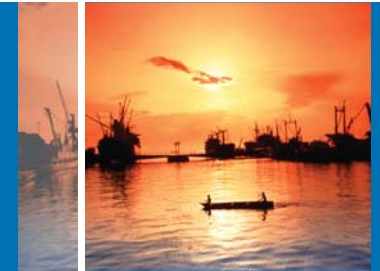




HIGH-SPEED ENGINE OILS

Ursa[®] Marine**Description**

Ursa Marine is a family of heavy-duty, diesel crankcase lubricants. Manufactured from high-quality base oils and compounded with additives, Ursa Marine provides outstanding lubrication of turbo-charged, high-speed diesel engines under the most severe operating conditions. It contains detergent/dispersant, antioxidation and antiwear additives. Ursa Marine (Single grade) meets the API service classification CD/CF.

Typical Characteristics

SAE Viscosity Grade	30	40
Code	042980	042981
Base number, mgkOH/g	9.0	9.0
Density at 15°C, kg/l	0.89	0.89
Flash point, COC, °C	230	240
Pour point, °C	-27	-24
Sulphated ash, mass %	1.1	1.1
Viscosity, kinematic, mm ² /s (cSt)		
at 40°C	92	131
at 100°C	11.0	14.0
Viscosity index	104	104

Recommended Uses

Ursa Marine is specifically recommended for use in heavy-duty (turbo-charged), high-speed engines operating under very severe conditions where an API CD/CF type oil is required. Ursa Marine is applicable in coastal motor ships, fishing vessels, harbor tugboats and pilot boats. It can be used in propulsion and auxiliary diesels. Single grade Ursa Marine is also recommended for the lubrication of reduction gears. The oil is approved by MAN 270, Mercedes Benz 228.0 and MTU Type 1 and meets ACEA E2-96 (issue 4) requirements. Ursa Marine can also be used in engines of manufacturers such as DAF, Scania, Caterpillar, etc. that do not issue approvals, but do require a minimum performance level such as API or ACEA.

Performance Benefits**1. Deposit Control**

Eliminates ring and valve sticking. The low ash content of the oil keeps deposits to a minimum in combustion chamber areas and on valve surfaces. The balanced additive combination controls deposits in severe low-temperature, intermittent operation and high-temperature, high load operation. Deposit control protects against ring sticking and results in efficient lubrication.

2. Anti-Wear Properties

An effective antiwear additive protects highly loaded parts from scuffing and wear during boundary lubrication conditions.

3. Oxidation Stability

Exceptionally resistant to oxidation. The high thermal and oxidation stability prevent the formation of carbon and lacquer deposits.

4. Corrosion Protection

Protects all metal surfaces under the most severe conditions.

5. Long Filter Life

The high dispersancy of the oil extends the life of oil filters, allowing them to function for a longer period of time for its primary purpose of removing non-dispersed abrasive material, thus effectively preventing excessive engine wear.