



Transaqua SF

Water-based storage fluid

Description

Castrol Transaqua SF is a water-based fluid specially formulated for use as the storage medium in oilfield equipment. The fluid incorporates all the features that are required for storage in a wide range of equipment.

Castrol Transaqua SF has been developed and qualified under a system with ISO 9001 accreditation for Research and Development.

Application

Castrol Transaqua SF is designed for use in conventional and high pressure, high temperature applications. Castrol Transaqua SF is rated for use at temperatures of up to 180°C.

Features and Benefits

- Density balanced to seawater.
- Operating capability of 180°C.
- Corrosion protection with sea water contamination.
- Contains unique tracer to aid low level leak detection.
- Castrol Transaqua SF is fully compatible and miscible in all proportions with Castrol Transaqua HT and most other water-based subsea control fluids.
- It is compatible with all metals used in subsea control systems, and with elastomers and plastics including Nitrile, Ethylene Propylene and PTFE.
- Protects equipment from corrosion for extended periods of storage.
- Allows rapid detection of leaks with ROV mountable Castrol leak detection tool.

Typical Physical Characteristics

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Relative Density at 20°C	g/ml	1.0354
Relative Density at 50°C	g/ml	1.0219
Pour Point	°C	-9
Flash Point	°C	Not applicable
Kinematic Viscosity at 40°C	mm ² /s	1.2
Kinematic Viscosity at 20°C	mm ² /s	1.98
Kinematic Viscosity at 0°C	mm ² /s	3.97
pH at 20°C		8.9
Bulk Modulus	N/m ²	2.31 x 10 ⁹
Coefficient of Thermal Expansion	/°C	0.00044
Thermal Conductivity	W/m/°C	0.48
Specific Heat	Kj/Kg/K	3.830
Foam Test Sequence 1 (Tendency / Stability)	ml	110/0

Typical Performance Characteristics	
Property	Performance
Sea water stability	Stable to 10% seawater contamination. Provides anti corrosion performance on carbon steel with 10% seawater.
Microbiological Growth - 28 Day Challenge Test Fungi Bacteria	Sterile during and after test.
Lubrication Shell 4 Ball Mean Wear Scar Diameter (1 hr, 30 kg, 1460 rpm)	0.924 mm
Environmental Performance	All toxicity, biodegradation and bioaccumulation testing completed within OSPAR guidelines.

Metal Compatibility		
Material	Compatibility	Comments
Plain Carbon Steel	Compatible	
Stainless Steel (316L)	Compatible	
Steel 1020	Compatible	
Super Duplex Steel (2507)	Compatible	
Inconel (Incoloy 825)	Compatible	High temperature applications.
Hastelloy	Compatible	
Titanium	Compatible	
Aluminium Bronze	Compatible	
Phosphor Bronze	Compatible	
Chromium Plating	Compatible (see comments)	Plating thickness must be sufficient to avoid porosity. Copper and nickel substrates can improve performance.
Nickel 200	Compatible	
Electroless Nickel Plating	Compatible	
Nitronic 19D	Compatible	
Cadmium Plating	Not compatible	Often used on standard industrial hydraulic fittings.
Zinc Plating	Not compatible	Effect is largely cosmetic (soft deposits on surface) but system cleanliness could be adversely affected.

Elastomer & Plastic Compatibility		
Material	Compatibility	Comments
Nylon	Compatible	Compatible with Nylon 11 thermoplastic as umbilical hose liner material.
Medium Nitrile	Compatible	Widely used as standard seal material. Performance can vary according to grade.
Carboxylated Nitrile	Compatible	Excellent abrasion resistance.
Viton	Compatible	Performance can vary according to grade. Superior to nitrile if higher temperatures involved (90°C or above).
Butyl	Compatible	
Ethylene Propylene	Compatible	Important if changing fluid type - EPR is not suitable for use with any hydrocarbon based fluids.
Silicone	Compatible	
Chemraz	Compatible	Excellent for high temperature applications.
Acetal	Compatible	
PTFE	Compatible	

Care and Handling

Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.

Packaging and Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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