

# SAFETY DATA SHEET

*This SDS is compiled in accordance with the GHS*

## 1. IDENTIFICATION

**Product Name:** Aviation Gasoline

**Synonyms:** Aviation Gasoline, Aviation 100LL, AVGAS 100, Aviation Gasoline 100/300

**CAS Number:** 86290-81-5

**Product Use:** Fuel

**Supplier:** IOR Pty Ltd

**Address:** 99 Southgate Avenue, Cannon Hill, Queensland, Australia 4170

**General Information:** +61 7 3895 4444

**Emergency Contact:** 000 (Australia Only)

**Poisons Information Centre:** 13 11 26

## 2. HAZARDS IDENTIFICATION

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

### GHS Classification:

<b>Physical Hazard(s)</b>	Flammable Liquids: Category 1
<b>Health Hazard(s)</b>	Acute Toxicity Category 3 – Inhalation Acute Toxicity Category 3 – Dermal Acute Toxicity Category 3 – Oral Skin Irritant Category 2 Aspiration Toxicity Category 1 Carcinogenicity Category 1B Germ Cell Mutagenicity Category 1B Toxic to Reproduction Category 1 STOT Repeated Exposure Category 2 STOT Single Exposure Category 3 Skin Irritation Category 2
<b>Environment Hazard(s)</b>	Aquatic Toxicity Long-term Category 2

<b>GHS Label Elements</b>	
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<b>Signal Word</b>	<b>DANGER</b>
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### Hazard Statement(s)

<b>H224</b>	Extremely flammable liquid and vapour.
<b>H301</b>	Toxic if swallowed.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H311</b>	Toxic in contact with skin.
<b>H315</b>	Causes skin irritation.
<b>H331</b>	Toxic if inhaled.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H340</b>	May cause genetic defects.
<b>H350</b>	May cause cancer.
<b>H360</b>	May damage fertility or the unborn child.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H411</b>	Toxic to aquatic life with long lasting effects.

### Precautionary Statement(s): Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P202</b>	Do not handle until all safety precautions have been read and understood.
<b>P210</b>	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
<b>P233</b>	Keep container tightly closed.
<b>P240</b>	Ground/bond container and receiving equipment.
<b>P241</b>	Use explosion-proof electrical/ventilating/lighting/equipment.
<b>P242</b>	Use only non-sparking tools.
<b>P243</b>	Take precautionary measures against static discharge.
<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P261</b>	Avoid breathing dust/fume/gas/mist/vapours/spray.
<b>P264</b>	Wash contaminated skin thoroughly after handling.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<b>P271</b>	Use only outdoors or in a well-ventilated area.
<b>P273</b>	Avoid release to the environment.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P281</b>	Use personal protective equipment as required.

### Precautionary Statement(s): Response

<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISONS CENTRE on <b>13 11 26</b> or doctor/physician
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P304+P340</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>P308+P313</b>	If exposed or concerned: Get medical advice/attention
<b>P311</b>	Call a POISION CENTER or doctor/physician.
<b>P312</b>	Call a POISION CENTER or doctor/physician if you feel unwell.

<b>P314</b>	Get medical advice/attention if you feel unwell.
<b>P330</b>	Rinse mouth.
<b>P331</b>	Do NOT induce vomiting
<b>P332+P313</b>	If skin irritation occurs: Get medical advice/attention.
<b>P361</b>	Remove/take off immediately all contaminated clothes.
<b>P362</b>	Take off contaminated clothing and wash before reuse.
<b>P363</b>	Wash contaminated clothing before reuse.
<b>P370+P313</b>	In case of fire: Use foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only for extinction.
<b>P391</b>	Collect spillage.

#### Precautionary Statement(s): Storage

<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P403-P235</b>	Store in a well-ventilated place. Keep cool.
<b>P405</b>	Store locked up.

