

A mineral oil for naturally aspirated or turbocharged diesel marine engines.

## PERFORMANCES

### Standards:

API CI-4/CH-4/CG-4

ACEA E5/E3

### Specifications:

MAN M3275

RVI RLD

MTU Type 2

VOLVO VDS-3

CUMMINS CES 20071/72/78

Cat ECF-1

BAUDOUIN SMB 5

TBN: 11.25

## ADVANTAGES

MARINE 9X contains dispersants able to reduce deposits at low temperatures, and enabling good dispersion of insoluble components in the oil.

MARINE 9X enables easy starting thanks to its viscosity grade, with good cold lubrication, as well as good protection at high temperatures, without increasing oil consumption.

EURO III engines run at very high temperatures and pressures in order to improve combustion and efficiency, and consume less lubricant in order to reduce exhaust gas emissions, with closed-loop crankcase ventilation.

MARINE 9X has a formulation tailored to these constraints, which gives it a very high capacity to absorb large quantities of soot and particles resulting from fuel combustion and exhaust gas recirculation (EGR), without thickening i.e. without abnormal engine wear, while keeping them very clean and preventing deposits in the turbos.

For Euro III engines without EGR, MARINE 9X provides additional protection against wear due to soot accumulation in engines.

## USES

MARINE 9X is a lubricant formulated specially for supercharged diesel engines meeting the European pollutant emissions standards EURO II and EURO III, and extending the oil change intervals currently recommended by the main manufacturers.

MARINE 9X satisfies the toughest requirements of American and European manufacturers; this lubricant meets the new concepts of globalisation.

MARINE 9X is suitable for a number of marine engines complying with the following standards:

- VDS-3: e.g., Volvo Penta engines
- ACEA E5/E3: e.g. Iveco Aifo engines
- API CI-4/CH-4/CG-4: e.g. Mercury, Caterpillar, Cummins, MTU and Mercruiser Diesel engines.

Characteristics	Methods	Units	Values
Grade	-	SAE	15W-40
Viscosity at 40°C	NFT 60-100	mm <sup>2</sup> /s	104.1
Viscosity at 100°C	NFT 60-100	mm <sup>2</sup> /s	14.5
Viscosity index	NFT 60-136	-	143
Pour point	NFT 60-105	°C	-27
COC flash point	NFT 60-118	°C	236
TBN (alkaline reserve)	ASTM D 2896	mg KOH/g	11.25
Density	NFT 60-101	kg/m <sup>3</sup>	888

*The characteristics are given purely for information and are consistent with our current production standards. IGOL reserves the right to modify them, in order to pass on technical developments to its customers. Before using this product, you should consult the instructions for use and the environmental impact shown on the technical and safety data sheets. The information given above is based on the current state of our knowledge of the product in question. The product user should take all relevant precautions relating to its use. Under no circumstances may IGOL be held liable for damages resulting from misuse.*

Document ref.: III-96-C-1507  
Published: 27/07/2015

Technical data sheet