

Safety Data Sheet

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

Product Code 001A0078
Infosafe No. ACITM DE/eng/C
Issued Date 01.04.2008
Product Type/Use Mineral shock-absorber fluid for aircraft. For further details consult the AeroShell Book on www.shell.com/aviation.

Other Names	Name	Code
	AeroShell SSF	140001168140

Supplier	Telephone Numbers
Shell Deutschland Oil GmbH Suhrenkamp 71-77 22335 Hamburg Auskunftgebender Bereich: - Anwendungstechnische Informationen: Tel. (040) 3003-8830 - Auskunft zum Sicherheitsdatenblatt Tel. (040) 6324-6255 GERMANY	Emergency Tel. 040-6324-5110 Telephone/Fax Number Tel: 040-6324-0 Fax: 040-632 1051

Email
lubricantSDS@shell.com

2. HAZARDS IDENTIFICATION

EC Classification	Not classified as Dangerous under EC criteria.
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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. Avoid oil mists.

Environmental Hazards

Not classified as dangerous for the environment.

3. 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
Highly-refined mineral oils	Mixture	-	80-95 %		
Barium dinonylnaphthalene sulphonate	25619-56-1	247-132-7	1-5 %	Xi, Xn	R36/38, R20/22
Zinc alkyl dithiophosphate	-	-	1-2.4 %	Xi, N	R38, R41, R51/53

Other Information

Barium content of the blended product is <1%(m/m). See Section 16 'Other Information' for full text of each relevant Risk Phrase.

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.

Storage Class

Not Applicable.

Other Information

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

Fire Class

B.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits

No Exposure Limit Established

Exposure Controls

Not applicable.



Respiratory Protection

Respiratory protection is required in the case of oil mists.

Hand Protection

Protective gloves made from PVC or nitrile rubber, so far as safely permissible. The characteristics of the protective gloves shall be determined by the conditions existing in practice (e.g. multiple use, mechanical loads, temperature conditions, strength and duration of the exposure which can be expected). Suitability tests by the user are recommended before selection of appropriate gloves.

Eye Protection

Monogoggles.

Body Protection

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour	Yellow.
Physical State	Liquid at ambient temperature.
Odour	Characteristic mineral oil.
pH Value	Data not available.
Vapour Pressure	Data not available.
Solubility in Water	Negligible.
Density	circa 880 kg/m ³ at 15°C.
Flash Point	circa 111°C (COC).
Flammable Limits - Upper	Data not available.
Flammable Limits - Lower	Data not available.
Auto-Ignition Temperature	Data not available.
Kinematic Viscosity	circa 14,5 mm ² /s at 37,8°C.
Evaporation Rate	Data not available.
Vapour Density (Air=1)	Data not available.
Partition co-efficient, n-octanol/water	Data not available.
Pour Point	<-60°C.
Elements Content	Barium <0,5%(m/m).

10. STABILITY AND REACTIVITY**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. Product is expected to be practically non-toxic to aquatic organisms, LL/EL50 >100 mg/l. (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. Note that this product contains barium compounds.

Container Disposal

Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor.

EU Waste Disposal Code (EWC)

13 01 10 mineral based non-chlorinated hydraulic oils.

Classification of waste is always the responsibility of the end user.

14. TRANSPORT INFORMATION**Transport Information**

Not dangerous for transport under ADR/RID, IMO and IATA/ICAO regulations.

ADR/RID Class

None Allocated

ADR/RID Packing Group

None Allocated

IMDG Hazard Class

None Allocated

IMDG Packing Group

None Allocated

ADNR Class

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.
TSCA (USA)	All components in compliance.

Packaging & Labelling

Safety data sheet available for professional user on request.



Seveso classification

Product is not listed.

Technical Rules Air

Product not listed by name. Observe section 5.2.5 in connection with section 5.4.9.

Water Endangerment Class (WGK)

WGK 2 (VwVwS 5/99, APPENDIX 2).

Volatile Organic Compounds

None.

16. OTHER INFORMATION

Revisions Highlighted

Revised according to REACH Legislation

References

67/548/EEC - Dangerous Substances Directive.

1999/45/EC - Dangerous Preparations Directive.

91/155/EEC - Safety Data Sheet Directive.

Concawe Report 01/53 - Classification and labelling of petroleum substances according to the EU dangerous substances directive.

Concawe Report 01/54 - Environmental Classification of Petroleum Substances - Summary Data and Rationale

Concawe Report 05/87 - Health aspects of lubricants.

REGULATION (EU) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

Restrictions

Not to be used in any other hydraulic applications. 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

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R20/22 Harmful by inhalation and if swallowed.

R36/38 Irritating to eyes and skin.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Technical Contact Numbers

(040) 3003-8830.

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** ...