#### Precautionary Statement(s): Disposal

<b>P501</b>	Dispose of contents/container to an approved waste disposal plant.
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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Information on Composition

Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C4 to C12 range. Includes benzene at 0.1 - 5% v/v to 0.1 - 1% v/v. Contains lead alkyl anti-knock additives. Maximum lead concentration: 0.56 g/l. Maximum tetraethyl lead content is 0.125% w/w. May also contain several additives at <0.1% v/v each. This product is dyed for grade identification.

<b>Component</b>	<b>CAS Number</b>	<b>Volume %</b>
Gasoline, low boiling point naphtha	86290-81-5	100
Tetraethyl Lead	78-00-2	0.125%

#### Other Information

This product contains tetraethyl lead which may accumulate in the human body. There are indications from human epidemiological studies that excessive prenatal exposure to tetraethyl lead may cause developmental and neurobehavioral effects in children.

## 4. FIRST AID MEASURES

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**Eye:** Flush eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by Poisonous Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

**Skin:** Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

**Inhalation:** Avoid becoming a casualty – to protect rescuer, use air viva, oxy-viva or one-way mask. Remove affected person from contaminated area – apply artificial respiration if not breathing. Do not give direct mouth to mouth resuscitation. Resuscitate in a well-ventilated area. Seek immediate medical attention. If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention

**Ingestion:** Do not induce vomiting. Immediately wash out mouth with water (never give anything by mouth if affected person is semi-conscious or unconscious). Where vomiting occurs naturally have affected person place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.

**First Aid Facilities:** Eyewash, safety shower and normal washroom facilities.

**Advice to Doctor:** Treat symptomatically.

**Other Information:** The concentration of lead alkyl compounds present is not significant in the context of treating acute poisoning unless the person had excessive and prolonged exposure to the material. For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

## 5. FIRE FIGHTING MEASURES

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**Suitable Extinguishing Media:** Foam, Dry chemical, CO<sub>2</sub>, water and fog. Sand and earth may be used for small fires only.

**Unsuitable Extinguishing Media:** Do not use water jets.

**Hazards from Combustion Products:** Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including a complex mixture of airborne solid and liquid particulates and gases (smoke), carbon monoxide, carbon dioxide, unidentified organic and inorganic compounds.

**Specific Hazards Arising from the Chemical:** Extremely flammable liquid and vapour. Keep containers and fire-exposed surfaces cool with water spray. Shut off any leak if safe to do so and remove sources of re-ignition. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

**Precautions in Connection with Fire:** Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. In case of fire the product may be violently or explosively reactive. Use water spray to disperse vapours. This product should be prevented from entering drains and watercourses.

**HAZCHEM Code:** 3YE

**Decomposition Temperature:** N/A

## 6. ACCIDENTAL RELEASE MEASURES

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**Emergency Procedures:** Remove all sources of ignition. Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using explosion proof vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

## 7. HANDLING AND STORAGE

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**Precautions for Safe Handling:** Toxic and flammable liquid. Exposure without protection must be prevented. Avoid exposure, contact with skin and eyes. Wear overalls, impervious gloves and safety glasses. DO NOT store or use in confined spaces. Avoid breathing in spray or mists or vapours. Use in designated areas with adequate ventilation. Use approved flammable liquid storage containers in the work area. Prevent release of vapours and mists into workplace air. Keep containers tightly closed. Take precautionary measures against static discharges. Keep material away from sparks, flames and other ignition sources. Do not empty into drains. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands before eating, drinking, smoking or using the toilet facilities. Avoid exposure. Do not handle until all safety precautions have been read and understood. It is recommended that pregnant or breastfeeding women should not handle this product unless adequate exposure protection can be assured at all times. Female personnel planning pregnancy should be made aware of the potential risks.

**Conditions for safe storage, including any incompatibilities:** This material is Toxic and must be stored, handled and maintained according to the appropriate regulations. Limit quantity in storage. Restrict access to storage area. Post appropriate warning signs. Consider leak detection and alarm systems, as required. Structural materials and lighting and ventilation systems in storage area should be corrosion resistant. Store in a cool, dry, well-ventilated area away from sources of ignition, oxidizing agents, strong mineral acids, bases metal and/or water. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids and AS/NZS 4452 The storage and handling of toxic substances.

