

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : AeroShell Ascender  
Product code : 001B2450

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Synthetic lubricating oil for aircraft turbine engines., For further details consult the AeroShell Book on [www.shell.com/aviation](http://www.shell.com/aviation).  
Uses advised against : This product must be used, handled and applied in accordance with the requirements of the equipment manufacturer's manuals, bulletins and other documentation. This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

#### 1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : **Shell UK Oil Products Limited**  
Shell Centre  
London  
SE1 7NA  
United Kingdom  
Telephone : (+44) 08007318888  
Telefax :  
Email Contact for Safety Data Sheet : If you have any enquiries about the content of this SDS please email [lubricantSDS@shell.com](mailto:lubricantSDS@shell.com)

1.4 Emergency telephone number  
: +44 (0) 151 350 4595 (This telephone number is available 24 hours per day, 7 days per week)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Long-term (chronic) aquatic hazard, Category 3 H412: Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : No Hazard Symbol required

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Signal word : No signal word

Hazard statements :  
H412  
PHYSICAL HAZARDS:  
Not classified as a physical hazard according to CLP criteria.  
HEALTH HAZARDS:  
Not classified as a health hazard under CLP criteria.  
ENVIRONMENTAL HAZARDS:  
Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P273 Avoid release to the environment.  
**Response:**  
No precautionary phrases.  
**Storage:**  
No precautionary phrases.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

Sensitising components : Contains alkaryl amine.  
May produce an allergic reaction.

### 2.3 Other hazards

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Used oil may contain harmful impurities.

Not classified as flammable but will burn.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Blend of synthetic esters and additives.

#### Hazardous components

| Chemical name     | CAS-No.<br>EC-No.<br>Registration<br>number | Classification<br>(REGULATION<br>(EC) No<br>1272/2008) | Concentration<br>(% w/w) |
|-------------------|---------------------------------------------|--------------------------------------------------------|--------------------------|
| Aryl amine        | 51772-35-1<br>257-406-8                     | Aquatic Chronic4;<br>H413                              | 1 - 3                    |
| Triaryl phosphate | 1330-78-5<br>215-548-8                      | Repr.2; H361f<br>Aquatic Acute1;                       | 1 - 2.4                  |

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

|                                                                        |                                             |                                                    |           |
|------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|-----------|
|                                                                        |                                             | H400<br>Aquatic Chronic1;<br>H410                  |           |
| 4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl]aniline | 10081-67-1<br>233-215-5<br>01-2119491299-23 | Skin Sens.1B;<br>H317<br>Aquatic Chronic4;<br>H413 | 0.1 - 0.9 |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
- If inhaled : No treatment necessary under normal conditions of use.  
If symptoms persist, obtain medical advice.
- In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.  
If persistent irritation occurs, obtain medical attention.
- In case of eye contact : Flush eye with copious quantities of water.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If persistent irritation occurs, obtain medical attention.
- If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas.  
Ingestion may result in nausea, vomiting and/or diarrhoea.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Notes to doctor/physician:  
Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Unsuitable extinguishing media : dioxide, sand or earth may be used for small fires only.  
: Do not use water in a jet.

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 6.1.1 For non emergency personnel:  
Avoid contact with skin and eyes.  
6.1.2 For emergency responders:  
Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Environmental precautions : Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

### 6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.,  
For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### SECTION 7: Handling and storage

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.  
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid prolonged or repeated contact with skin.  
Avoid inhaling vapour and/or mists.  
When handling product in drums, safety footwear should be worn and proper handling equipment should be used.  
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

Product Transfer : Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.

#### 7.2 Conditions for safe storage, including any incompatibilities

Other data : Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers.

Store at ambient temperature.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

The storage of this product may be subject to the Control of Pollution (Oil Storage) (England) Regulations. Further guidance may be obtained from the local environmental agency office.

Packaging material : Suitable material: For containers or container linings, use mild steel or high density polyethylene.  
Unsuitable material: PVC.

