

### FUNCTIONAL Industrial Soy

Vegetable Base Stock for Environmentally Acceptable Lubricants

#### APPLICATION:

**FUNCTIONAL Industrial Soy** is a low cost, non-edible vegetable oil for building economical biodegradable and biobased lubricant formulations.

#### COMPOSITION:

**FUNCTIONAL Industrial Soy** is soybean oil.

| Typical Properties             |                                  |
|--------------------------------|----------------------------------|
| Appearance, Visual             | Clear to Slight Haze             |
| Color, ASTM D1500              | ≤ 2.0, various shades            |
| Kinematic Viscosity, ASTM D445 | 33 cSt @ 40°C<br>8.0 cSt @ 100°C |
| Viscosity Index, ASTM D2270    | 200+                             |
| Density (lb/gal), ASTM D1475   | 7.74 lb/gal                      |
| Flash Point, ASTM D92 COC      | 320°C (608°F)                    |
| Pour Point, ASTM D97           | -18°C                            |
| Total Acid Number, Typical     | 1.0                              |
| Elemental Analysis, Typical    | 0.01% Sulfur                     |

#### TREATMENT LEVEL:

Use at up to 100wt% for biobased lubricants as a base stock.

It is recommended to include 1-2wt% antioxidant or an additive package designed for biobased to ensure long-term stability:

- **FUNCTIONAL HF-595** for hydraulics
- **FUNCTIONAL SGP-563** for forestry oils (saw and chain)

To build viscosity to ISO 46 and higher, it is recommended to use a biobased viscosity modifier:

- **FUNCTIONAL V-515** for bar&chain, saw, and chain oils
- **FUNCTIONAL V-521** for hydraulic fluids

**FUNCTIONAL Industrial Soy** can be winterized against cold temperatures with 0.5wt% **FUNCTIONAL PD-585** to improve the pour point and low temperature fluidity.

#### HANDLING:

**FUNCTIONAL Industrial Soy** is a non-hazardous material; see the current Safety Data Sheet.

This Technical Data Sheet and the Safety Data Sheet contain information believed to be accurate and reliable. No warranty is made, however, to information beyond the control of FUNCTIONAL PRODUCTS INC. The engineering and management personnel of the user are responsible for determining the suitability of this or any product for any specific application, and this information is offered to them for that purpose.

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