



Shell Morlina S2 BL 10

- *Reliable Protection*
- *Long Oil Life*
- *High Speed Applications*

Special Application Bearing & Circulating Oils

Shell Morlina S2 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 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.

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

Specifications, Approvals & Recommendations

- Fives Group Cincinnati P-62 (Very Light Spindle Oil)
- Mercedes-Benz DBL 6651 (Tipper Fluids)

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 10 |
|---------------------|--------|--------------------|------------|------------------|
| Kinematic Viscosity | @40°C | mm ² /s | ASTM D445 | 10 |
| Kinematic Viscosity | @100°C | mm ² /s | ASTM D445 | 2.7 |
| Viscosity Index | | | ASTM D2270 | 118 |
| Density | @15°C | kg/m ³ | ISO 12185 | 810 |
| Flash Point (COC) | | °C | ASTM D92 | 180 |
| Pour Point | | °C | ASTM D5950 | -36 |
| Total Acid Number | | mg KOH/g | ASTM D664 | 0.20 |
| Rust, Salt Water | | | ASTM D665B | Pass |
| Water Separability | @54°C | minutes | ASTM D1401 | 5 (40/40/0) |

| Properties | | | Method | Morlina S2 BL 10 |
|--------------------------------|-------------------------|----------------|------------|------------------|
| 4-ball Wear Scar | 1hr/54°C/1800 rpm/20 kg | mm | ASTM D2266 | 0.45 |
| Copper Corrosion | 3 hours @ 100°C | Rating | ASTM D130 | 1a |
| Oxidation Control Test : TOST | | Hrs to TAN=2.0 | ASTM D943 | 5000+ |
| Oxidation Control Test : RPVOT | | minutes | ASTM D2272 | 1000 |

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**

Guidance on Health and Safety is available on the appropriate Material 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.