

Skyfuel Australia PL

JET A1 Safety Data Sheet (SDS)

Version 2.1 May 2018



1. IDENTIFICATION

GHS Product Identifier

Fuel, Aviation Turbine Engine, (JET A1)

Company Name & Address

Skyfuel Australia PL, 205 Waterfall creek Road The Oaks, NSW 2570

Tel +61 2 46571255

Tel 1300 759 383 (within Australia)

Product Manufactured By

VIVA ENERGY AUSTRALIA PTY LTD (FORMERLY: SHELL COMPANY OF AUSTRALIA LTD) (ABN 46 004 610 459)

Viva Energy Address

Level 16, 720 Bourke Street Docklands

Victoria 3008 Australia

Telephone/Fax Number

Tel: +61 (0)3 8823 4444

Fax: +61 (0)3 8823 4800

Emergency phone numbers

Skyfuel: 1300 759383; 0418862100

1800 651 818 (Australia) / Poisons Information Centre:13 11 26 (Australia)

Recommended use of the chemical and restrictions on use

Recommended Uses: Fuel for aviation turbine engines fitted to aircraft.

Other Names

Jet A1, F- 34; AVTUR.

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

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)

Aspiration Hazard: Category 1

Flammable Liquids: Category 3

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 2

Skin Corrosion/Irritation: Category 2

Signal Word

DANGER

Hazard Statements

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H411 Toxic to aquatic life with long lasting effects.

Pictograms

Flame, Exclamation mark, Health hazard, Environment

**Precautionary statement – Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash contaminated skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P331 Do NOT induce vomiting.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

Precautionary statement – Storage

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Precautionary statement – Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Information on Composition**

Preparation Description : Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C9 to C16 range. May also contain several additives at <0.1% v/v each.

Total aromatic hydrocarbons present are typically in the range of 10-20%v/v.

Ingredients

Name	C. A.S	Proportion
Kerosine (petroleum) , hydrodesulphurised	64742 – 81 - 0	0- 100 %
Kerosine	8008 – 20 - 6	0- 100 %

4. FIRST-AID MEASURES

Inhalation

If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

Ingestion

Do NOT induce vomiting. Wash out mouth and lips with water. Where vomiting occurs naturally have affected person place head below hip level in order to reduce risk of aspiration. Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

Eye contact

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. If symptoms develop and/or persist seek medical attention.

First Aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (131 126)

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media

Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulphur and unidentified organic and inorganic compounds.

Specific Hazards Arising From The Chemical

Flammable liquid and vapour. Vapour/air mixtures may ignite explosively. Flashback along the vapour trail may occur. Runoff to sewer may create fire or explosion hazard.

Hazchem Code

3Y

Decomposition Temperature

Not available

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.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and 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. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Wear overalls, impervious gloves and safety glasses. Use in designated areas with local exhaust ventilation, away from sparks, flames and other ignition sources. 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. 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.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, strong acids, foodstuffs, and clothing. 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.

Recommended Materials

For containers, or container linings use carbon steel and low alloy steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For container linings the following may also be used: Unplasticized polyvinyl chloride (U-PVC), Fluoropolymers (PTFE), Polyvinylidene fluoride (PVDF), Polyetheretherketone (PEEK), Polyamide (PA-11). For seals and gaskets use: Fluoroelastomer (FKM), Viton A, and Viton B, Nitrile butadiene (NBR), Buna-N. For coating (paint) materials use: High build, amine adduct-cured epoxy.

Unsuitable Materials

For containers or container linings, examples of materials to avoid are: Polyethylene (PE, HDPE), Polypropylene (PP), Polymethyl methacrylate (PMMA), Acrylonitrile butadiene styrene (ABS). For seals and gaskets, examples of materials to avoid are: Natural rubber (NR), Ethylene Propylene (EPDM), Polychloroprene (CR) - Neoprene, Butyl (IIR), Chlorosulphonated polyethylene (CSM), e.g. Hypalon.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

Kerosine

TWA: 200 mg/m³

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.

Biological Limit Values

No biological limits allocated.

Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements.

Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1:2009 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian 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.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as nitrile gloves (Breakthrough time of > 240 minutes) neoprene, 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

Form: Liquid

Appearance: Transparent liquid. (Can appear water white to straw yellow)

Colour: Water white to straw yellow

Odour: Hydrocarbon

Decomposition Temperature: Not Available

Freezing Point: < -47 °C

Boiling Point: 150 - 300 °C

Solubility in Water: Negligible.