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

#### 7.3 Specific end use(s)

Specific use(s) : Not applicable

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

##### Biological occupational exposure limits

No biological limit allocated.

##### Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods

<http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods

<http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances

<http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany

<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

#### 8.2 Exposure controls

**Engineering measures** The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

##### Personal protective equipment

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.  
Approved to EU Standard EN166.

Hand protection

Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. 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. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Skin and body protection : Skin protection is not ordinarily required beyond standard work clothes.  
It is good practice to wear chemical resistant gloves.

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.  
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Check with respiratory protective equipment suppliers.  
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.  
Select a filter suitable for combined particulate/organic gases and vapours [Type A/Type P boiling point > 65°C (149°F)] meeting EN14387 and EN143.

Thermal hazards : Not applicable

Hygiene measures : 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".

### Environmental exposure controls

General advice : Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Section 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.  
Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance : Liquid at room temperature.

Colour : amber

Odour : Slight hydrocarbon

Odour Threshold : Data not available

pH : Not applicable

pour point : <= -54 °C Method: Unspecified

Melting / freezing point : Data not available

Initial boiling point and boiling range : > 280 °C estimated value(s)

Flash point : 266 °C  
Method: Unspecified

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

|                                        |                                                          |
|----------------------------------------|----------------------------------------------------------|
| Evaporation rate                       | : Data not available                                     |
| Flammability (solid, gas)              | : Data not available                                     |
| Upper explosion limit                  | : Typical 10 %(V)                                        |
| Lower explosion limit                  | : Typical 1 %(V)                                         |
| Vapour pressure                        | : < 0.5 Pa (20 °C)<br>estimated value(s)                 |
| Relative vapour density                | : > 1estimated value(s)                                  |
| Relative density                       | : 0.990 (15 °C)                                          |
| Density                                | : 990 kg/m3 (15.0 °C)<br>Method: Unspecified             |
| Solubility(ies)                        |                                                          |
| Water solubility                       | : negligible                                             |
| Solubility in other solvents           | : Data not available                                     |
| Partition coefficient: n-octanol/water | : log Pow: > 6(based on information on similar products) |
| Auto-ignition temperature              | : ><br>320 °C                                            |
| Decomposition temperature              | : Data not available                                     |
| Viscosity                              |                                                          |
| Viscosity, dynamic                     | : Data not available                                     |
| Viscosity, kinematic                   | : 25.47 mm2/s (40.0 °C)<br>Method: Unspecified           |
|                                        | 5.02 mm2/s (100 °C)<br>Method: Unspecified               |
|                                        | 11724 mm2/s (-40 °C)<br>Method: Unspecified              |
|                                        | <= 1200 mm2/s (-40 °C)<br>Method: ASTM D2532             |
|                                        | 5.02 mm2/s (100 °C)<br>Method: ASTM D2532                |
|                                        | 25.77 mm2/s (40.0 °C)                                    |

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Method: ASTM D2532

Explosive properties : Not classified

Oxidizing properties : Data not available

### 9.2 Other information

Conductivity : This material is not expected to be a static accumulator.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

### 10.2 Chemical stability

Stable.

No hazardous reaction is expected when handled and stored according to provisions

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

### 10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Basis for assessment : Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure : Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### Acute toxicity

#### Product:

Acute oral toxicity : LD50 rat: > 5,000 mg/kg  
Remarks: Low toxicity:  
Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 Rabbit: > 5,000 mg/kg  
Remarks: Low toxicity:  
Based on available data, the classification criteria are not met.

### Skin corrosion/irritation

#### Product:

Remarks: Slightly irritating to skin., Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis., Based on available data, the classification criteria are not met.

### Serious eye damage/eye irritation

#### Product:

Remarks: Slightly irritating to the eye., Based on available data, the classification criteria are not met.

### Respiratory or skin sensitisation

#### Product:

Remarks: For respiratory and skin sensitisation:, Not a sensitiser., Based on available data, the classification criteria are not met.

