

Safety Data Sheet

AeroShell Calibrating Fluid 2**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING**

Product Code 001A0032
Infosafe No. ACITU GB/eng/C
Issued Date 14/05/2003
Product Type/Use Special kerosine for aircraft fuel system calibration. For further details consult the AeroShell Book on www.shell.com/aviation.

Other Names	Name	Code
	AeroShell Calibrating Fluid 2	140001168087

Supplier	Telephone Numbers
SHELL UK PRODUCTS LTD Stanlow Manufacturing Complex PO Box 3 Ellesmere Port CH65 4HB Technical Contact: Product HSE Department United Kingdom	Emergency Tel. 0151-350-4595 Telephone/Fax Number Tel: 0151-350-4000

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

Special Run Stoddard Solvent. May contain antioxidant and corrosion inhibitor additives.

Name	CAS	EINECS	Proportion	Hazard	R Phrase
Stoddard solvent	8052-41-3	2324893	95-100 %	Xn, N	R10, R65, R66, R67, R51/53

Other Information

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

3. HAZARDS IDENTIFICATION

EC Classification	Harmful. Dangerous for the Environment. Flammable.
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Human Health Hazards

Harmful: may cause lung damage if swallowed. Aspiration into the lungs may cause chemical pneumonitis which can be fatal. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Safety Hazards

Flammable. In use, may form flammable/explosive vapour-air mixture.

Environmental Hazards

Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

Symptoms and Effects

Aspiration into the lungs may occur directly or following ingestion. This can cause chemical pneumonitis which may be fatal. Prolonged exposure to vapour/mist may cause headaches, dizziness, nausea, unconsciousness and irritation to the eyes and upper respiratory tract.

Inhalation

Remove to fresh air. If rapid recovery does not occur, obtain medical attention.

Skin

Remove contaminated clothing and wash affected skin with soap and water. If persistent irritation occurs, obtain medical attention. If high pressure injection injuries occur, obtain medical attention immediately.

Eye

Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion

DO NOT INDUCE VOMITING. Protect airway if vomiting begins. Give nothing by mouth. If breathing but unconscious, place in recovery position. If breathing has stopped, apply artificial respiration. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

Advice to Doctor

Treat symptomatically. Aspiration into the lungs may result in chemical pneumonitis. Dermatitis may result from prolonged or repeated exposure.

High pressure injection injuries may require surgical intervention and possibly steroid therapy to minimise tissue damage and loss of function. Because entry wounds are small and may not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Emesis of lubricants is not usually necessary, unless a large amount has been ingested, or some other compound has been dissolved in the product. If this is indicated, for example, when there is rapid onset of central nervous system depression from large ingested volume - gastric lavage under controlled hospital conditions, with full protection of the airway is required. Supportive care may include oxygen, arterial blood gas monitoring, respiratory support, and, if aspiration has occurred, treatment with corticosteroids and antibiotics. Seizures should be controlled with Diazepam, or appropriate equivalent drug.

5. FIRE FIGHTING MEASURES

Specific Hazards

The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and may be reignited on surface water. 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, water spray or fog. 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.

Other Information

Keep adjacent containers cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Do not breathe vapour. Ventilate contaminated area thoroughly. Avoid contact with skin, eyes, clothing. Take off immediately all contaminated clothing. Vapour can travel along the ground for considerable distances. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Avoid sparks. Take precautionary measures against static discharge. Shut off leaks, if possible without personal risk.

Personal Protection

Wear Monogoggles, PVC, neoprene or nitrile rubber gloves, Chemical resistant PVC one-piece suit with integral hood. Safety boots - rubber, knee length. For guidance on respiratory protection see Section 8.

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 or contain liquid with sand, earth or spill control material. Shovel up and place in a labelled, sealable container for subsequent safe disposal.

Clean-up Methods - Large Spillages

Transfer to a labelled container for product recovery or safe disposal. Otherwise treat as for small spillage.

Other Information

Risk of explosion. Inform the emergency services if liquid enters surface water drains. Vapour may form an explosive mixture with air.

7. HANDLING AND STORAGE

Handling

Avoid prolonged or repeated contact with skin, eyes and clothing. Only use in well-ventilated areas. Extinguish any naked flames. Remove ignition sources. Avoid sparks. Do not smoke. Take precautionary measures against static discharges. When using do not eat or drink. 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. Exposure to this product should be reduced as low as reasonably practicable. Reference should be made to the Health and Safety Executive's publication 'COSHH Essentials'.

Storage

Use properly labelled and closeable containers. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. All tanks/equipment must be earthed/bonded. Keep in a bunded area. Do not smoke in storage areas.

Storage Temperatures

Ambient.

Product Transfer

Electrostatic charges may be generated during pumping. Ensure electrical continuity by bonding all equipment.



Avoid splash filling.

Recommended Materials

For containers or container linings, use mild steel or stainless steel. For container paints use zinc silicate. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. For seals and gaskets, use compressed asbestos fibre, PTFE, Viton A, Viton B.

