



## ENGINE OILS

# ADDINOL MARINE MS 4011

### PRODUCT DESCRIPTION

ADDINOL Marine MS 4011 is based on high-grade mineral oil raffinates and selected additives to ensure wear and corrosion protection as well as good engine cleanliness of diesel engines in rail vehicles, shipping and stationary aggregates.

### APPLICATION

- Highly suitable for diesel engines of rail vehicles. Successful practical tests over several years and outstanding experiences in locomotives of various construction types.
- Can be applied for the lubrication of plunger piston diesel engines and for the cylinder lubrication of crosshead diesel engines for shipping when operated with diesel fuel and marine diesel fuel.

### SPECIFICATIONS / APPROVALS

Meets and exceeds the international specifications of:

- API CF

Approved according to:

- MTU oil category 1

Complies with the requirements of:

- MB-approval 227.0

### DELIVERY

Delivery preferable in tank cars and drums.

### CHARACTERISTICS

- Excellent wear and corrosion protection
- Good cleaning capacity
- Very good thermal-oxidative resistance

### ADVANTAGES AND BENEFITS

- Long engine lifetimes
- Good piston cleanliness
- Long oil lifetimes





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## SPECIFICATIONS AND TYPICAL PARAMETERS

Feature	Test conditions / unit		Marine MS 4011	Method acc. to
Appearance			clear, free from contaminations	visual
Approvals			MTU oil category 1	OEM standards
SAE-grade	J 300		40	ASTM
API			API CF	Laboratory and engine tests acc. to ASTM
Density	at 15°C	kg/m <sup>3</sup>	885	DIN 51757
Viscosity	at 100°C	mm <sup>2</sup> /s	15.5	ASTM D 7042
TBN		mg KOH / g	12	DIN ISO 3771
Flash point	COC	°C	min. 250	DIN EN ISO 2592
Pour point		°C	max. -25	ASTM D 7346

### ADDINOL - The Experts for High-Performance Lubricants

We at ADDINOL develop and produce more than 600 high-performance lubricants of the new generation. Among these are automotive lubricants for highest demands and pioneering developments for industrial applications. Our customers all over the world benefit from the high and stable quality of our ADDINOL high-performance lubricants, our know-how and the individual customer advisory service of our competent experts. Our company has world wide activities. ADDINOL high-performance lubricants are distributed by more than 70 international partners.

The data given in this product sheet represent our current level of knowledge and experience. Due to the various specific application they do, however, not discharge the user from his own examination. The information provided herein may not be used to derive a legally binding warranty of specific properties or the suitability for a certain purpose of application. Detailed security-concerning and toxicological data as well as security instructions for each product can be taken from the corresponding Material Safety Data Sheets (MSDS). High-performance lubricants from ADDINOL are under continuous development. Therefore, ADDINOL Lube Oil GmbH keeps the right to change technical data in this product data sheet without notification. In case of doubt, please do not hesitate to contact our customers' advisory service.