### Germ cell mutagenicity

#### Product:

: Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

### Carcinogenicity

#### Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

| Material | GHS/CLP Carcinogenicity Classification |
|----------|----------------------------------------|
|----------|----------------------------------------|

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

|                                                                        |                                    |
|------------------------------------------------------------------------|------------------------------------|
| Aryl amine                                                             | No carcinogenicity classification. |
| Triaryl phosphate                                                      | No carcinogenicity classification. |
| 4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl]aniline | No carcinogenicity classification. |

### Reproductive toxicity

#### Product:

:  
Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are not met.

### STOT - single exposure

#### Product:

Remarks: Based on available data, the classification criteria are not met.

### STOT - repeated exposure

#### Product:

Remarks: Based on available data, the classification criteria are not met.

### Aspiration toxicity

#### Product:

Not an aspiration hazard.

### Further information

#### Product:

Remarks: 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.

Remarks: Slightly irritating to respiratory system.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

### Summary on evaluation of the CMR properties

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

|                                       |                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------|
| Germ cell mutagenicity-<br>Assessment | : This product does not meet the criteria for classification in categories 1A/1B. |
| Carcinogenicity -<br>Assessment       | : This product does not meet the criteria for classification in categories 1A/1B. |
| Reproductive toxicity -<br>Assessment | : This product does not meet the criteria for classification in categories 1A/1B. |

## SECTION 12: Ecological information

### 12.1 Toxicity

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basis for assessment | : Ecotoxicological data have not been determined specifically for this product.<br>Information given is based on a knowledge of the components and the ecotoxicology of similar products.<br>Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). (LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract). |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Product:

|                                                   |                                              |
|---------------------------------------------------|----------------------------------------------|
| Toxicity to fish (Acute toxicity)                 | : Remarks: LL/EL/IL50 10-100 mg/l<br>Harmful |
| Toxicity to crustacean (Acute toxicity)           | : Remarks: LL/EL/IL50 10-100 mg/l<br>Harmful |
| Toxicity to algae/aquatic plants (Acute toxicity) | : Remarks: LL/EL/IL50 10-100 mg/l<br>Harmful |
| Toxicity to fish (Chronic toxicity)               | : Remarks: Data not available                |
| Toxicity to crustacean (Chronic toxicity)         | : Remarks: Data not available                |
| Toxicity to microorganisms (Acute toxicity)       | : Remarks: Data not available                |

#### Components:

##### **Triaryl phosphate :**

|                                               |     |
|-----------------------------------------------|-----|
| M-Factor (Short-term (acute) aquatic hazard)  | : 1 |
| M-Factor (Long-term (chronic) aquatic hazard) | : 1 |

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### 12.2 Persistence and degradability

#### Product:

Biodegradability : Remarks: Not readily biodegradable., Major constituents are inherently biodegradable, but contains components that may persist in the environment.

### 12.3 Bioaccumulative potential

#### Product:

Bioaccumulation : Remarks: Contains components with the potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: > 6Remarks: (based on information on similar products)

### 12.4 Mobility in soil

#### Product:

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

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

### 12.6 Other adverse effects

#### Product:

Additional ecological information : Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential., Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal conditions of use.  
Poorly soluble mixture., Causes physical fouling of aquatic organisms.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Recover or recycle if possible.  
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.  
Do not dispose into the environment, in drains or in water

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.

Waste, spills or used product is dangerous waste.

Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Local legislation

Waste catalogue

:

EU Waste Disposal Code (EWC):

Waste Code

:

13 02 06\*

Remarks

: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

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

Hazardous Waste (England and Wales) Regulations 2005.

## SECTION 14: Transport information

### 14.1 UN number

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.2 Proper shipping name

ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.3 Transport hazard class

ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.4 Packing group

ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good  
IATA : Not regulated as a dangerous good

### 14.5 Environmental hazards

ADR : Not regulated as a dangerous good  
RID : Not regulated as a dangerous good  
IMDG : Not regulated as a dangerous good

### 14.6 Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - List of substances subject to authorisation (Annex XIV) : Product is not subject to Authorisation under REACH.