Unsuitable Materials

Materials for the construction of facilities for storing, handling and distributing this product should neither present unnecessary safety hazards nor adversely affect its quality. Examples of materials to avoid are: copper, copper alloys (ferrous and non-ferrous), zinc, zinc alloys. Synthetic materials such as plastics and fibreglass may also be unsuitable, depending on the material specification and intended use. Materials for packages, containers (including containers for the retention or dispatch of samples) and container linings must not adversely affect the quality of the product. They must be impermeable and must not be weakened or otherwise affected by the product. Examples of materials to avoid are: natural rubber, polymethyl methacrylate, polystyrene, polyvinyl chloride, polyisobutylene. Polyethylene and polypropylene are also unsuitable unless they are high density types which have been specifically tested for compatibility with this product.

Other Information

Avoid the use of plastic containers for draining or sampling purposes. Never siphon by mouth.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
Stoddard solvent	Health and Safety Executive. EH40; Occupational Exposure Limits.	TWA	5	mg/m ³	
	Health and Safety Executive. EH40; Occupational Exposure Limits.	STEL	10	mg/m ³	

Exposure Controls

The use of personal protective equipment is only one aspect of an integrated approach to the Control Of Substances Hazardous to Health.

The management of Health and Safety at Work Regulations 1992 require employers to identify and evaluate the risks to health and to implement appropriate measures to eliminate or minimise those risks. The choice of personal protective equipment is highly dependent upon local conditions, e.g. exposure to other chemical substances and micro-organisms, thermal hazards (protection from extremes of cold and heat), electrical hazards, mechanical hazards and appropriate degree of manual dexterity required to undertake an activity.

Whilst the content of this section may inform the choice of personal protective equipment used, the limitations of any information which can be provided must be fully understood, e.g. personal protective equipment chosen to protect employees from occasional splashes maybe entirely inadequate for activities involving partial or complete immersion. If the levels of oil mist or vapour in air are likely to exceed the occupational exposure standards then consideration should be given to the use of local exhaust ventilation to reduce personal exposure.

The choice of personal protective equipment should only be undertaken in the light of a full risk assessment by a suitably qualified competent person (e.g. a professionally qualified occupational hygienist).

Effective protection is only achieved by correctly fitting and well maintained equipment and employers should ensure that appropriate training is given. All personal protective equipment should be regularly inspected and replaced if defective.

Respiratory Protection

Care should be taken to keep exposures below applicable occupational exposure limits. If this cannot be achieved, use of a respirator fitted with an organic vapour cartridge combined with a particulate pre-filter should be considered. Half masks (EN 149) or valved half masks (EN 405) in combination with type A2 (EN 141) and P2/3 (EN 143) pre-filters maybe considered.

If product is subjected to elevated temperatures, half masks (EN 149) or valved half masks (EN 405) in combination with type AX (EN 371) and P2/3 (EN 143) prefilters maybe considered. (For volatile liquids with IBP < 65 oC replace with Half masks (EN 149) or valved half masks (EN 405) in combination with type AX (EN 371) and P2/3 (EN 143) prefilters maybe considered.).

Hand Protection

Chemical protective gloves are made from a wide range of materials, but there is no single glove material (or combination of materials) which gives unlimited resistance to any individual or combination of substances or preparations. The extent of the breakthrough time will be affected by a combination of factors which include permeation, penetration, degradation, use pattern (full immersion, occasional contacts) and how the glove is stored when not in use.

Theoretical maximum levels of protection are seldom achieved in practice and the actual level of protection can be difficult to assess. Effective breakthrough time should be used with care and a margin of safety should be applied. HSE guidance on protective gloves recommends a 75% safety factor to be applied to any figures obtained in a laboratory test. Nitrile gloves may offer relatively long breakthrough times and slow permeation rates. Test data, e.g breakthrough data obtained through test standard EN374-3:1994 are available from reputable equipment suppliers.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. A non perfumed moisturiser should be applied.

Eye Protection

Goggles conforming to a minimum standard of EN 166 345B should be considered if there is a possibility of eye contact with the product through splashing. Higher rated eye protection must be considered for highly hazardous operations or work areas. For example, employees involved in metalworking operations such as chipping, grinding or cutting may require additional protection to avert injury from fast moving particles or broken tools.

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

Colour	Colourless.
Physical State	Liquid at ambient temperature.
Odour	Characteristic.
pH Value	Data not available.
Vapour Pressure	<1 kPa at 20°C.
Initial Boiling Point	circa 158°C.
Final Boiling Point	circa 196°C.
Solubility in Water	Negligible.
Density	circa 770 kg/m ³ at 15°C.
Flash Point	circa 40°C. (Tag closed test).
Flammable Limits - Upper	circa 6%(V/V).
Flammable Limits - Lower	circa 1%(V/V).



