



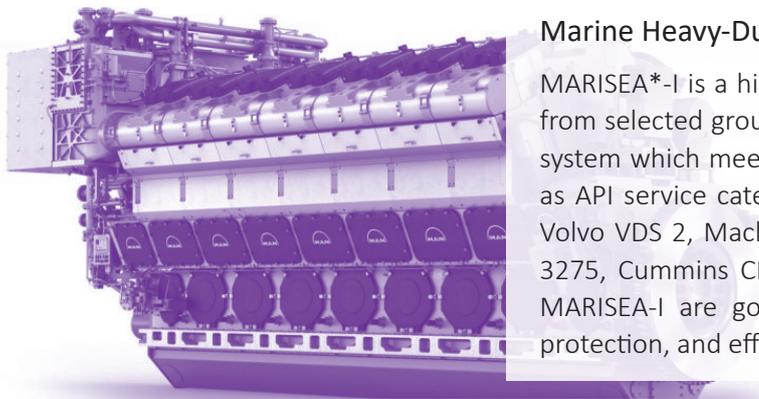
**Marine Diesel Engine Oil**  
**Technical Data Sheet (TDS)**

**MARISEA-I**

Tajhiz Niroo Zangan is a public stock company and manufacturer of various lubrication products, used in automotive, industrial and marine equipment, including gasoline and diesel engine oils, gear oils, hydraulic fluids, compressor oils, locomotive oils, greases, heavy-duty marine diesel engine oils, trunk piston oils, cylinder oils, antifreeze, ...



**SAE 15W-40**  
**API CI-4**



**Marine Heavy-Duty Diesel Engine Oil**

MARISEA\*-I is a high-quality synthetic marine engine oil, formulated from selected group III base stocks and fortified with special additive system which meets the requirements of engine manufacturer, such as API service category CI-4/CH-4/CF-4/CF, ACEA E5/E3, MB 228. 3, Volvo VDS 2, Mack EOM plus, Renault RD 2, MTU category 2, MAN 3275, Cummins CES20076, Caterpillar ECF-1-a. The key features of MARISEA-I are good detergency, outstanding oxidation and wear protection, and effective neutralization capability.

**APPLICATIONS**

- Engines burning distillate fuels with sulfur content up to 1.0% wt.
- On-highway light and heavy-duty truck
- Off-highway industries including: construction, mining and agriculture
- Naturally aspirated and turbo-charged diesel-powered equipment

**BENEFITS**

- Good resistance to oxidation and thermal degradation
- Outstanding TBN retention by high acid neutralization ability
- High cleaning performance and less generation of sludge
- Longer oil drain interval and better engine protection
- Excellent anti-wear property against start-up wear

**SAE 15W-40, API CI-4**

Specification	Vis @ 100 °C cSt	Vis @ 40 °C cSt	VI -	Density @ 15 °C kg/m <sup>3</sup>	TBN mg KOH/g	Flash Point °C	Pour Point °C	CCS @ -20 °C cP
Typical	15	130	120	880	13	230	-30	6500
ASTM Test Method	D 445	D 445	D 2270	D 1298	D 2896	D 92	D 97	D 5293

\*MARISEA: Taken from the name of a powerful and strong horse, named Marismeño, known as Marsh Horse