye irritant. Overexposure to diesel exhaust fumes may result in eye irritation.
- Skin contact:** Contact with skin may result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis. Repeated exposure may cause skin dryness or cracking.
- Inhalation:** Breathing in vapour may produce respiratory irritation. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness. Overexposure to diesel exhaust fumes may result in headaches, nausea and respiratory irritation.

## Acute toxicity:

Oral LD50 (rat): 7500 mg/kg (3)  
Oral LD50 (mice): 24,500 mg/kg (3)  
Dermal LD50 (rabbit): >5000 mg/kg (1)  
Inhalation LC50 (rat): 4100 mg/m<sup>3</sup> (vapour and aerosol) (1)

**Skin corrosion/irritation:** Irritant (rabbit). (1)

**Chronic effects:** Prolonged or repeated skin contact may cause dryness with cracking, irritation and possible dermatitis following.

Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the skin. (2)

This material contains within the diesel oil component of this formulation polycyclic aromatic hydrocarbons (PAHs). Some PAHs have been implicated as potential skin carcinogens in humans under conditions of poor personal hygiene, prolonged or repeated skin contact and exposure to sunlight. Toxic effects are unlikely to occur if good personal hygiene is practised. Inhalation or ingestion of diesel fuel has been reported to result in acute and persistent lung damage in humans.

Diesel fuel has been shown to be carcinogenic in animal tests and has caused mutations in vitro. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and litter weight, and increased foetal resorptions at maternally toxic doses. (1)

Dermal exposure to high concentrations resulted in severe skin irritation with weight loss and some mortality. (1)

Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and a reduction in lung function. (1)

Diesel fuel has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. (2) Evidence from epidemiological studies suggest an association between long term occupational exposure to diesel engine emissions and lung cancer. Diesel exhaust fumes have been shown to be carcinogenic in animal tests. Inhalation exposures to exhaust for 2 years in test animals resulted in lung tumours and lymphoma. (1) Diesel engine exhaust has been classified by the International Agency for Research on Cancer (IARC) as a Group 1 agent. Group 1 - The agent is carcinogenic to humans. (4)

## 12. ECOLOGICAL INFORMATION

Product Name: FUEL OIL  
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**Ecotoxicity** Avoid contaminating waterways.

**Aquatic toxicity:** Toxic to aquatic organisms. May cause long lasting harmful effects to aquatic life. Material floats on water. Films formed on water may affect oxygen transfer between the water and the atmosphere and cause adverse effects on aquatic organisms. Prevent entry of the material into waterways, sewers, basements or confined areas.

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods:

Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

## 14. TRANSPORT INFORMATION

### Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings, IBC's, or any other receptacle not exceeding 500 kg(L).



**UN No:** 3082  
**Transport Hazard Class:** 9 Miscellaneous Dangerous Goods  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (FUELS, DIESEL)  
**Hazchem or Emergency Action Code:** - 3Z

### Marine Transport

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

**UN No:** 3082  
**Transport Hazard Class:** 9 Miscellaneous Dangerous Goods  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (FUELS, DIESEL) MARINE POLLUTANT  
**IMDG EMS Fire:** F-A  
**IMDG EMS Spill:** S-F

**Marine Pollutant** Yes

### Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

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**UN No:** 3082  
**Transport Hazard Class:** 9 Miscellaneous Dangerous Goods  
**Packing Group:** III  
**Proper Shipping Name or Technical Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (FUELS, DIESEL)

## 15. REGULATORY INFORMATION

### Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

### Classification of the chemical:

Flammable liquids - Category 4  
Aspiration hazard - Category 1  
Skin Irritation - Category 2  
Acute Inhalation Toxicity - Category 4  
Carcinogenicity - Category 2  
Specific target organ toxicity (repeated exposure) - Category 2  
Acute Aquatic Toxicity - Category 2  
Chronic Aquatic Toxicity - Category 2

### Hazard Statement(s):

H227 Combustible liquid.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H332 Harmful if inhaled.  
H351 Suspected of causing cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

**Poisons Schedule (SUSMP):** S5 Caution.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

- (1) Supplier Safety Data Sheet; 09/ 2016.
- (2) In: 'IARC Monographs on the Evaluation of Carcinogenic Risk to Humans'. World Health Organisation, Vol 45, 1989.
- (3) 'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2017.
- (4) International Agency for Research on Cancer. In: 'IARC Monographs on the Evaluation of Carcinogenic Risk to Humans'. World Health Organisation, 06/ 2012 Vol 105, in preparation.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

### Reason(s) for Issue:

5 Yearly Revised Primary SDS  
Change in Hazardous Chemical Classification



# Safety Data Sheet



This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.