**Recommended Materials:** 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), 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:** 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.

**Other Information:** Ensure that all local regulations regarding handling and storage facilities are followed. In the interests of air safety, aviation fuels are subject to strict quality requirements and product integrity is of paramount importance.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<i>Component</i>	<i>CAS Number</i>	<i>TWA (mg/m<sup>3</sup>)</i>
Tetraethyl Lead	78-00-2	0.1

**Biological Limit Values:** Name: Lead. Determinant: Lead in blood. Value: 30µg/100ml. Sampling time: Not critical. Source: American Conference of Industrial Hygienists (ACGIH).

**Engineering Controls:** This substance is toxic and should be used with a local exhaust ventilation system, drawing vapours away from workers breathing zone. Provide sufficient ventilation to keep airborne levels below the exposure limits or as low as possible. Where vapours or mists are generated, particularly in enclosed areas and natural ventilation is inadequate, a flame proof exhaust ventilation system is required. Alternatively, a process enclosure system such as a fume cupboard should be employed. Refer to AS1940 – The storage and handling of flammable and combustible liquids, and AS/NZS60079.10.1: 2009. Classification of areas – explosive atmospheres and further information concerning ventilation requirements.

**Eye Protection:** Avoid contact with eyes. Wear chemical splash goggles when pouring into an open container or safety glasses for other applications.

**Skin Protection:** Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil. Wear chemical and oil resistant gloves. Consider conditions of work and use, and condition of gloves, when selecting gloves. Develop safety procedures for material handling practices for each intended application.

**Respiratory Protection:** Use only with adequate ventilation. Avoid breathing vapour or mist. Approved air supplied respiratory protection should be worn whenever it is required for the worker's face to be within 1m of an open hatch.

**Hand Protection:** Wear gloves/gauntlets of impervious material such as nitrile (breakthrough time > 240 minutes). For incidental contact/splash protection neoprene or PVC gloves may be suitable. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

**Body Protection:** Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Colour</b>	Either green or blue, clear bright liquid
<b>Odour</b>	Hydrocarbon
<b>Density</b>	0.700g/cm <sup>3</sup> (15°C) (typical)
<b>Boiling Point (95%)</b>	35° - 170°C
<b>Vapour Pressure</b>	38 – 49 kPa at 37.8°C
<b>Flash Point (FP)</b>	<-40°C
<b>Flammability</b>	Extremely flammable liquid
<b>LEL</b>	1%
<b>UEL</b>	6%
<b>Solubility in Water</b>	n/a

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal conditions of use.

**Reactivity and Stability:** Reacts with incompatible materials.

**Conditions to Avoid:** Heat, sparks, flame, other sources of ignition and a build-up of static electricity.

**Incompatibility:** Strong oxidising agents

**Hazardous Decomposition:** Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including a complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

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### **Toxicology Information**

The available toxicity data for material given below.

#### **Acute Toxicity - Oral**

LD50 (Rat) >2000 mg/kg

#### **Acute Toxicity - Inhalation**

LC50 (Rat): >5 mg/l/4h

#### **Acute Toxicity - Dermal**

LD50 (Rabbit): >2000 mg/kg

**Eye Contact:** May cause irritation in contact with the eyes, which can result in redness, stinging and tearing.

**Skin Contact:** Toxic in contact with skin. Product can be absorbed through skin with resultant toxic systemic effects. Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

**Inhalation:** Toxic if inhaled. Inhalation may cause headaches, impairment of judgement and in extreme cases can lead to unconsciousness or death. May cause irritation to the mucous membrane and upper airways, especially where vapours or mists are generated. Symptoms include sneezing, coughing, wheezing, shortness of breath, headache, dizziness, drowsiness, nausea and vomiting.

**Ingestion:** Toxic if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea. May be fatal if swallowed and enters airways. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause severe pulmonary injury that may lead to death. May cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

**Chronic Effects:** Possible risk of irreversible effect. Prolonged or repeated skin contact may cause skin irritation leading to dermatitis. Repeated or prolonged inhalation of high vapour concentrations can cause drowsiness and lead to narcosis or death.

