

## SAMPLE DATA REPORT



Report Date: February 2, 2018

 Licensee Name: MARTIN LUBRICANTS  
 Core Formulation Code: LBR-017822-C-01  
 CQA Sample ID Code: BPSGD0171097

 Fluid Type: dexos1™ Gen 2  
 SAE Vis Grade: 0W-20  
 Type of Sample: BLENDER PRODUCTION

COMMENTS:

Test Parameter	Test method	Unit	Specification Limits	Sample Test Results
High Temperature High Shear Viscosity at 150 °C	CEC L-36-A-90 ASTM D4741 ASTM D4683	mPa·s	xW-16: ≥ 2.3 xW-20: ≥ 2.6 xW-30: ≥ 2.9	2.7
Low Temperature Cranking Viscosity	ASTM D5293	mPa·s	0W-XX: ≤ 6200 at -35 °C 5W-XX: ≤ 6600 at -30 °C	5390
Kinematic Viscosity at +40 °C	DIN ISO 3104 ASTM D445	mm <sup>2</sup> /s	Report	44.0
Kinematic Viscosity at +100 °C	DIN ISO 3104 ASTM D445	mm <sup>2</sup> /s	xW-16: 6.1 to < 8.2 xW-20: 6.9 to < 9.3 xW-30: 9.3 to < 12.5	8.5
Viscosity Index	DIN ISO 2909 ASTM D2270	None	Report	173
Shear Stability – Bosch Injector (Kinematic Viscosity at +100 °C)	CEC L-14-A-93, ASTM D6278 (viscosity according to DIN ISO 3104, ASTM D445)	mm <sup>2</sup> /s	xW-16: 6.1 to < 8.2 xW-20: 6.9 to < 9.3 xW-30: 9.3 to < 12.5	7.7
Shear Stability – Bosch Injector (HTHS Viscosity at +150 °C)	CEC L-14-A-93, ASTM D6278 (viscosity according to CEC L-36-90, ASTM D4741, ASTM D4683)	mPa·s	xW-16: ≥ 2.1 xW-20: ≥ 2.4 xW-30: ≥ 2.7	2.6
Evaporative Loss	CEC L-40-A-93 ASTM D5800 (Results reported as Proc A)	wt%	≤ 13.0 average of 3 consecutive runs at the same laboratory	10.9
Barium	Established ICP or XRF Method	mg/kg	Report	0
Boron	Established ICP or XRF Method	mg/kg	Report	230
Calcium	Established ICP or XRF Method	mg/kg	Report	1321
Copper	Established ICP or XRF Method	mg/kg	Report	0
Lead	Established ICP or XRF Method	mg/kg	Report	0
Magnesium	Established ICP or XRF Method	mg/kg	Report	373
Molybdenum	Established ICP or XRF Method	mg/kg	Report	67
Phosphorus	DIN 51 363-3, ASTM D4951 (ICP) DIN 51 363-2, ASTM D6443 (XRF)	mg/kg	< 850	688
Silicon	Established ICP or XRF Method	mg/kg	Report	1
Sodium	Established ICP or XRF Method	mg/kg	Report	0
Titanium	Established ICP or XRF Method	mg/kg	Report	0
Zinc	Established ICP or XRF Method	mg/kg	Report	723
Fluid Profile	GM Proprietary Test IQ 8547	None	Match reference sample within test precision	NA