

## Safety Data Sheet

**AeroShell Fluid 41****1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING**

**Product Code** 001A0050  
**Infosafe No.** ACITV AU/eng/C  
**Issued Date** 11/07/2008  
**Product Type/Use** Mineral hydraulic fluid for aircraft. For further details consult the AeroShell Book on [www.shell.com/aviation](http://www.shell.com/aviation).

| <b>Other Names</b> | <b>Name</b>        | <b>Code</b>  |
|--------------------|--------------------|--------------|
|                    | AeroShell Fluid 41 | 140001168102 |

| <b>Supplier</b>  | <b>Telephone Numbers</b>  |
|--|---|
| Shell Company of Australia Ltd.<br>Level 2, 8 Redfern Road,<br>Hawthorn East, Victoria 3123<br>(ABN 46 004 610 459)<br>AUSTRALIA | <b>Emergency Tel.</b><br>1800 651 818<br><b>Telephone/Fax Number</b><br>Tel: 03 9666 5444 Fax: 03 8823 4800 |

**2. COMPOSITION/INFORMATION ON INGREDIENTS****Preparation Description**

Highly refined mineral oils and additives. The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

| Name  | CAS        | EINECS    | Proportion | Hazard | R Phrase |
|---|------------|-----------|------------|--------|----------|
| Distillates (petroleum), hydro-treated light naphthenic | 64742-53-6 | 265-156-6 | 55-65 %    | Xn     | R65      |
| Distillates (petroleum) hydro-treated light             | 64742-47-8 | 265-149-8 | 10-20 %    | Xn     | R65, R66 |

**Other Information**

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

**3. HAZARDS IDENTIFICATION****Hazards Identification**

NON-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**

No specific hazards under normal use conditions. Prolonged or repeated exposure may give rise to dermatitis. Used oil may contain harmful impurities.

### **Safety Hazards**

Not classified as flammable, but will burn.

### **Environmental Hazards**

Not classified as dangerous for the environment.

## **4. FIRST AID MEASURES**

### **Symptoms and Effects**

Not expected to give rise to an acute hazard under normal conditions of use.

### **Inhalation**

In the unlikely event of dizziness or nausea, remove casualty to fresh air. If symptoms persist, obtain medical attention.

### **Skin**

Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. 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**

Wash out mouth with water and obtain medical attention. Do not induce vomiting.

### **Advice to Doctor**

Treat symptomatically. Aspiration into the lungs may cause chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure. 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 and gases, including carbon monoxide and unidentified organic and inorganic compounds.

### **Extinguishing Media**

Foam and dry chemical powder. Carbon dioxide, sand or earth may be used for small fires only.

### **Unsuitable Extinguishing Media**

Water in jet. Use of halon extinguishers should be avoided for environmental reasons.

### **Protective Equipment**

Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions**

Avoid contact with skin and eyes. Wear PVC, Neoprene or nitrile rubber gloves. Wear rubber 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, ditches or rivers by using sand, earth, or other appropriate barriers. Inform local authorities if this cannot be prevented.

**Clean-up Methods - Small Spillages**

Absorb liquid with sand or earth. Sweep up and remove to a suitable, clearly marked container for disposal in accordance with local regulations.

**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.

**7. HANDLING AND STORAGE****Handling**

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**

Keep in a cool, dry, well-ventilated place. Use properly labelled and closeable containers. Avoid direct sunlight, heat sources, and strong oxidizing agents.

**Storage Temperatures**

-50°C Minimum. 50°C Maximum.

**Recommended Materials**

For containers or container linings, use mild steel or high density polyethylene.

**Unsuitable Materials**

For containers or container linings, avoid PVC.

**Other Information**

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

**8. EXPOSURE CONTROLS, PERSONAL PROTECTION****Exposure Limits**

| Substance                                   | Regulations | Exposure Duration | Exposure Limit | Units             | Notes |
|---|-------------|-------------------|----------------|-------------------|-------|
| Oil mist, mineral                           | NOHSC:1003  | TWA               | 5              | mg/m <sup>3</sup> |       |
| Distillates (petroleum) hydro-treated light | ACGIH       | TWA               | 200            | mg/m <sup>3</sup> |       |

NOHSC:1003 Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] - 3rd Edition  
 ACGIH ACGIH Threshold Limit Values.

**Exposure Controls**

Use local exhaust ventilation if there is a risk of inhalation of vapours, mists or aerosols.

**Respiratory Protection**

Not normally required. If oil mist cannot be controlled, a respirator fitted with an organic vapour cartridge combined with a particulate pre-filter should be used.



