

# 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           |
| Flash Point (PMCC), °C | ASTM D93     | >180           | Report        |

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 |

**NOTE**

If you require further information, please contact your regional Onyx representative.