



## Mobil SHC Aware™ HS Series

ExxonMobil Marine, Canada

### Product Description

The Mobil SHC™ Aware™ HS (Hydraulic System) Series meets US Vessel General Permit (VGP) 2013 for environmentally acceptable lubricants\* and EU Eco requirements, while offering excellent protection in hydraulic systems. Biodegradable, minimally toxic and non-bioaccumulative, these lubricants can be used in hydraulic systems where spills or leakage could result in adverse environmental impact.

Based on proprietary Mobil Hydraulic Fluid Durability (MHFD) testing\*\*\*, Mobil SHC Aware HS Series hydraulic lubricants keep hydraulic systems cleaner for longer greater durability under the harshest conditions, reduced machine maintenance and increased productivity through improved machine availability.

Mobil SHC Aware Hydraulic HS lubricants also have excellent shear stability for longer oil life and outstanding resistance to viscosity breakdown, as well as excellent thermal and oxidation stability. The overall balanced formulation supports reduced maintenance downtime and costs by contributing to system cleanliness and contamination reduction, enabling longer oil life. Exceptional protection helps lead to longer component life. Mobil SHC Aware HS oils' exceptional load-carrying and anti-wear properties protect components against wear, which can lead to superior component life. Their shear-stable, high viscosity index also provides optimal protection over a wide temperature range.

The line includes Mobil SHC Aware HS 22, 32, 46 and 68 grades. These lubricants are suitable for a wide range of marine applications including hydraulic equipment, winches, ramps, hatches, doors, cranes and other hydraulic pumps.

### Features and Benefits

Mobil SHC Aware HS oils offer:

- An all-around balanced formulation enabling protection and performance at a wider operating temperature
- Excellent cleanliness and deposit control
- Superior low-temperature startup
- Outstanding demulsibility, which eases water removal in critical applications

Mobil SHC Aware HS oils can help:

- Deliver excellent wear protection
- Maximise time between dry docks, helping to reduce operating and maintenance costs
- Enable compliance with US EPA Vessel General Permit and EU Ecolabel certification
- Lower potential remediation and cleanup costs caused by spills or leakage

### Applications

Mobil SHC™ Aware™ HS high-performance hydraulic oils help provide optimal performance under high load and high pressures.

Recommended applications include:

- Hydraulic pumps
- Hydraulic deck equipment, marine and mobile equipment operating in environmentally sensitive areas
- Cranes, Winches, ramps, hatches, doors or other systems where readily biodegradable and minimally toxic fluids may be required
- Steering gear systems

### Specifications and Approvals

This product has the following approvals:	MOBIL SHC AWARE HS 22	MOBIL SHC AWARE HS 32	MOBIL SHC AWARE HS 46	MOBIL SHC AWARE HS 68
Denison HF-1		X	X	X
Denison HF-2		X	X	X
Denison HF-6		X	X	X
Eaton Corporation Brochure No. 03-401-2010, Rev 1		X		X

This product meets or exceeds the requirements of:				
US EPA VGP:2013	X	X	X	X

### Properties and Specifications

Property	MOBIL SHC AWARE HS 22	MOBIL SHC AWARE HS 32	MOBIL SHC AWARE HS 46	MOBIL SHC AWARE HS 68
Grade	ISO 22	ISO 32	ISO 46	ISO 68
Acute Algae Toxicity, EC50, 72 h, mg/l, OECD 201			>100	
Acute Algae Toxicity, EC50/72h, mg/l, OECD 201	>100	>100		>100
Acute Daphnia Toxicity, EC50/48h, mg/l, OECD 202	>100	>100	>100	>100
Acute Fish Toxicity, LC50/96h, mg/l, OECD 203	>100	>100	>100	>100
Density @ 15.6 C, g/ml, ASTM D4052	0.8842	0.8752	0.8818	0.8863
FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1		>12	>12	>12
Flash Point, Cleveland Open Cup, °C, ASTM D92	185	185	185	185
Kinematic Viscosity @ 100 C, mm <sup>2</sup> /s, ASTM D445	5.1	6.5	8.7	11.8
Kinematic Viscosity @ 40 C, mm <sup>2</sup> /s, ASTM D445	22	32	46	68
Pour Point, °C, ASTM D97	-57	-48	-48	-48
Rust Characteristics, Procedure A, 24 h, ASTM D665				Pass
Rust Characteristics, Procedure B, ASTM D665	Pass			
Rust Test Proc A, ASTM D665		Pass	Pass	
Shake-Flask Test, CO <sub>2</sub> Evolution (Mod. Sturm), %, OECD 301B	>60	>60	>60	>60
Viscosity Index, ASTM D2270	154	167	176	174

### Health and Safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ <http://www.msds.exxonmobil.com/psims/psims.as>

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Imperial Oil

Petroleum and Chemicals Division

Lubricants and Specialties

240 Fourth Ave SW

C. P. 2480, Station M

Calgary AB T2P 3 M 9

1-800-268-3183

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