Solubility in Organic Solvents: Not available

Density: 0.775 - 0.84 g/cm³ at 15 °C

pH: Not available

Vapour Pressure: < 0.1 hPa at 20 °C

Vapour Density (Air=1): > 5

Evaporation Rate: Not available

Odour Threshold: Not available

Partition Coefficient: n-octanol/water: (log Pow) : 2 - 6

Flash Point: >38 °C

Flammability: Flammable

Auto-Ignition Temperature: > 220 °C

Flammable Limits – Lower: 1 %(V)

Flammable Limits – Upper: 6 %(V)

Kinematic Viscosity: 1 - 2 mm²/s at 40 °C

10. STABILITY AND REACTIVITY**Chemical Stability**

Stable under normal conditions of storage and handling.

Reactivity and Stability

Reacts with incompatible materials.

Conditions to Avoid

Avoid heat, sparks, open flames and other ignition sources.

Incompatible materials

Strong oxidising agents.

Hazardous Decomposition Products

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

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

Possibility of hazardous reactions

Not available

Hazardous Polymerization

Not available

11. TOXICOLOGICAL INFORMATION**Toxicology Information**

The available toxicity data for material given below.

Acute Toxicity - Oral

LD50:(rat): >2000 mg/kg

Acute Toxicity - Inhalation

LD50:(rat): >5 mg/l / 4 h, Rat

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Acute Toxicity - Dermal

LD50:(rabbit): >2000 mg/kg

Ingestion

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, esophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

Inhalation

Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

Skin

Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

Eye

May be irritating to eyes. The symptoms may include redness, itching and tearing.

Respiratory sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Germ cell mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Reproductive Toxicity

Not considered to be toxic to reproduction.

STOT-single exposure

Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure

Not expected to cause toxicity to a specific target organ.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Other Information

Repeated Dose Toxicity : Kidney: caused kidney effects in male rats which are not considered relevant to humans

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Persistence and degradability

Major constituents are expected to be inherently biodegradable. The volatile constituents will oxidize rapidly by photochemical reactions in air.

Mobility

Floats on water. Contains volatile constituents. Evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate groundwater.

Bioaccumulative Potential

Contains constituents with the potential to bioaccumulate.

Other Adverse Effects

Films formed on water may affect oxygen transfer and damage organisms.

Environmental Protection

Do not discharge this material into waterways, drains and sewers.

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 puncture, cut or weld on or near empty 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

Transport Information

Road and Rail Transport (ADG Code applies):

This material is a Class 3 - Flammable Liquid according to The Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Class 3 - Flammable Liquids are incompatible in a placard load with any of the following:

- Class 1, Explosives
- Division 2.1, Flammable Gases, (Division 2.1 and Class 3 are incompatible in transport if both are in tanks or other receptacles with a capacity individually exceeding 500 L.)
- Division 2.3, Toxic Gases
- Division 4.2 Spontaneously Combustible Substances
- Division 5.1 Oxidising Agents and Division 5.2, Organic Peroxides
- Class 6 Toxic or Infectious Substances (where the flammable liquid is nitromethane)
- Class 7: Radioactive materials unless specifically exempted

Marine Transport (IMO/IMDG):

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

Class/Division: 3

UN No: 1863

Proper Shipping Name: FUEL, AVIATION, TURBINE ENGINE (MARINE POLLUTANT)

Packing Group: III

EMS: F-E, S-E

Special Provisions: 223, 363

Air Transport (ICAO/IATA):

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

Class/Division: 3

UN No: 1863

Proper Shipping Name: Fuel, aviation, turbine engine

Packing Group: III

Packaging Instructions (passenger & cargo): 355

Packaging Instructions (cargo only): 366

Hazard Label: Flammable liquid

Special Provisions: A3

U.N. Number: 1863

UN proper shipping name: FUEL, AVIATION, TURBINE ENGINE

Transport hazard class(es): 3

Packing Group: III

Hazchem Code: 3Y

Special Precautions for User: Not available

IERG Number: 14

IMDG Marine pollutant: Yes

Transport in Bulk: Permitted.

Other Information: This product is classified as Oils under MARPOL Annex I. MARPOL Annex I rules apply for bulk shipments by sea.

15. REGULATORY INFORMATION

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: S5

16. OTHER INFORMATION

Date of preparation or last revision of SDS

SDS Reviewed: v2.1 May 2018

Supersedes: v2.0 May 2017

Supersedes: v1.0 April 2015

References

- Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
- Standard for the Uniform Scheduling of Medicines and Poisons.
- Australian Code for the Transport of Dangerous Goods by Road & Rail. (7.5)
- Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
- Workplace exposure standards for airborne contaminants, Safe work Australia.
- American Conference of Industrial Hygienists (ACGIH).
- Globally Harmonised System of classification and labelling of chemicals.