Shell **Morlina** *S1 BL 10*

Technical Data Sheet

- Reliable Protection
- High Speed Applications
- Textile and Machine Tool Spindles Applications

Special Application Bearing & Circulating Oils

Shell Morlina S1 BL oils are special low viscosity, solvent refined mineral oil blended with zinc free additives, to provide extended performance in the high speed spindles of machine tools.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **Long oil life – Maintenance saving**

  Shell Morlina S1 BL oils are formulated with a well proven rust and oxidation inhibitor package that provides high resistance to oxidation, caused by heat in the presence of air, water and metal catalysts, such as copper, and helps to prolong oil life and lower maintenance costs.

- **Reliable wear & corrosion protection**

  The special additives provide efficient anti-wear performance without reacting to the softer metals in bearings and enhance machine reliability.

- **Maintaining system efficiency**

  The low viscosity components of these oils have been chosen to help promote the smooth running of high speed machine elements and minimize heat build up through frictional energy losses.

Main Applications



- **Machine bearing and circulating systems**

  Suitable for a range of machine lubrication systems that include oil lubricated plain and rolling element bearings.

- **High speed spindles**

  The low viscosity fluids (ISO grades 2, 5 and 10) are particularly suitable for the lubrication of high speed spindles in machine tools.

Specifications, Approvals & Recommendations

Shell Morlina S1 BL oils are designed to meet specifications requiring a high quality, light viscosity oil for applications running at high speeds such as those found in high-speed frames and automated machine tools.

Shell Morlina S1 BL oils meet or have been approved by:

- ISO 19378 FC
- ISO 19378 FD
- IS 11696-20
- IS 493
- DIN 51524 HLP
- Compliance with GOTS, ZDHC
- LMW requirements for spindle lubrication 2024

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

Typical Physical Characteristics

Properties			Method	Shell Morlina S1 BL 10
Kinematic Viscosity	@40°C	cSt	ASTM D445	10
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	2.7
Viscosity Index		minimum	ASTM D2270	106
Density	@15°C	kg/m^3	ISO 12185	840
Flash Point		°C minimum	ASTM D92	140
Pour Point		°C maximum	ASTM D5950	-21
Total Acid Number		mg KOH/g maximum	ASTM D664	0.14

Properties			Method	Shell Morlina S1 BL 10
Rust, Salt Water			ASTM D665B	Pass
Water Separability	54°C	minutes	ASTM D1401	5 (40/40/0)
Copper Corrosion	3 hours @100°C	Rating	ASTM D130	1a
Oxidation Control Test : TOST		Hrs to TAN=2.0	ASTM D943	2 000
Oxidation Control Test : RPVOT		minutes minimum	ASTM D2272	800

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 & 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.