Technical Data Sheet

- Proven performance
- Reliable protection

Shell **Alexia 40**

Cylinder Lubricant for two-stroke low speed diesel engines

Shell Alexia 40 is a cylinder lubricant designed for use in two stroke low speed diesel engines specifically using low Sulphur fuel. It is a BN 40 and SAE 50 lubricant, formulated with proven and reliable technology.

Performance, Features & Benefits

Reliable engine performance:

- Excellent acid neutralising properties, helping to prolong the life of components
- Minimal deposits on pistons, piston rings, ring grooves, under piston spaces and in cylinder ports; low cylinder and piston ring wear

Low maintenance costs:

Keeps engines clean, minimizes maintenance requirements and allows periods between overhauls to be extended

Reassurance:

- Completely stable in storage under the wide variety of conditions encountered aboard ships
- Proven ability to keep engines clean and control wear and scuffing

Main Applications

Shell Alexia 40 is a BN 40 cylinder lubricant for use in low speed diesel engines burning low sulphur fuel. For detailed application advice based on your specific engine type and operating conditions, please refer to manufacturer's guidelines.

Specifications, Approvals & Recommendations

Shell Alexia 40 has been approved for use in:

- MAN-ES two stroke engine designs (provided the recommendations in the engine type specific guidelines are followed)
- WinGD two stroke engine designs (provided the recommendations in the engine type specific guidelines are followed)
- MHI two stroke engine designs (provided the recommendations in the engine type specific guidelines are followed)

Cylinder oil feed rates:

- Insufficient cylinder oil feed rate can lead to corrosive wear, seized and broken rings, and consequent blow-by and scavenge fire risks, and to the formation of excess deposits.

To obtain optimum performance with Shell Alexia 40 it is important to:

- Observe the engine manufacturer's recommended cylinder oil feed rates as a minimum
- Follow the manufacturer's feed rate recommendations when running in new liners and / or rings
- Ensure the lubricator drive system is well maintained and properly adjusted
- Clean and overhaul lubricator boxes according to manufacturer's recommendations
- Regularly monitor lubricant performance through use of tools such as Shell LubeAnalyst and Shell LubeMonitor

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

Compatibility & Miscibility

- **Mixing of cylinder lubricants**

  Shell Alexia 40 is fully miscible and compatible with all other cylinder lubricants in the Shell portfolio.

  For optimum performance, Shell Alexia 40 should not be used in conjunction with other cylinder lubricants.

Typical Physical Characteristics

Properties			Method	Shell Alexia 40
SAE Viscosity Grade				50
Viscosity Index		minimum	DIN ISO 2909	95
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	18.5
Density	@15°C	kg/m^3	DIN EN ISO 12185	915
Flash Point		°C minimum	ASTM D93	210
Pour Point		°C maximum	ISO 3016	-20
BN		mg/KOH/g	ISO 3771	40
Sulphated Ash		% wt	Calculated Sulphated Ash	5.2

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**

  Shell Alexia 40 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 http://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.