Volatile organic compounds : 0 %

Other regulations : The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987.

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.

Directive 1994/33/EC on the protection of young people at work and its amendments.

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

### The components of this product are reported in the following inventories:

REACH : Notified with Restrictions.  
TSCA : All components listed.

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## SECTION 16: Other information

**REGULATION (EC) No 1272/2008**  
Long-term (chronic) aquatic hazard,

**Classification procedure:**  
Expert judgement and weight of evidence

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

Category 3, H412

determination.

### Full text of H-Statements

|       |                                                         |
|-------|---------------------------------------------------------|
| H317  | May cause an allergic skin reaction.                    |
| H361f | Suspected of damaging fertility.                        |
| H400  | Very toxic to aquatic life.                             |
| H410  | Very toxic to aquatic life with long lasting effects.   |
| H413  | May cause long lasting harmful effects to aquatic life. |

### Full text of other abbreviations

|                 |                                    |
|-----------------|------------------------------------|
| Aquatic Acute   | Short-term (acute) aquatic hazard  |
| Aquatic Chronic | Long-term (chronic) aquatic hazard |
| Repr.           | Reproductive toxicity              |
| Skin Sens.      | Skin sensitisation                 |

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists

ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances

ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

CEFIC = European Chemical Industry Council

CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut für Normung

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission

EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial Chemical Substances

EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and Labelling of Chemicals

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

INV = Chinese Chemicals Inventory  
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables  
KECI = Korea Existing Chemicals Inventory  
LC50 = Lethal Concentration fifty  
LD50 = Lethal Dose fifty per cent.  
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading  
LL50 = Lethal Loading fifty  
MARPOL = International Convention for the Prevention of Pollution From Ships  
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level  
OE\_HP V = Occupational Exposure - High Production Volume  
PBT = Persistent, Bioaccumulative and Toxic  
PICCS = Philippine Inventory of Chemicals and Chemical Substances  
PNEC = Predicted No Effect Concentration  
REACH = Registration Evaluation And Authorisation Of Chemicals  
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail  
SKIN\_DES = Skin Designation  
STEL = Short term exposure limit  
TRA = Targeted Risk Assessment  
TSCA = US Toxic Substances Control Act  
TWA = Time-Weighted Average  
vPvB = very Persistent and very Bioaccumulative

### Further information

- Training advice : Provide adequate information, instruction and training for operators.
- Other information : A vertical bar (|) in the left margin indicates an amendment from the previous version.
- Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID data base, EC 1272 regulation, etc).

### Identified Uses according to the Use Descriptor System

#### Uses - Worker

- Title : General use of lubricants and greases in vehicles or machinery.- Professional

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 should not therefore be construed as guaranteeing any specific property of the product.

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## **AeroShell Ascender**

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

### Exposure Scenario - Worker

|                         |                                                                                                                                                                                                                                                 |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>300000010248</b>     |                                                                                                                                                                                                                                                 |
| <b>SECTION 1</b>        | <b>EXPOSURE SCENARIO TITLE</b>                                                                                                                                                                                                                  |
| <b>Title</b>            | General use of lubricants and greases in vehicles or machinery.- Professional                                                                                                                                                                   |
| <b>Use Descriptor</b>   | <b>Sector of Use:</b> SU22<br><b>Process Categories:</b> PROC 1, PROC 2, PROC 8a, PROC 8b, PROC 20<br><b>Environmental Release Categories:</b> ERC9a, ERC9b, ESVOC SpERC 9.6b.v1                                                                |
| <b>Scope of process</b> | Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities. |

|                               |                                                            |
|-------------------------------|------------------------------------------------------------|
| <b>SECTION 2</b>              | <b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b> |
| <b>Additional Information</b> | No exposure assessment presented for human health.         |

|                                |                                   |
|--------------------------------|-----------------------------------|
| <b>Section 2.1</b>             | <b>Control of Worker Exposure</b> |
| <b>Product Characteristics</b> |                                   |

