



# MARINO 3 SAE 30 and SAE 40

MARINE

## Description

The Marino 3 oils constitute a range of marine lubricants especially formulated for the lubrication of high and medium speed 4-stroke diesel engines.

## Recommended uses

- Modern, fast and semi-fast engines using distilled and semi-distilled combustibles with a content of up to 1% sulphur or Marine Diesel Oil (MDO).

## Properties

- High detergent capacity which keeps the engine clean.
- Appropriate alkaline reserve (TBN) which endows it with great capacity to neutralise the acids formed in combustion.
- Excellent thermal stability.
- Good filterability.

## Quality level

- API CF/CD.
- MAN 270
- ACEA E2
- MTU Type 1.
- MB 228.0.

## Technical characteristics

	UNIT	METHOD	VALUE	VALUE
SAE Grade			30	40
Colour		ASTM D 1500	4.5	4.5
Density at 15°C	g/cm <sup>3</sup>	ASTM D 4052	0.892	0.897
Viscosity at 100°C	cSt	ASTM D 445	11.9	14.9
Viscosity at 40°C	cSt	ASTM D 445	105	148
Viscosity index	-	ASTM D 2270	98 minimum	98 minimum
Flash point, open cup	°C	ASTM D 92	215 minimum	225 minimum
Pour point	°C	ASTM D 97	-24	-21
TBN	mg KOH/g	ASTM D 2896	12	12
Sulphated ashes	% in weight	ASTM D 874	1.5	1.5

## Available in

Bulk, 185 and 18 kg drums.

## ■ Hazard identification

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This product is not classified as toxic or dangerous according to current European legislation.

## ■ Handling

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Minimum precautions should be taken to avoid prolonged contact with the skin. The use of gloves, visors or glasses is recommended to avoid splashes.

## ■ Health and Safety Hazards

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**Inhalation:** Given that it is not a particularly volatile product, the risk of inhalation is minimal.

**Ingestion:** Do not induce vomiting. Provide water. Seek medical advice.

**Contact with the skin:** Wash with plenty of water and soap.

**Eyes:** Wash thoroughly with water.

**General measures:** Seek medical advice.

## ■ Fire-fighting measures

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No special measures required.

**Fire-extinguishing measures:** Foams, dry chemicals, CO<sub>2</sub>, water spray. Do not apply the jet of water directly as this could cause the product to disperse.

## ■ Environmental precautions

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Danger of physical pollution if spilt (water, coastlines, soil, etc.) due to its floatability and oily consistency that may harm flora and fauna on contact. Avoid material getting into water outlets.

**Decontamination and cleaning:** Treat like an accidental oil spill. Prevent dispersion using mechanical barriers and remove by physical or chemical means.

A safety information file is available on request.

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Unless otherwise indicated, the figures cited in technical characteristics should be considered typical.