Auto-Ignition Temperature	Data not available.
Kinematic Viscosity	circa 1.15 mm ² /s at 15°C.
Evaporation Rate	Data not available.
Vapour Density (Air=1)	>4.5 at 15°C.
Partition co-efficient, n-octanol/water	Data not available.
Pour Point	Data not available.

10. STABILITY AND REACTIVITY

Stability

Stable.

Conditions to Avoid

Heat, flames and sparks.

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 > 2000 mg/kg. Ingestion can lead to vomiting and aspiration into the lungs, which can result in chemical pneumonitis, which can be fatal.

Acute Toxicity - Dermal

LD50 > 2000 mg/kg.

Acute Toxicity - Inhalation

LC50 >5 mg/l. Vapours may cause drowsiness and dizziness.

Eye Irritation

Not expected to be irritating.

Skin Irritation

Expected to be slightly irritating. Repeated exposure may cause skin dryness or cracking.

Respiratory Irritation

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

Skin Sensitisation

Not a skin sensitizer.

Carcinogenicity

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/repeated contact may cause defatting of the skin which can lead to dermatitis in some individuals.

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. Contains volatile components. Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater.

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. Oxidises rapidly by photochemical reactions in air.

Bioaccumulation

Has the potential to bioaccumulate.

Ecotoxicity

Poorly soluble mixture. May cause physical fouling of aquatic organisms. Product is expected to be toxic to aquatic organisms, LL/EL50 1 -10 mg/l. (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Other Adverse Effects

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

13. DISPOSAL CONSIDERATIONS

Precautions

Refer to Section 7 before handling the product or containers.

Waste Disposal

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

Product Disposal

As for waste disposal.

Container Disposal

Drums should be emptied and returned to the supplier or sent to a drum re-conditioner without removing or defacing markings or labels. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture cut or weld uncleaned drums. Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor.

Local Legislation

The Special Waste Regulations 1996.

14. TRANSPORT INFORMATION



ADR/RID UN Number

1268

ADR/RID Class

3

ADR/RID Packing Group

III

ADR/RID Proper Shipping Name

PETROLEUM DISTILLATES, N.O.S. - (Stoddard Solvent)

IMDG UN No

1268

IMDG Hazard Class

3

IMDG Packing Group

III

IMDG Proper Shipping Name

PETROLEUM DISTILLATES, N.O.S. - (Stoddard Solvent)

UN Number (Air Transport, IATA)

1268

IATA Hazard Class

3

IATA Packing Group

III

IATA Proper Shipping Name

PETROLEUM PRODUCTS, N.O.S. - (Stoddard Solvent)

15. REGULATORY INFORMATION

EC Symbols	Xn N
EC Risk Phrase	R10 Flammable. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness and cracking. R67 Vapours may cause drowsiness and dizziness
EC Safety Phrase	S16 Keep away from sources of ignition - No smoking. S29 Do not empty into drains. S51 Use only in well ventilated areas. S61 Avoid release to the environment. Refer to special instructions/safety data sheet. S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label. S7 Keep container tightly closed.

EINECS

All components listed or polymer exempt.

TSCA (USA)

All components listed.

National Legislation



Environmental Protection Act 1990 (as amended).
Health and Safety at Work Act 1974
Consumers Protection Act 1987
Control of Pollution Act 1974
Environmental Act 1995
Factories Act 1961
Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labelling) Regulations
Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.
Control of Substances Hazardous to Health Regulations 1994 (as amended).
Road Traffic (Carriage of Dangerous Substances in Packages) Regulations
Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations
Road Traffic (Carriage of Dangerous Substances in Road Tankers in Tank Containers) Regulations
Road Traffic (Training of Drivers of Vehicles Carrying Dangerous Goods) Regulations
Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
Health and Safety (First Aid) Regulations 1981
Personal Protective Equipment (EC Directive) Regulations 1992
Personal Protective Equipment at Work Regulations 1992

Packaging & Labelling

Contains stoddard solvent. Safety data sheet available for professional user on request.

16. OTHER INFORMATION

Revisions Highlighted

No amendments made to information. To assist harmonisation of sds authoring practices, a version number has been introduced.

References

European Model Code of Safe Practice in the Storage and Handling of Petroleum Products. EN 374-2:1994
Protective gloves against chemicals and micro-organisms
EN 149:2001 Respiratory protective devices - filtering half masks to protect against particles - requirements, testing, marking
EN 405:1992 Respiratory protective devices - valved filtering half masks to protect against gases or gases and particles - requirements, testing, marking.
EN 141:2000 Respiratory protective devices - gas filters and combined filters - requirements, testing, marking
EN 143:2000 Respiratory protective devices - particle filters - requirements, testing, marking
EN 166:1995 Personal eye-protection - specification.

Restrictions

This product must not be used in applications other than those for which this type of oil is specified without first consulting the supplier. 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 in Section 2

R10 Flammable.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness and cracking.
R67 Vapours may cause drowsiness and dizziness
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Technical Contact Numbers

0151-350-4000.

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 ...

