

## PRODUCT SPECIFICATION

<b>Product</b>	NORBO32 Base Oil
<b>Document Number</b>	PS-005
<b>Version</b>	4.0
<b>Date</b>	4/09/2018

Property	Units	Method	Specification
Appearance	-	ASTM D4176	Clear & Bright
Colour	-	ASTM D1500	1.0 max
Density	kg/L	ASTM 4052	Report (0.86 typical)
Kinematic Viscosity @ 40C	mm <sup>2</sup> /s	ASTM D7042	28-35
Kinematic Viscosity @ 100C	mm <sup>2</sup> /s	ASTM D7042	4.9-5.9
Viscosity Index	-	ASTM D2270	109 min
Flash Point	°C	ASTM D93	200 min
Water	mg / kg	ASTM 6304	100 max
Corrosion Copper Strip	(3hr @ 100C)	ASTM D130	1A max
Pour Point	°C	ASTM D97	-6 max
Total Acid Number	mg (KOH) /g	ASTM D974	0.03 max
Polyaromatic Hydrocarbons	mg / kg	SWA-846 8275	400 max (specified)
Polychlorinated Biphenyls	mg / kg	SWA-846 8082	2.0 max
dioxins/furans	WHO-TEQ pg / g	EPA D974-97	10 max
Modified AMES test	Mutagenicity Index	ASTM E1687	1 max
Heavy Metals: As, Cr, Cd, Pb	mg / kg	ASTM D5185	1 max
Foaming Tendency (Seq'II)*	mL / mL	ASTM D892	30/Nil
Water Separation @54°C*	m L/ mL / mL	ASTM D1401	40/38/2 (10 min)
Conradson Carbon Residue*	% w/w	ASTM D189	0.01
Aniline Point*	°C	ASTM D611	105
Volatility(NOACK conversion)*	%	ASTM D5800	14.6
Paraffin/Naphtha/Aromatic*	%w/w	ASTM D2140	67/30/3
Saturates*	%w/w	ASTM D2007	90 min
Ash content*	%w/w	ASTM D482	0.01
Sulphur*	%w/w	ASTM D1552	0.1

\* Not specified, typical results only noted