

# Esterex™ NP451

## Synthetic Fluid

### Product Description

Esterex™ Polyol Esters are API category Group V fluids. Esterex™ Polyol Esters have excellent lower-temperature properties, good lubricating properties and low volatilities. Esterex™ Polyol Esters can be used as sole basestocks or blendstocks with other synthetic fluids in many automotive and industrial lubricant applications. These esters are ideal for use in highly loaded, high-speed lubricant applications where energy efficiency is desired.

### General

Availability <sup>1</sup>	<ul style="list-style-type: none"> <li>▪ Africa &amp; Middle East</li> <li>▪ Asia Pacific</li> </ul>	<ul style="list-style-type: none"> <li>▪ Europe</li> <li>▪ Latin America</li> </ul>	<ul style="list-style-type: none"> <li>▪ North America</li> </ul>
Revision Date	<ul style="list-style-type: none"> <li>▪ 07/01/2019</li> </ul>		

Basics	Typical Value (English)	Typical Value (SI)	Test Based On
Specific Gravity (60.1°F (15.6°C))	0.993	0.993	ASTM D4052
Appearance (0°F (-18°C))	Bright & Clear	Bright & Clear	Visual
Color	< 0.5	< 0.5	ASTM D1500
Kinematic Viscosity			ASTM D445
212°F (100°C)	5.0 cSt	5.0 mm <sup>2</sup> /s	
104°F (40°C)	25.0 cSt	25.0 mm <sup>2</sup> /s	
-40°F (-40°C) <sup>2</sup>	7610 cSt	7610 mm <sup>2</sup> /s	
Viscosity Index	130	130	ASTM D2270
Pour Point	-76 °F	-60 °C	ASTM D5950/D97
Flash Point, COC	491 °F	255 °C	ASTM D92
Noack Volatility <sup>2</sup>	4.6 wt%	4.6 wt%	ASTM D5800/DIN 51581
Water	< 500 ppm	< 500 ppm	ASTM D6304
Refractive Index <sup>2</sup> (77°F (25°C))	1.4506	1.4506	ASTM D1218
Total Acid Number	0.01 mg KOH/g	0.01 mg KOH/g	ASTM D974 (mod)
Hydrolytic Stability, TAN Change <sup>2</sup>	0.17 mg KOH/g	0.17 mg KOH/g	ASTM D2619

Thermal	Typical Value (English)	Typical Value (SI)	Test Based On
Density Correction Factor <sup>2</sup>	7.60E-4 (g/cm <sup>3</sup> )/°C	7.60E-4 (g/cm <sup>3</sup> )/°C	ASTM D1250
Fire Point, COC <sup>2</sup>	549 °F	287 °C	ASTM D92
Flash Point, PMCC <sup>2</sup>	473 °F	245 °C	ASTM D93
Evaporation Loss <sup>2</sup> (401°F (205°C), 6.5 hr)	6.0 wt%	6.0 wt%	ASTM D972 (mod)

Performance	Typical Value (English)	Typical Value (SI)	Test Based On
RPVOT <sup>2</sup> (Neat)	240 min	240 min	ASTM D2272
Biodegradation <sup>2</sup>	83.6 %	83.6 %	OECD 301F

Solubility	Typical Value (English)	Typical Value (SI)	Test Based On
Aniline Point <sup>2</sup>	< 68.0 °F	< 20.0 °C	ASTM D611
Kauri-Butanol Value <sup>2</sup>	72.0	72.0	ASTM D1133

Elastomer Compatibility, Fluoroelastomer	Typical Value (English)	Typical Value (SI)	Test Based On
Volume Change <sup>2</sup>	12.7 %	12.7 %	ASTM D471
Hardness Change <sup>2</sup>	-8	-8	ASTM D471
Tensile Strength Change <sup>2</sup>	-15.9 %	-15.9 %	ASTM D471
Elongation Change <sup>2</sup>	-22.9 %	-22.9 %	ASTM D471

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Elastomer Compatibility, Nitrile	Typical Value (English)	Typical Value (SI)	Test Based On
Volume Change <sup>2</sup>	25.0 %	25.0 %	ASTM D471
Hardness Change <sup>2</sup>	-11	-11	ASTM D471
Tensile Strength Change <sup>2</sup>	-47.8 %	-47.8 %	ASTM D471
Elongation Change <sup>2</sup>	-36.4 %	-36.4 %	ASTM D471

Elastomer Compatibility, Polyacrylate	Typical Value (English)	Typical Value (SI)	Test Based On
Volume Change <sup>2</sup>	51.2 %	51.2 %	ASTM D471
Hardness Change <sup>2</sup>	-15	-15	ASTM D471
Tensile Strength Change <sup>2</sup>	-39.2 %	-39.2 %	ASTM D471
Elongation Change <sup>2</sup>	-36.2 %	-36.2 %	ASTM D471

#### Legal Statement

For detailed Product Stewardship information, please contact Customer Service.

#### Notes

Typical properties: these are not to be construed as specifications.

<sup>1</sup> Product may not be available in one or more countries in the identified Availability regions. Please contact your Sales Representative for complete Country Availability.

<sup>2</sup> Single sample or two sample average determinations

For additional technical, sales and order assistance: [www.exxonmobilchemical.com/ContactUs](http://www.exxonmobilchemical.com/ContactUs)

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