



## Mobil SHC Aware™ ST Series

ExxonMobil Marine, Italy

U.S. EPA 2013 Vessel General Permit Compliant Stern Tube Oil

### Product Description

Mobil SHC Aware™ ST Series lubricants are high performance, emulsifying stern tube oils for marine stern tube systems that meet the U.S. Environmental Protection Agency (EPA) 2013 Vessel General Permit (VGP) guidelines for “environmentally acceptable lubricants”. Mobil SHC Aware ST Series emulsifies readily with seawater to form a stable water-in-oil emulsion that is adhesive and an excellent lubricant. It provides effective rust protection in the presence of seawater and the lubricating film is resistant to water washing so that corrosion protection is maintained for extended periods under severe operating conditions.

### Features and Benefits

- Meets US EPA 2013 Vessel General Permit requirements for environmentally acceptable lubricants
- Can safely run with up to 20% water content emulsion
- Excellent load carrying capability and corrosion protection
- Compatible with most typical mineral oils used for stern tubes
- Good elastomer compatibility, it works well with many of the same elastomers used with conventional mineral oils
- Mobil SHC Aware ST 220 can provide effective leak control when seal damage occurs

### Applications

- Marine stern tube systems, fin stabilizers, and certain controllable pitch propeller systems where spills or leakage could result in adverse environment impact
- In systems where readily biodegradable and minimally toxic fluids may be required
- Marine and mobile equipment operating in environmentally sensitive areas
- Circulation systems operating under mild to moderate service conditions

### Specifications and Approvals

Mobil SHC Aware ST Series meets or exceeds the following regulatory requirements:	100	220
US EPA 2013 Vessel General Permit	X	X

### Typical Properties

Mobil SHC Aware ST Series		
ISO Viscosity Grade	100	220
Viscosity, ASTM D 445		
cSt @ 40°C	100	220
cSt @ 100°C	19.3	33.3
Viscosity Index, ASTM D 2270	205	200
Density @ 15°C, ASTM D4052, g/ml	0.922	0.932
FZG Gear Test, A/8.3/90, DIN ISO 14635-1, Fail Load Stage	10	11
Rust Characteristics, procedure B, ASTM D 665	Pass	Pass

Mobil SHC Aware ST Series		
Pour Point, ASTM D 97, °C	-24	-12
Flash Point, (min) ASTM D 92, °C	170	163
Biodegradability, CO2 Evolution, OECD 301 B, %	>60	>60
Acute Algal Toxicity 72h EC <sup>50</sup> , OECD 201, mg/l	>1000	>1000
Acute Daphnia Toxicity 48h EC <sup>50</sup> , OECD 202, mg/l	>1000	>1000
Acute Fish Toxicity 96h LC <sup>50</sup> , OECD 203, mg/l	>1000	>1000
Bioaccumulation, OECD 117, Partition Coefficient, log KOW	<3	<3

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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09-2017

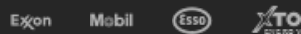
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