Technical Data Sheet

# AeroShell **Fluid** *12*

***Synthetic lubricating oil for general purpose aircraft use***

AeroShell Fluid 12 is a low volatility synthetic ester oil used in aircraft instruments and also for the general lubrication of aircraft. It is oxidation and corrosion inhibited, and possesses good high and low temperature characteristics.

## DESIGNED TO MEET CHALLENGES

### Main Applications

- AeroShell Fluid 12 is used for general aircraft lubrication as well as for aircraft gyro instrument gimbal bearings, separately lubricated high speed turbines and compressors, aircraft air cycle equipment and electronic equipment. AeroShell Fluid 12 is particularly suitable for use when an oil with a low evaporation rate is required at high and low temperatures.
- AeroShell Fluid 12 is a synthetic oil and it should not be used in contact with incompatible seal materials such as neoprene or natural rubber. Suitable seal materials include Fluorocarbon (Viton). AeroShell Fluid 12 may also affect certain paints and plastics. It is recommended that components are evaluated for compatibility if there is any question.

### Specifications, Approvals & Recommendations

- MIL-PRF-6085F
- DEF STAN 91-49 (British) equivalent
- COMAC QPL-CMS-OL-204
- AIR 3511/A (French)
- NATO Code O-147
- Joint Service Designation OX-14

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk.

### Typical Physical Characteristics

| Properties | | | Method | MIL-PRF-6085F | Typical |
|---|---|---|---|---|---|
| Oil type | | | | | Synthetic ester |
| Colour (ASTM) | | | ASTM D1500 | 5.0 max | <1.5 |
| Density | @15°C | kg/m³ | ASTM D4052 | | 925 |
| Kinematic Viscosity | @54.4°C | mm²/s | ASTM D445 | 8 min | 9 |
| Kinematic Viscosity | @-54°C | mm²/s | ASTM D445 | 12 000 max | 11 000 |
| Pour Point | | °C | ASTM D5950 | -57 max | <-60 |
| Flash Point (Cleveland Open Cup) | | °C | ASTM D92 | 185 min | >220 |
| Total Acid Number | | mg KOH/g | ASTM D974 | Report | 0.20 |
| Evaporation Loss | 22h @ 120°C | %m | ASTM D972 | 1.80 max | 0.6 |
| Corrosion and oxidation stability 168 hrs - acid number change | @121°C | mgKOH/g | ASTM D4636 | 0.5 max | 0.2 |
| Corrosion & oxidation stability (168 hrs @ 121°C) - viscosity change | @54.5°C | % | ASTM D4636 | ± 5 | 1 |
| Corrosion and oxidation stability 168 hrs - metal weight change | @121°C | mg/cm² | ASTM D4636 | Must pass | Passes |

| Properties | | Method | MIL-PRF-6085F | Typical |
|---|---|---|---|---|
| **Oxidation & corrosion stability 168 hrs @ 121°C - insolubles** | mg/100 l | ASTM D4636 | Must pass | Passes |
| **Low temperature stability 72 hrs** | @-54°C | MIL-PRF-6085 | Must pass | Passes |
| **Precipitation number** | ml | ASTM D91 | 0 max | 0 |
| **Corrosivity** | | MIL-PRF-6085 | Must pass | Passes |

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

- **Health and Safety**

  This product is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

  Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

  Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from https://www.epc.shell.com

- **Protect the Environment**

  Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

- **Advice**

  Advice on applications not covered here may be obtained from your Shell representative.