### ConocoPhillips Synterra<sup>™</sup> 1 Hydraulic Oil, AGMA No. 1

Category : Fluid , Lubricant , Synthetic Ether Base

#### Material Notes:

Description: Conoco Synterra Environmental Fluids Hydraulic and Circulating Oils give outstanding protection to equipment and the environment. These oils are made from synthetic polyol ester fluids and come in four viscosity grades, ISO 32 through 100 VG. These Synterra oils do not contain zinc and yet have the excellent antiwear and film-strength characteristics necessary for operating under moderate-to-severe conditions, up to 5000 psi. Three of the viscosity grades can also be used in applications where mild-EP oils up to AGMA 3 are needed. Not only do these oils possess all of the necessary qualities of an excellent lubricant, they are also biodegradable, nontoxic and environmentally friendly. Synterra biodegradable hydraulic oils exceed the biodegradability requirements as defined by CEC L-33-A-94, OECD 301B and EPA 560/6-82-003. The results of acute aquatic toxicity tests of Synterra oils yielded an LC 50 of >5000 ppm. This result clearly surpasses the minimum value of LC 50 >1000 ppm as required per EPA 560/6-82-002 and OECD 203 1-12. In addition to good biodegradability and low acute toxicity, the lubrication properties of Conoco's Synterra oils help to further reduce their impact on the environment. Their low coefficient of friction reduces energy consumed during equipment operations, which makes them truly environmentally friendly - less power usage saves natural resources. System operating temperatures and noise levels drop when Conoco Synterra oils are used. The low volatility of polyol esters means less air pollution. The oils' long life not only reduces lubricant-related maintenance expenses, but also means that there is less used oil waste generated for disposal in landfills. Synterra hydraulic oils meet the current requirements of the Vickers 35VQ-25 pump test. They are qualified to CM (Cincinnati Machine) specifications as follows: P68 -Synterra biodegradable hydraulic oil 32, Synterra biodegradable hydraulic oil 46 and P69 - Synterra biodegradable hydraulic oil 68. They are recommended for use with the following seals, plastics, paints, elastomers, hose and materials of construction: Viton® elastomer, Teflon® PTFE, Epoxy (Glass Filled), Oil Resistant Alkyd, Fluorosilicone, Fluorocarbon, Polysulfide, Two-Component Urethane, Nylon, Delrin® plastic, Celcon, High Nitrile Rubber [Buna N], NBR >36% Acrylonitrile, Polyurethane, Chlorosulfonate, Epichlorohydrin, Polyacrylate, Melamine, Polypropylene, Baked Phenolic, Epoxy-Modified AlkydsInformation provided by ConocoPhillips.

#### Order this product through the following link:

http://www.lookpolymers.com/polymer\_ConocoPhillips-Synterra-1-Hydraulic-Oil-AGMA-No-1.php

Physical Properties	Metric	English	Comments
Viscosity Measurement	158	158	Viscosity Index
Kinematic Viscosity at 40°C (104°F)	49.5 cSt	49.5 cSt	
Kinematic Viscosity at 100°C (212°F)	8.7 cSt	8.7 cSt	
Oxidative Stability	690 hour	690 hour	ASTM D2272

Mechanical Properties	Metric	English	Comments	
Four Ball Wear	0.400 mm	0.0157 in		
	@Load 40.0 kg, Temperature 150 °C	@Load 88.2 lb, Temperature 302 °F	mm <sup>2</sup> ; 1800 RPM, 60 min; ASTM D4172	

	Thermal Properties	Metric	English	Comments	
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Deur Point Thermal Properties	-56.7 ℃ Metric	_70_0 °₽ English	Comments
Flash Point	252 °C	485 °F	
Electrical Properties	Metric	English	Comments
Dielectric Strength	25.0 kV/mm	635 kV/in	No thickness given; ASTM D877
Chemical Properties	Metric	English	Comments
Total Acid Number	0.20	0.20	mg KOH
Descriptive Properties		Value	Comments
Copper Corrosion		1B	ASTM D130
FZG Scuffing		Min 12	DIN 51534
Rust Test, Sea Water		Pass	ASTM D665B

## Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com Email : sales@lookpolymers.com Tel : +86 021-51131842 Mobile : +86 13061808058 Skype : lookpolymers Address : United North Road 215,Fengxian District, Shanghai City,China