



Renewable Lubricants, Inc.

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ReNu Source™ Oils

(ISO- 32, 46, 68, 100, 150, 220, 320, 460, 680, 1000, 1500, 3000)

ReNu Source™ Oils are produced from high oleic base stocks (HOBS) and synthetic polyol esters. HOBS are renewable high oleic natural esters that have improved oxidation stability over conventional biobased oils produced from animal and plants. In addition to available Natural Based oils (NBO) high in oleic content. ReNu Source™ Oils have been produced in different viscosities by combining Natural Based oils (NBO) with Renewable Synthetic based Polyol Esters (see data below for (RSPE). ReNu Source™ Oils RSPE and NBO are additive free and may be used by compound blenders for improving formulations in many industrial applications. They offer high biodegradability and low toxicity in aquatic conditions and can be used in formulating biobased products for environmentally sensitive areas such as in agriculture, forestry and marine. ReNu Source™ Oils provide excellent compatibility with the same seals and components that are designed to operate on petroleum oil based formulas. As an additive, or primary base oil, their natural oiliness has shown to provide additional lubricity in engine oils, hydraulic fluids, gear oils, and many metal working fluid/oil applications. The super high viscosity index and heavy viscosities of these biobased esters naturally provides additional fluid film value at the higher temperatures, which is a performance benefit over lower VI products of the same viscosity. This super high viscosity index improves the thermal shear stability of any formula, increases load capacity in the contact zone, reduces wear, and provides for energy conserving formulations. Their extremely low volatility increases the flash and fire safety features in the formula.

Applications: for formulating Metal Working Fluids, Greases, Gear Oils, Hydraulic Fluids, Drip Oils, Air-Oils, Air-Tool Oils, Machine Oils, Chain and Cable Oils, Wire Rope Oils, Circulating Oils, and many General-Purpose Lubricants, etc.

The advantages are many: biodegradable, renewable, low toxicity, no volatile organic compounds (VOCs), safer, more fire resistant, provides for EPA and ISO 14000 compliance, reduces foreign oil, and helps secure the American Economy. OSHA and worker acceptance are high with biobased oils.

Typical Specifications

Type Base Oil	POE	RSPE	RSPE	RSPE	RSPE	RSPE	RSPE	RSPE	RSPE	RSPE	RSPE
ISO Grade	22	22	32	46	68	100	150	220	1000	1500	3000
ASTM Grade (Neutral Oil)	100	100	150N	215N	315N	465N	700	1000N	4650	7000	----
Spec. Gravity @ 60°F. (D-287)	1.002	.90	.90	.91	.92	.92	.95	.96	.97	.99	.99
VISCOSITIES:											
@100°C., cSt. (D-445)	4.4	5.2	7.18	9.93	13.05	18.0	26.9	32	110	155	268
@40°C., cSt. (D-445)	19	21	31.28	45.67	61.52	91.0	139.52	199	920	1460	3200
Viscosity Index (D-2270)	133	195	205	213	218	218	216	206	220	222	160
Flash Point, COC, °C (D-92)	250	245	280	290	280	280	280	290	290	300	310
Pour Point, °C (D-97)	-55	-30	-25	-21	-22	-25	-15	-16	-18	-20	-27
Copper Corrosion ASTM D-130	1B	1B	1B	1B	1B	1B	1B	1B	1B	1B	1B
Rust Prevention (D-665 A)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Biodegradability ASTM-5864/7373%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%
Biodegradability OECD 301B %	>75	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%
Meets and exceeds EPA VGP EAL	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
USDA Biobased %	>75	78%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%	>60%
RLI Product Item #	79200	79100	79110	79120	79130	79140	79150	79160	79170	79180	79190

Polyol Esters (POE) plus Natural HOBS Based oils (NBO),= ReNu Source™ Oils RSPE

ReNu Source™ Oils meet the Environmental Protection Agency (EPA) Vessel General Permit (VGP) guidelines for formulating Environmentally Acceptable Lubricants (EALs), and should be used in formulations where **LOW TOXICITY**, **BIODEGRADABILITY** and **NON-BIOACCUMULATION** properties are required. They exceed the acute toxicity (LC-50 / EC-50 >1000 = ppm1000mg/L) criteria adopted by the US Fish and Wildlife Service and the US EPA. ReNu Source™ Oils are **ENVIRONMENTALLY RESPONSIBLE** base oils that are produced from renewable agricultural biobased resources. We believe Earth's environmental future rests in the use of renewable material.

¹Ultimate Biodegradation Pw1 >60% within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants

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Availability F.O.B.: Hartville, Ohio, USA Drum Totes Bulk