**Respiratory sensitisation:** Not expected to be a respiratory sensitiser.

**Skin Sensitisation:** Not expected to be a skin sensitiser.

**Germ cell mutagenicity:** May cause genetic defects. Classified as Known or presumed to induce heritable mutations.

**Carcinogenicity:** May cause cancer. Classified as a Known or presumed human carcinogen.

**Reproductive Toxicity:** May damage fertility or the unborn child. Classified as a Known or presumed human reproductive or developmental toxicant.

**STOT-single exposure:** May cause drowsiness or dizziness.



**STOT-repeated exposure:** May cause damage to organs through prolonged or repeated exposure.

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Toxic to aquatic life with long lasting effects.

**Mobility:** Floats on water and evaporates from soil and water within a day. Large spills may affect spill area.

**Bioaccumulation:** Potential bio-accumulative threat. Contains constituents with possibility to bioaccumulate.

**Persistence and Degradability:** Major constituents are expected to be biodegradable. The volatile constituents will oxidise rapidly by photochemical reactions in air.

**Environmental Protection:** Do not discharge into waterways. Large amounts of spillage in water can form films on water and may affect oxygen transfer and damage organisms.

**Other Adverse Effects:** Films formed on water may affect oxygen transfer and damage organisms.



**Acute Toxicity - Other Organisms:** LL/EL/IL50:(aquatic organisms): 1-10 mg/l

## 13. DISPOSAL CONSIDERATIONS

**Disposal considerations:** Dispose of waste according to applicable local and national regulations. Labels should not be removed from containers until they have been cleaned. Advise flammable nature. Empty containers may contain flammable residues. Do not cut, puncture or weld on or near containers. 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. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected.

## 14. TRANSPORT INFORMATION

Labels Required

	
<b>Marine Pollutant (Marine Transport)</b>	

<b>Hazchem Code</b>	3YE
<b>IERG</b>	14

Land Transport (ADG)

<b>UN Number</b>	1203
<b>UN Proper Shipping Name</b>	Gasoline
<b>Transport Hazard Class</b>	Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
<b>Packing Group</b>	II

Air Transport (ICAO-IATA / DGR)

<b>UN Number</b>	1203
<b>UN Proper Shipping Name</b>	Gasoline
<b>Transport Hazard Class</b>	Class 3 – Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA Dangerous Goods Regulations for transport by air
<b>Packing Group</b>	II (packing instructions passenger & cargo: 353, cargo only: 364)
<b>Special Provisions</b>	A100

Marine Transport (IMO / IMDG)

<b>UN Number</b>	1203
<b>UN Proper Shipping Name</b>	Gasoline (Marine Pollutant)
<b>Transport Hazard Class</b>	Class 3 – Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG) for transport by sea
<b>Packing Group</b>	II
<b>EMS</b>	F-E, S-E
<b>Special Provisions</b>	243, 363

## 15. REGULATORY INFORMATION

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**Regulatory information:** Classified as Hazardous according to the Globally Harmonised System of classification and labelling of chemicals (GHS) including Work, Health and Safety regulations, Australia.

SUSMP Schedule: S5. When packed in containers having a capacity of 20 litres or less.

SUSMP Schedule Not scheduled when packed in containers having capacity of greater than 20 litres.

### Poisons Schedule

Not Scheduled

### International Convention for the Prevention of Pollution from Ships (MARPOL)

This product is classified as Oils under AMRPOL Annex I. MARPOL Annex I rules apply for bulk shipment by sea

## 16. OTHER INFORMATION

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### Compiled by:

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### Notice to Reader:

This data sheet and the health, safety and environmental information it contains are considered to be accurate as of the date specified below. We have reviewed any information contained herein, which we received from sources outside IOR Petroleum. However, no warranty or representation, expressed or implied is made as to the accuracy or completeness of the data and information contained in this data sheet. This 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.

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