



DIOL^{*} 9 RD series oils are heavy duty crankcase oils designed to meet the severe service demands imposed by the latest railway diesel locomotive engines. An Electromotive Division (EMD) and General Electric (GE) endorsed additive provides superior engine protection, oil consumption control and oil drain interval extension capability. DIOL 9 RD oils offer the following features and benefits:

- ◆ **Zinc Free - Excellent Silver Bearing Lubricity**
- ◆ **Enhanced Oxidation, Sludge-Soot Handling and Viscosity Control**
- ◆ **Excellent Deposit, Corrosion and Wear Control**
- ◆ **Improved Technology for Lower Maintenance Costs and Longer Engine Life**
- ◆ **Formulated for use with low sulphur and ultra-low sulphur diesel fuels**
- ◆ **Extended oil drain intervals and high locomotive utilization rates**
- ◆ **Chlorine Free**
- ◆ **LMOA Generation 5.**
- ◆ **G.E. Generation 4 'Long Life'**

Primary Applications

DIOL 9 RD oils are formulated to an LMOA Generation 5 quality level with an engine manufacturer endorsed additive package. They meet the requirements of, and are recommended for all EMD and GE diesel locomotives

Performance Features

Some EMD railway diesel engines in service are equipped with silver wrist-pin bearings. Some zinc-containing additives can contribute to rapid corrosion and wear of silver bearing alloys. DIOL 9 RD oils are blended to be zinc-free.

The combination of premium paraffinic base stocks and inhibitors provide excellent oxidation, sludge-soot handling and oil viscosity control. These features are especially important with new "tighter" reduced oil consumption engine designs and extended oil drain interval practices.

DIOL 9 RD oils have a 9 TBN (Total Base Number) detergent/dispersant additive, which minimizes deposits on engine components and maintains balanced non-corrosive lubrication longer - a prime consideration for newer design and higher operating severity engines. The new DIOL are suitable for the lowered sulphur levels of modern diesel fuel.

A balanced additive package provides additional protection against wear, corrosion, rust and foam. The non-chlorinated anti-wear technology provides improved used oil disposal/recycling options.

Precautions

DIOL 9 RD oils are manufactured from quality petroleum base stocks blended with selected additives. As with all petroleum products, good personal hygiene and careful handling should always be practiced. Avoid prolonged contact with the skin, splashing into the eyes, ingestion or inhalation of vapors. Please refer to the Esso Material Safety Data Sheet for further information.

Note: This product is NOT controlled under the Canadian WHMIS legislation.

Typical Properties

	DIOL 9 RD 40	DIOL 9 RD 20W-40
Density at 15°C, kg/L	0.89	0.89
Kinematic Viscosity, cSt @ 40°C @ 100°C	144 14.6	136 15.3
Viscosity, CCS @ -10C, cP @ -15C, cP		4,500 8,500
Flash Point, °C, Min	250	240
Total Base Number	9	9
Colour, ASTM	7.0-8.0	7.0 – 8.0
Calcium, %	0.28	0.28
Molybdenum, ppm	60	60
Pour Point, °C	- 18	- 21

The values shown above are representative of current production. Some are controlled by manufacturing and performance specifications while others are not. All may vary within modest ranges.