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>Contributing Scenarios</b> | <b>Risk Management Measures</b> |
|-------------------------------|---------------------------------|

|                                                                                                                        |                                          |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| <b>Section 2.2</b>                                                                                                     | <b>Control of Environmental Exposure</b> |
| <b>Amounts Used</b>                                                                                                    |                                          |
| EU tonnage (tonnes per year):                                                                                          | 5.39E+03                                 |
| Fraction of EU tonnage used in region:                                                                                 | 0.1                                      |
| Fraction of Regional tonnage used locally:                                                                             | 0.1                                      |
| <b>Frequency and Duration of Use</b>                                                                                   |                                          |
| Emission Days (days/year):                                                                                             | 365                                      |
| <b>Environmental factors not influenced by risk management</b>                                                         |                                          |
| Local freshwater dilution factor:                                                                                      | 10                                       |
| Local marine water dilution factor:                                                                                    | 100                                      |
| <b>Other Operational Conditions affecting Environmental Exposure</b>                                                   |                                          |
| Negligible wastewater emissions as process operates without water contact.                                             |                                          |
| Release fraction to air from process (after typical onsite RMMS) :                                                     |                                          |
| Release fraction to wastewater from process (after typical onsite RMMS and before (municipal) sewage treatment plant): | 5.00E-04                                 |
| Release fraction to soil from process (after typical onsite RMMS):                                                     | 1E-03                                    |
| <b>Technical conditions and measures at process level (source) to prevent release</b>                                  |                                          |
| Common practices vary across sites thus conservative process release estimates used.                                   |                                          |
| <b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>      |                                          |

# SAFETY DATA SHEET

According to EC No 1907/2006 as amended as at the date of this SDS

## AeroShell Ascender

Version 3.4

Revision Date 29.04.2021

Print Date 30.04.2021

|                                                                                                           |             |
|-----------------------------------------------------------------------------------------------------------|-------------|
| Prevent discharge of undissolved substance to or recover from onsite wastewater.                          |             |
| <b>Organisational measures to prevent/limit release from site</b>                                         |             |
| Do not apply industrial sludge to natural soils.<br>Sludge should be incinerated, contained or reclaimed. |             |
| <b>Conditions and Measures related to municipal sewage treatment plant</b>                                |             |
| Estimated substance removal from wastewater via domestic sewage treatment (%)                             | 7.86568E+01 |
| Assumed domestic sewage treatment plant flow (m3/d)                                                       | 2.00E+03    |
| Maximum allowable site quantity (MSafe) based on OCs and RMMs as above (kg/day) :                         | 3.673E+02   |
| <b>Conditions and Measures related to external treatment of waste for disposal</b>                        |             |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. |             |
| <b>Conditions and measures related to external recovery of waste</b>                                      |             |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. |             |

|                                                    |                            |
|----------------------------------------------------|----------------------------|
| <b>SECTION 3</b>                                   | <b>EXPOSURE ESTIMATION</b> |
| <b>Section 3.1 - Health</b>                        |                            |
| No exposure assessment presented for human health. |                            |

|                                 |  |
|---------------------------------|--|
| <b>Section 3.2 -Environment</b> |  |
| Used ECETOC TRA model.          |  |

|                                                    |                                                                |
|----------------------------------------------------|----------------------------------------------------------------|
| <b>SECTION 4</b>                                   | <b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b> |
| <b>Section 4.1 - Health</b>                        |                                                                |
| No exposure assessment presented for human health. |                                                                |

|                                                                                                                                                                                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Section 4.2 -Environment</b>                                                                                                                                                          |  |
| Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. |  |
| Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).                                                 |  |
| If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.                                                |  |
| For further information see <a href="http://www.ATIEL.org/REACH_GES">www.ATIEL.org/REACH_GES</a> .                                                                                       |  |