

### PRODUCT DATA SHEET

#### **GulfSea TDI**

Premium Quality Marine Engine Oil

#### **Product Description**

**GulfSea TDI 15W-40** is premium quality marine engine oil developed to meet the performance requirements of modern turbocharged and naturally aspirated marine diesel engines operating on distillate diesel fuel under severe conditions. It is blended from highly refined base stocks and new generation additives to provide excellent detergency, dispersancy and antiwear protection with effective acid neutralization capability. It offers exceptional protection and extended life to low emission diesel engines including those fitted with Exhaust Gas Recirculation (EGR) systems. The product meets the requirements of most of the medium and high speed marine diesel engines.

#### **Features & Benefits**

- Excellent thermo-oxidative stability reduces deposits, sludge and oil thickening.
- Excellent soot handling capability protects against oil thickening and wear.
- High shear stability ensures viscosity control at elevated temperatures and reduces oil consumption and wear.
- Advanced detergency reduces deposits, keeps engine clean and provides added protection against bore polishing.
- Excellent BN retention capacity protects engine against corrosive wear by neutralising the acids.

#### **Applications**

- Modern turbocharged and naturally aspirated 4-stroke medium and high speed marine diesel engines requiring oils meeting the specifications given in the table below.
- Rescue boats, lifeboats, fishing trawlers and coastal vessels.
- Turbocharged and naturally aspirated diesel engines used in on-highway and off- highway applications (mining, construction, agriculture) including those fitted with EGR systems and meeting US 2004 emission norms introduced in 2002 requiring oils meeting specifications given below.
- Transmissions requiring oil meeting the performance levels given below.
- General ship applications requiring oils meeting the below mentioned specifications.



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## **Typical Properties**

GulfSea TDI 15W-40		
Meets the following Specifications		
API CI-4, CH-4, CG-4, CF-4, SL		
ACEA E7, E5, A3/B3, A3/B4, Global DHD-1		
Cummins CES 20071, 20072, 20076, 20077, 20078		
Daimler Chrysler MB 228.3, MB 229.1		
MAN M 3275, Mack EO-M Plus		
Volvo VDS-3, MTU Oil Category 2		
Typical Properties		
Test Parameters	ASTM Method	Typical Values
Viscosity @ 100 °C, cSt	D 445	14.5
Viscosity Index	D 2270	140
Flash Point, <sup>0</sup> C	D 92	226
Pour Point, <sup>0</sup> C	D 97	-27
DNI mare I/OLI/m	D 0000	11.29
BN, mg KOH/g	D 2896	11.29
Density @ 15 °C, Kg/l	D 2896 D 1298	0.89

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