



Product Data

Anvol SWX 46

25/10/2007

Fire Resistant Hydraulic Fluid

DESCRIPTION

Castrol Anvol SWX 46 is a synthetic polyol ester type hydraulic fluid for use in applications that require a high degree of lubricity and fire resistance according to factory mutual category 1.

Formulated to work in high pressure hydraulic systems up to 7500 psi, Castrol Anvol SWX 46 provides geared pumps with protection against wear equivalent to that of mineral oils.

The fluids have naturally high viscosity index and are shear stable, a significant advantage in modern sensitive equipment. It is designed for superior system reliability through a reduction tendency to form a varnish or sludge in valves, pipes and reservoirs. It also provides greater resistance to water by offering high levels of corrosion protection and ease of water-oil separation.

APPLICATION

Castrol Anvol SWX 46 was initially designed for use in robot hydraulic systems where close tolerance spool valves are used. It also has applications in the steel and aluminium die cast industries where its high flash point and fire point is an advantage.

Greater fire protection

With a high fire point and shear stability, Anvol SWX provides excellent fire suppression characteristics, thereby creating a safer working environment and greater equipment protection

COMPATIBILITY WITH SEAL MATERIALS

Anvol SWX grades are compatible with NBR, FKM, Nitrile, Viton, Butyl and Polyurethane seal materials. The Seal Compatibility Index (IP278) for Anvol SWX 46 was 7% volumetric swell.

All reasonable care has been taken to ensure that the information contained in this publication is accurate as at the date of printing. It should be noted however that the information above may be affected by changes occurring subsequent to the date of printing in the blend formulation or methods of application of any of the products referred to or in the requirements of any specification approval relating to any such products.

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TYPICAL PHYSICAL CHARACTERISTICS

	ANVOL SWX 46
Appearance	Clear Amber Fluid
Kinematic Viscosity, cSt	
@ 40°C (ASTM D445)	46
@ 100°C (ASTM D445)	9.56
Viscosity Index (ASTM D2270)	183
Pour Point, °C (ASTM D97)	-33
Density @ 15°C, kg/l	0.920
Open Flash Point, °C	268
Fire Point, °C	360
Autoignition Temperature, °C	430
Acidity, mg KOH/g	1.3
Foaming (IP 146) Seq I	0/0
Foaming (IP 146) Seq II	80/0
Air Release @ 50°C	2
Copper Strip Corrosion (IP154)	1A
Rust Preventing Characteristics (IP135B)	No Rusting
Rotary Bomb Oxidation, mins (ASTM D943)	232
FZG, Fail stage	12+
Vickers Vane Pump Test (100hrs, 2000psi), Ring and Vanes, mg	<50

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Performance benefits

System protection from water

Anvol SWX is designed to separate from water, to allow for easy water removal from the system. Advanced corrosion inhibition protects ferrous components from any residual water, this reduces rust and leads to extended equipment life and a reduction in downtime.

Stability in harsh operating environments

Resistance to oxidation and thermal degradation for improved filterability means less sludge and varnish formation, this also aids the prevention of valve sticking failures. Reducing deposits and increasing thermal life on Anvol SWX ensures longer system life with greater drian periods.

Superior equipment performance

- Extended pump life
- Reduced replacement / maintenance costs
- Longer life of systems

Health and safety

Castrol Anvol SWX is classified as non-hazardous and presents no significant risk to operators. However it is good safety procedure to minimise skin contact, minimise inhalation of oil mist and prevent pressurised injection into the skin.

Storage

To ensure product quality, it is important to store product correctly out of direct sunlight and out of the influence of adverse high/low temperatures. Store drums on their side or use a drum cover to prevent water contacting the drum bung. When decanting product from drums, ensure the drum and immediate area is clean of dirt, damp and dust.



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System changeover

Mineral, oil or Polyol ester based fluids

Castrol Anvol SWX fluids are miscible and compatible with nearly all mineral oil and polyol ester type hydraulic fluids. To convert a system using these types of fluids, simply drain, flush and recharge with Castrol Anvol SWX. For effective fire resistance, at least 95% of the mineral oil - based fluid must be removed.

Water glycol and emulsions

Castrol Anvol SWX fluids are not compatible or miscible with water containing fluids. These fluids must be completely removed from the system. Remove as much fluid as possible by draining the reservoir and oil lines, fill with Anvol SWX and circulate 'off line', then remove. Repeat until residual fluid is less than 1% of system volume. The lower the residual - the better, as watermixed fluids can cause hydrolysis and acid increase that could potentially break down the ester of Castrol Anvol SWX.

Phosphate ester

Some, but not all phosphate esters, are compatible with Anvol SWX, testing prior to conversion is recommended.

Topping up an existing system

If the two products to be mixed have been compatibility checked and are deemed compatible, then simply add fresh Castrol Anvol SWX on top of the existing system. If however you are required by factory mutual to completely change out the system, we suggest the following -

- 1/. Heat hydraulic system to operating temperature
- 2/. Drain the warm oil
- 3/. Change existing system filters
- 4/. Flush with new fluid. Run all cylinders, if possible, to remove old fluid. Check the Anvol SWX content in the system, if greater than 95%, go no further with flushing
- 5/. If the content of Castrol Anvol SWX in the system is lower than 95%, then drain, refill and re-test until over 95% by volume
- 6/. Take a sample of the system oil approximately one hour after running to check Castrol Anvol SWX levels. A fire point may need to be completed to confirm Factory mutual rating.

Health and Safety information sheets are available for all Castrol products from the address below:

Castrol (U.K.) Limited, Pipers Way, Swindon, Wiltshire SN3 1RE, England, Telephone:

Orders/Enquiries (08459)645111, Technical Enquiries (01793)452111, Fax (01793)486083

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