



Mobil SHC Aware™ Gear Series  
Exxonmobil Marine, United States

U.S. EPA 2013 Vessel General Permit Compliant Gear Oil

## Product Description

Mobil SHC Aware™ Gear Series are a range of high performance, anti-wear gear oils for use in marine applications and meet the U.S. Environmental Protection Agency (EPA) 2013 Vessel General Permit (VGP) guidelines for “environmentally acceptable lubricants”. They provide excellent wear protection for gears and bearings and safeguard equipment from rust and corrosion. They also possess outstanding oxidation properties, which help to extend oil life, and offer a wide operating temperature range and excellent low temperature start-up. Mobil SHC Aware Gear Series demonstrate excellent air release properties versus typical mineral gear oils, resulting in less air entrainment and protection from cavitation. Furthermore, their excellent seal compatibility helps to minimize leaks.

## Features and Benefits

- Meets US EPA 2013 Vessel General Permit requirements for environmentally acceptable lubricants
- Outstanding load-carrying and anti-wear properties which protects system components against micropitting and scuffing and helps provide long equipment life
- Shear stable high viscosity index help sustain component protection over a wide temperature
- Excellent resistance to high temperatures degradation
- Very good demulsibility and resistance to rust and corrosion

## Applications

- Marine controllable pitch propeller and thruster applications
- Suitable for enclosed gear drives including steel-on-steel spur, helical and bevel designs
- In systems where readily biodegradable and minimally toxic fluids may be required
- Marine and mobile equipment operating in environmentally sensitive areas

## Specifications and Approvals

<b>Mobil SHC Aware Gear Series meets or exceeds the following industry / Government requirements:</b>	<b>68</b>	<b>100</b>	<b>150</b>
US EPA 2013 Vessel General Permit	X	X	X
AGMA 9005-E02-EP	X	X	X

ISO 12925-1 1996 ISO-L-CKC	X	X	X
ISO 12925-1 1996 ISO-L-CKD	X	X	X

Mobil SHC Aware Gear Series have the following Thruster builder approvals:	68	100	150
Nakashima	X	X	X
HHI Hyundai	X	X	X
KTE Nakashima Korea	X	X	X
KHI	X	X	X

### Typical Properties

Mobil SHC Aware Gear Series			
ISO Viscosity Grade	68	100	150
Viscosity, ASTM D 445			
cSt @ 40 °C	68	100	150
cSt @ 100 °C	10.7	13.3	17.8
Viscosity Index, ASTM D 2270	141	137	135
FZG Scuffing Test, A/8.3/90, DIN ISO 14635-1	14	14	14
FZG Micropitting by FVA Ni 54 U-1IV	10	10	10
FE8 Cage Test, DIN 51517-3:2014-02	34	34	34
Rust Characteristics, procedure B, ASTM D 665	Pass	Pass	Pass
Pour Point, ASTM D 97, °C	-36	-36	-30
Flash Point, (min) ASTM D 92, °C	273	287	281
Air Release @ 50 °C, ASTM D3427	12	21	31
% Viscosity Increase, B-10 Oxidation 80h @ 127 °C	3	4	4
Biodegradability, CO2 Evolution, OECD 301 B, %	84	84	84
Acute Algal Toxicity 72h EC50, OECD 201, mg/l	>1000	>1000	>1000

Acute Daphnia Toxicity 48h EC50, OECD 202, mg/l	>1000	>1000	>1000
Acute Fish Toxicity 96h LC50, OECD 203, mg/l	>1000	>1000	>1000
Bioaccumulation, OECD 117, Partition Coefficient, log KOW	<3	<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, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. 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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