



ENMAR MSDO

PRODUCT DESCRIPTION

ENMAR MSDO are a range of new generation high performance engine oils for all types of marine medium speed diesel engines operating on high sulphur residual fuels. They have been developed from the latest complex dispersant and detergent technology to provide long lubrication life and enhanced engine performance particularly in low emission engines and those with anti-bore glazing piston designs.

APPLICATIONS

- ◆ A range of high Total Base Number oils for use in Trunk Piston Engines burning variable quality residual fuel with high sulphur content available in the market
- ◆ Provide gear lubrication qualities for reduction gear applications where similar viscosities might be used
- ◆ Suitable for high output turbocharged engines
- ◆ It is recommended that ENMAR MSDO oils are suitable for centrifuging and/or filtered in accordance with the manufacturer's instructions
- ◆ Suitable for MAN (B&W), KHD DEUTZ, PIELSTICK, NIGATA, MAK, DAIHATSU, MIRLESS BLACKSTONE trunk piston diesel engines (4 Stroke)

BENEFITS

ENMAR MSDO provides:

- ◆ Suitability for engines using high sulphur residual or distillate fuels
- ◆ Superior resistance to oxidation and oil thickening
- ◆ Effective neutralization of acidic combustion products
- ◆ Proven detergent/dispersant technology to reduce deposit formation
- ◆ Long engine and oil service life
- ◆ Excellent centrifugal separator operation

Technical Data*				
Product Grade	330	340	350	355
SAE Viscosity	30	30	30	30
Density @ 15 deg. C, Kg/L	0.9033	0.9110	0.9166	0.9197
Kinematic Viscosity, mm ² /s @ 100°C	11.52	11.39	11.66	11.59
Kinematic Viscosity, mm ² /s @ 40°C	106.3	102.2	104.3	103.2
Flash Point °C	252	250	240	246
Pour Point, °C	-15	-15	-15	-15
Total Base Number, mg KOH/g	30	40	50	55
FZG fail stage (A8.3/90)	12	12	12	12

Technical Data*				
Product Grade	430	440	445	450
SAE Viscosity	40	40	40	40
Density @ 15 deg. C, Kg/L	0.9091	0.9141	0.9221	0.9237
Kinematic Viscosity, mm ² /s @ 100°C	14.55	14.69	14.45	14.61
Kinematic Viscosity, mm ² /s @ 40°C	146	145.2	142.5	143
Flash Point °C	252	254	270	250
Pour Point, °C	-15	-15	-15	-15
Total Base Number, mg KOH/g	30	40	45	50
FZG fail stage (A8.3/90)	12	12	12	12



Technical Data*			
Product Grade	455	530	540
SAE Viscosity	40	50	50
Density @ 15 deg. C, Kg/L	0.9226	0.9131	0.9181
Kinematic Viscosity, mm ² /s @ 100°C	14.3	19.18	19.10
Kinematic Viscosity, mm ² /s @ 40°C	141.1	212.6	211.5
Flash Point °C	250	258	258
Pour Point, °C	-15	-9	-9
Total Base Number, mg KOH/g	55	30	40
FZG fail stage (A8.3/90)	12	12	12

*The information prepared provides the typical properties that are considered as representative. Some variation which will not affect performance is possible

HEALTH AND SAFETY, ENVIRONMENT

The information on this product is available in the ENMAR Material Safety Data Sheet (MSDS) as a guide to the precautions and safe handling of this product and its disposal. For further information we recommend you review the MSDS. Handled correctly there are no special precautions suggested.

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