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ExonMobil

Mobil SHC Aware™ H Series

ExxonMobil Marine, United Kingdom

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

Product Description

Mobil SHC Aware™ H Series lubricants are high performance, anti-wear hydraulic oils for modern high pressure hydraulic systems that meet the U.S. Environmentally acceptable lubricants". They provide excellent wide temperature performance above and beyond the capabilities of non-synthetic environmentally acceptable oils. Mobil SHC Aware H Series oils are specially formulated from estastocks and provide exceptional anti-wear and film strength characteristics necessary for hydraulic systems operating under high load and high pressures.

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 wear and scuffing and helps provide long equipment life
- Shear stable high viscosity index help sustain component protection over a wide temperature
- Excellent thermal /oxidation stability that can help reduce maintenance downtime and costs by contributing to system cleanliness and deposit reduction, enable leand filter life
- Excellent demulsibility ensures ease of water removal in below waterline applications
- · Good elastomer compatibility, it works well with same elastomers used with conventional mineral hydraulic oils

Applications

- Marine controllable pitch propellers (CPP) systems, fin stabilizers, deck equipment, hydraulic systems where spills or leakage could result in adverse enviro impact
 - In systems where readily biodegradable and minimally toxic fluids may be required
 - Circulation systems containing gears and bearings where mild extreme-pressure characteristics are desired
 - Systems containing servo-valves
 - Hydraulic systems operating with oil temperatures in the range of -30C to +100C
 - Marine and mobile equipment operating in environmentally sensitive areas
 - Circulation systems operating under mild to moderate service conditions
 - Industrial hydraulic systems where leaked or spilled fluids could get into plant effluent
 - Air line oilers and some limited oil-mist generating systems

Specifications and Approvals

| This product has the following approvals: | 32 | 46 | 68 |
|---|----|----|----|
| Denison HF-1 | X | X | Х |
| Denison HF-2 | X | X | X |
| Denison HF-6 | X | X | X |
| Eaton Brochure No. 03-401-2010, Rev 1 | X | X | X |
| FINCANTIERI HEES Oil for Stabilizer | | X | X |
| FINCANTIERI HEES Oil for Thrusters | | X | X |

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| This product meets or exceeds the requirements of: | 32 | 46 | 68 |
|--|----|----|----|
| US EPA VGP:2013 | X | X | X |

Properties and Specifications

| Property | 32 | 46 | 68 |
|--|--------|--------|--------|
| Grade | ISO 32 | ISO 46 | ISO 68 |
| Acute Algae Toxicity, EC50/72h, mg/l, OECD 201 | >1000 | >1000 | >1000 |
| Acute Daphnia Toxicity, EC50/48h, mg/l, OECD 202 | >1000 | >1000 | >1000 |
| Acute Fish Toxicity, LC50/96h, mg/l, OECD 203 | >1000 | >1000 | >1000 |
| Bioaccumulation, Partition Coefficient, Log Pow, OECD 117 | <3 | <3 | <3 |
| Density @ 15 C, g/ml, ASTM D4052 | 0.912 | 0.905 | 0.915 |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1 | 11 | 12 | >12 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 185 | 185 | 185 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 6 | 8.2 | 10.37 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 32 | 46 | 68 |
| Pour Point, °C, ASTM D97 | -54 | -36 | -36 |
| Rust Test, Sea Water, 24 h @ 60 C, ASTM D665-PROB | PASS | PASS | PASS |
| Shake-Flask Test, CO2 Evolution (Mod. Sturm), %, OECD 301B | >60 | >60 | >60 |
| Viscosity Index, ASTM D2270 | 140 | 140 | 140 |

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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