

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 ¹	- Africa & Middle East - Asia Pacific	- Europe - Latin America	North America
Revision Date	07/01/2019		

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 ² /s	
104°F (40°C)	25.0 cSt	25.0 mm ² /s	
-40°F (-40°C) ²	7610 cSt	7610 mm ² /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 ²	4.6 wt%	4.6 wt%	ASTM D5800/DIN 51581
Water	< 500 ppm	< 500 ppm	ASTM D6304
Refractive Index ² (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 ²	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 ²	7.60E-4 (g/cm ³)/°C	7.60E-4 (g/cm ³)/°C	ASTM D1250
Fire Point, COC ²	549 °F	287 °C	ASTM D92
Flash Point, PMCC ²	473 °F	245 °C	ASTM D93
Evaporation Loss ² (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 ² (Neat)	240 min	240 min	ASTM D2272
Biodegradation ²	83.6 %	83.6 %	OECD 301F

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

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

Esterex™ NP451

Synthetic Fluid

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

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

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

² Single sample or two sample average determinations

For additional technical, sales and order assistance: www.exxonmobilchemical.com/ContactUs

©2024 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Product Solutions" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Product Solutions Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

exxonmobilchemical.com