**Hand Protection**

PVC or nitrile rubber gloves.

**Eye Protection**

Wear safety glasses or full face shield if splashes are likely to occur.

**Body Protection**

Minimise all forms of skin contact. Overalls and shoes with oil resistant soles should be worn. Launder overalls and undergarments regularly.

**Environmental Exposure Controls**

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|  |                                       |
|--|---------------------------------------|
| <b>Colour</b>                                  | Red.                                  |
| <b>Physical State</b>                          | Liquid at ambient temperature.        |
| <b>Odour</b>                                   | Characteristic mineral oil.           |
| <b>pH Value</b>                                | Data not available.                   |
| <b>Vapour Pressure</b>                         | Data not available.                   |
| <b>Solubility in Water</b>                     | Negligible.                           |
| <b>Density</b>                                 | 850 to 875 kg/m <sup>3</sup> at 15°C. |
| <b>Flash Point</b>                             | 105 to 110°C (PMCC).                  |
| <b>Flammable Limits - Upper</b>                | Data not available.                   |
| <b>Flammable Limits - Lower</b>                | Data not available.                   |
| <b>Auto-Ignition Temperature</b>               | 230°C.                                |
| <b>Kinematic Viscosity</b>                     | 14 mm <sup>2</sup> /s at 40°C.        |
| <b>Evaporation Rate</b>                        | Data not available.                   |
| <b>Vapour Density (Air=1)</b>                  | Data not available.                   |
| <b>Partition co-efficient, n-octanol/water</b> | Data not available.                   |
| <b>Pour Point</b>                              | <-60°C.                               |

## 10. STABILITY AND REACTIVITY

**Stability**

Stable.

**Conditions to Avoid**

Extremes of temperature and direct sunlight.

**Materials to Avoid**

Strong oxidizing agents.

**Hazardous Decomposition Products**

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

## 11. TOXICOLOGICAL INFORMATION

**Basis for Assessment**

Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the toxicology of similar products.

**Acute Toxicity - Oral**

LD50 expected to be > 2000 mg/kg.



**Acute Toxicity - Dermal**

LD50 expected to be > 2000 mg/kg.

**Acute Toxicity - Inhalation**

Not considered to be an inhalation hazard under normal conditions of use.

**Eye Irritation**

Expected to be slightly irritating.

**Skin Irritation**

Expected to be slightly irritating.

**Respiratory Irritation**

If mists are inhaled, slight irritation of the respiratory tract may occur.

**Skin Sensitisation**

Not expected to be a skin sensitizer.

**Carcinogenicity**

Product is based on mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Other components are not known to be associated with carcinogenic effects.

**Mutagenicity**

Not considered to be a mutagenic hazard.

**Reproductive Toxicity**

Not considered to be toxic to reproduction.

**Other Information**

Prolonged and/or repeated contact with this product can result in defatting of the skin, particularly at elevated temperatures. This can lead to irritation and possibly dermatitis, especially under conditions of poor personal hygiene. Skin contact should be minimised. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed. Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

## 12. ECOLOGICAL INFORMATION

**Basis for Assessment**

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

**Mobility**

Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.

**Persistence / Degradability**

Not expected to be readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

**Bioaccumulation**

Contains components with the potential to bioaccumulate.

**Ecotoxicity**

Poorly soluble mixture. May cause physical fouling of aquatic organisms. Practically non-toxic, LC/EC50 > 100 mg/L, to aquatic organisms. (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.



**Other Adverse Effects**

Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities.

**13. DISPOSAL CONSIDERATIONS****Waste Disposal**

Recycle or dispose of in accordance with prevailing regulations, by a recognised collector or contractor. The competence of the contractor to deal satisfactorily with this type of product should be established beforehand. Do not pollute the soil, water or environment with the waste product.

**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.

**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

**15. REGULATORY INFORMATION**

|                  |  |
|------------------|--|
| EC Symbols       | None.                                    |
| EC Risk Phrase   | Not classified.                          |
| EC Safety Phrase | Not classified.                          |
| EINECS           | All components listed or polymer exempt. |

**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.

**Packaging & Labelling**

Safety data sheet available for professional user on request.

## 16. OTHER INFORMATION

**Revisions Highlighted**

8. EXPOSURE CONTROLS, PERSONAL PROTECTION - Exposure Limits

**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 systems incorporating natural rubber. Not to be used as an engine lubricating oil. This product must be used, handled and applied in accordance with the requirements of the equipment manufacturer's manuals, bulletins and other documentation.

**List of R Phrases**

R65 Harmful: may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness and cracking.

**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** ...

