

# ONYX 51000

## Automotive Engine Oil Additive Package

### DESCRIPTION:

ONYX 51000 is a dispersant-inhibitor additive package designed to formulate gasoline and diesel engine oils for vehicles operating under severe conditions and heavy loads. ONYX 51000 contains ash-less dispersants, zinc dithiophosphate and metallic detergents. It provides additional deposit, oil oxidation, wear and rust control in gasoline and diesel engine oils. Formulated for flexibility to use in both higher and lower performance levels.

### PERFORMANCE

Cascade system developed to meet lower performances down to API SB/CB.

When blended with appropriate base stock(s) and viscosity modifiers, the formulated lubricant meets the following performance specifications.

API Specification	Mass%	BN
SG/CF	4.75	6.3
SF/CF	4.5	6.0
SF/CD, SF/CC	4.08	5.4
SE/CD	3.89	5.2
SE/CC	3.16	4.2
SC/CC	2.94	3.9
SC/CB, SB/CB	1.78	2.3

### PHYSICAL / CHEMICAL CHARACTERISTICS

Parameters	Test Methods	Specifications	Typical Value
Viscosity@ 100°C, cSt	ASTM D445	Report	60
BN, mgKOH/g	ASTM D2896	min 125	132
Calcium, % Wt	ASTM D4951	3.30 – 5.0	4.2
Zinc, % Wt	ASTM D4951	1.20 – 1.55	1.4
Phosphorus % Wt	ASTM D4951	0.95 – 1.40	1.19
Nitrogen % Wt	ASTM D5291	0.60 – 0.85	0.73
Flash Point (PMCC), °C	ASTM D93	>180	Report
Specific Gravity @15.6 °C	ASTM D1298	Report	1.01

The above characteristics are provided to indicate the typical values measured on the product.

**GENERAL HANDLING INSTRUCTIONS:**

Neoprene or nitrile rubber gloves and safety goggles should be worn for handling. Material safety data sheet should be consulted for specific information and for information on health and safety.

**Temperature Recommendations:**

<b>Unloading:</b>	<b>Temperature</b>	
Pumping temperature	60°C	140°F
Maximum temperature	70°C	158°F
<b>Storage:</b>		
Maximum temperature for long term storage	45°C	113°F
<b>Blending:</b>		
Max. Base oil temperature for mechanical or in-line mixing	70°C	158°F

**Equipment Recommendations**

Type of Pump	Positive Displacement
Type of transfer line	Ball lunched, Insulated, Steam Traced Using 107°C/225F Steam Max.
Transfer Line Size	2-3inch/5-8cm.

**Heat Source:**

Type	Steam 107°C/225°F max.
Storage Tank	Suction Heater Recommended