

PRODUCT INFORMATION

A PRODUCT OF AMERICAN CHEMICAL TECHNOLOGIES, INC.



Neptune[®] AW Series

100% Water Soluble and Readily Biodegradable Hydraulic Fluids

DESCRIPTION:

Neptune[®] AW Series fluids are a fully synthetic, non-aqueous hydraulic fluids that can be used in industrial, marine and mobile equipment, including high-pressure systems, systems with servo valves and all robotics. Neptune[®] AW Series fluids are formulated from a high VI, fully synthetic basestock, coupled with a non-metallic additive package that provides the properties demanded by today's high performance hydraulic systems, while at the same time satisfying the stringent criteria for biodegradability and toxicity. Neptune[®] AW Series fluids also have excellent low temperature properties, good shear stability and are resistant to oxidative and thermal degradation.

The increased performance which Neptune[®] AW Series fluids provide results in extended pump service life and reduced downtime along with lower maintenance costs. ***Additional bonus features include:*** non-sludge/varnish forming, high viscosity index, low pour point, excellent heat transfer, low foaming and complete compatibility with commonly used seals, hoses and metals.

If you want to add Neptune[®] AW Series fluids to a hydraulic system, call us and we will advise you regarding compatibility/solubility. Most "oil soluble" additives are not soluble in Neptune[®] AW Series fluids thus requiring a thorough and detailed plan prior to conversion. Your American Chemical Technology representative is trained and experienced in all aspects of conversion assistance.

Neptune[®] AW Series fluids qualify as EAL's for compliance with the VGP.

Biodegradable to greater than 60% by OECD301B

Non-bioaccumulative by having a $\log K_{ow} < 3$

Practically non-toxic towards the most sensitive freshwater and saltwater species

AND . . .

cannot *Bioconcentrate* thus eliminating shoreline and sediment poisoning

STORAGE AND HANDLING:

We believe Neptune[®] AW Series fluids have a low degree of hazard when used as intended. They are stable, non-corrosive and have high flash point materials that are compatible with nearly all commonly used materials in standard hydraulic systems. As with all products of this type, we recommend that good hygiene practices be observed, including: (1) avoid prolonged skin contact, (2) provide adequate ventilation, (3) do not ingest; and that all OSHA Standards pertaining to products of this type be observed.

Neptune[®] AW Series

PROPERTIES:

	Test Method	N AW-10	N AW-15	N AW-22	N AW-32	N AW-46	N AW-68
Viscosity @ 40°C	ASTM D445	8.77 cSt	13.97 cSt	20.45 cSt	32.93 cSt	46.96 cSt	67.97 cSt
Viscosity @ 100°C	ASTM D445	2.36 cSt	3.60 cSt	4.98 cSt	7.13 cSt	9.88 cSt	13.91 cSt
Viscosity Index	ASTM D2270	86	147	183	188	203	214
Pour Point	ASTM D97	-62 °C (-80 °F)	-56 °C (-70 °F)	-51 °C (-60 °F)	-46 °C (-51 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)
Air Release @ 50°C	ASTM D3427	1.5 min			5.0 min	7.5 min	7.0 min
Specific Gravity @ 25°C	ASTM D1298	0.99 g/cm ³	1.00 g/cm ³	1.01 g/cm ³	1.02 g/cm ³	1.03 g/cm ³	1.03 g/cm ³
Density @77 °F	ASTM D1298	8.20 lbs/gal	8.30 lbs/gal	8.41 lbs/gal	8.48 lbs/gal	8.51 lbs/gal	8.56 lbs/gal
Flash Point	ASTM D92	123 °C (253 °F)	139 °C (282 °F)	145 °C (293 °F)	251 °C (483 °F)	255 °C (491 °F)	253 °C (487 °F)
Fire Point	ASTM D92	137 °C (279 °F)	161 °C (322 °F)	163 °C (325 °F)	275 °C (527 °F)	285 °C (545 °F)	285 °C (545 °F)
Cleanliness	ISO 4406:1999	18/17/14	18/17/14	18/17/14	18/17/14	18/17/14	18/17/14
Total Acid Number	ASTM D664	1.0 mgKOH/g	1.0 mgKOH/g	1.0 mgKOH/g	1.0 mgKOH/g	1.0 mgKOH/g	1.0 mgKOH/g
Rust Prevention	ASTM D665A	Pass	Pass	Pass	Pass	Pass	Pass
Copper Strip Corrosion	ASTM D130	1B	1B	1B	1B	1B	1B
Foam Tendency/Stability	ASTM D892						
Sequence I		0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Sequence II		0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
Sequence III		0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
EP Properties	ASTM D2783						
Non-seizure Load					80 kg	100 kg	100 kg
Load-Wear Index					36.4	43.4	43.0
Weld Load					200 kg	200 kg	200 kg
Four-Ball Wear	ASTM D4172	0.4 mm			0.39 mm	0.38 mm	0.20 mm
Hydraulic Pump Wear	ASTM D7043				2.2 mg		
Eaton Pump Test	35VQ25A				Pass		
FZG Gear Test	ASTM D5182						
Pass Load Stage					10	11	
Fail Load Stage					11	12	

The information contained herein is correct to the best of our knowledge. The recommendations or suggestions contained in this bulletin are made without guarantee or representation as to results. We suggest that you evaluate these recommendations and suggestions in your own laboratory prior to use. Our responsibility for claims arising from breach of warranty, negligence, or otherwise is limited to the purchase price of the material. Freedom to use any patent owned by American Chemical Technologies' or others is not to be inferred from any statement contained herein.