Technical Data Sheet

- Reliable Protection
- Long Oil Life
- High Speed Applications

Shell **Morlina** *S2 BL 22*

Special Application Bearing & Circulating Oils

Shell Morlina S2 BL 22 is a special low viscosity 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 S2 BL oils are formulated with a proven rust and oxidation inhibitor package that provides high resistance to oxidation, especially in hot and wet environments. They are also very resistant to breakdown from metal catalysts, such as copper. These characteristics prolong oil life and lower maintenance costs.

- **Reliable wear & corrosion protection**

  The well-balanced additive package also provides efficient anti-wear performance without reacting to the softer metals in bearings, which enhances machine reliability.

  In addition the additive package enhances the oil's natural corrosion protective properties and helps to prolong bearing life.

- **Maintaining system efficiency**

  The low viscosity components in these oils have been chosen to help promote the smooth running of high speed machine elements and minimize heat buildup 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 Morlina S2 BL product line features lower viscosity fluids that are particularly suitable for the lubrication of high speed spindles in machine tools.

Specifications, Approvals & Recommendations

- Five Group Cincinnati P-45 (Light Spindle Oils)

  Shell Morlina S2 BL oils are designed to meet specifications requiring a premium quality, light viscosity oil for applications running at high speeds such as those found in high speed frames and automated machine tools.

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

Typical Physical Characteristics

Properties			Method	Morlina S2 BL 22
Kinematic Viscosity	@40°C	mm^2/s	ASTM D445	22
Kinematic Viscosity	@100°C	mm^2/s	ASTM D445	4.4
Viscosity Index			ASTM D2270	105
Density	@15°C	kg/m^3	ISO 12185	854
Flash Point (COC)		°C	ASTM D92	210
Pour Point		°C	ASTM D5950	-33
Total Acid Number		mg KOH/g	ASTM D664	0.15
Rust, Salt Water			ASTM D665B	Pass
Water Separability	@54°C	minutes	ASTM D1401	10 (40/40/0)
4-ball Wear Scar	1hr/54°C/1800 rpm/20 kg	mm	ASTM D2266	0.45

Properties			Method	Morlina S2 BL 22
Copper Corrosion	3 hours @ 100°C	Rating	ASTM D130	1a
Oxidation Control Test : TOST		Hrs to TAN=2.0 minimum	ASTM D943	3 000
Oxidation Control Test : RPVOT		minutes	ASTM D2272	1 150

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.