

# Shell Biodegradable Hydraulic Fluids

100% water soluble hydraulic fluids

**SHELL  
LUBRICANT SOLUTIONS**



## DESCRIPTION

**Shell Biodegradable Hydraulic Fluids**, formerly Neptune® AW, are fully synthetic, polyalkylene glycol (PAG) based, nonaqueous hydraulic fluids.

Shell Biodegradable Hydraulic Fluids are formulated from a high viscosity index, fully synthetic base stock coupled with a nonmetallic additive package that provides the properties demanded by high-performance hydraulic systems. These fluids also have excellent low-temperature properties and are resistant to oxidative and thermal degradation.

Shell Biodegradable Hydraulic Fluids have exceptional load-carrying, antiwear performance over a wide range of temperatures. With high viscosity indices and low pour points, Shell Biodegradable Hydraulic Fluids may be used year round, which eliminates seasonal changeovers and reduces downtime. The fluids will not hydrolyze in the presence of water, thereby protecting hydraulic systems from reduced equipment life and potential system failure due to the presence of harmful acids. The fluids can be used in industrial, marine and mobile equipment, including high-pressure systems, systems with servo valves and all robotics.

Shell Biodegradable hydraulic fluids are heavier than water, and are designed to dissolve completely and leave little to no surface sheen, helping to reduce cleanup requirements. They are compliant with the United States Environmental Protection Agency's 2013 Vessel General Permit.



## SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell Biodegradable Hydraulic Fluids are compliant with the United States Environmental Protection Agency's 2013 Vessel General Permit.

For a full listing of equipment approvals and recommendations, please consult your local Shell Lubricant Solutions technical help desk.



## TYPICAL PHYSICAL CHARACTERISTICS

PROPERTIES					
	Method	ISO 22	ISO 32	ISO 46	ISO 68
ISO viscosity grade	ISO 3448	22	32	46	68
Kinematic viscosity at 40°C, mm <sup>2</sup> /s	ISO 3104/ASTM D445	20.5	32.9	47.0	68.0
Kinematic viscosity at 100°C, mm <sup>2</sup> /s	ISO 3104/ASTM D445	5.0	7.1	9.9	13.9
Viscosity index	ISO 2909/ASTM D2270	184	187	204	213
Density at 25°C, kg/m <sup>3</sup>	ASTM D1298	1008	1016	1020	1026
Flash point (Cleveland open cup), °C	ISO 2592/ASTM D92	145	250	255	255
Fire point, °C	ISO 2592/ASTM D92	160	275	285	285
Pour point, °C	ISO 3016/ASTM D97	-51	-45	-39	-33
FZG scuffing (A/8.3/90), fail load stage rating	ISO 14635-1	NA	11	12	12
These characteristics are typical of current production. Although future production will conform to Shell's specifications, variations in these characteristics may occur.					

## CONTACT US

For more information, please contact your Shell Lubricant Solutions representative or visit [shell.us/ecosafe](https://shell.us/ecosafe).

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 Shell or others is not to be inferred from any statement contained herein.