



Renewable Lubricants, Inc.
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Bio-SynXtra™ TC+ 2-Cycle Engine Oil

Biobased Synthetic Low-Smoke Engine Oil for Air-Cooled and Marine 2-Cycle Engines

Bio-SynXtra™ TC+ 2-Cycle Engine Oil is a patented, biobased synthetic formula engineered for high-performance air-cooled and water-cooled 2-cycle engines. Formulated with Stabilized™ HOBS technology and enhanced additive systems, this ashless, low-smoke oil meets and exceeds API TC+ standards and is suitable for modern and legacy equipment including lawn and garden tools, motorcycles, scooters, snowmobiles, and outboard marine engines.

Benefits

- Readily biodegradable, environmentally non-toxic, not bioaccumulative
- Meets and exceeds API TC+ and obsolete NMMA TC-W, TC-WII (BIA) requirements
- Enhanced antiwear and anti-scuffing performance
- Minimizes visible smoke, deposits, and ring sticking
- Prevents spark plug fouling and carbon buildup
- Boosted lubricity and cleanliness chemistry
- Compatible with Husqvarna Chain Saw 242/266 and Yamaha CE50S engines
- Recommended for both carbureted and DFI systems
- Contains Stabilized™ technology for oxidation and cold flow stability
- Low-sulfated ash and reduced emissions for cleaner burn

Application / New Filling

Recommended for:

- High-output 2-cycle engines in lawn and garden equipment
- Chainsaws, snow blowers, mopeds, scooters, and motorcycles
- Air-cooled marine outboard engines
- Equipment with premixed or DFI fuel systems (refer to OEM fuel:oil ratios)

Specifications and Approvals

- API TC+ performance
- NMMA TC-W, TC-WII (BIA) legacy compliance
- Husqvarna Chain Saw 242/266
- Yamaha CE50S Lubricity Test – Equal or better than reference OS250541
- AF-27 Lubricity: Pass
- Fuel Miscibility (ASTM D-4682/#992): Pass

STABILIZED™
by Renewable Lubricants

- Rust, Filterability, Compatibility: Pass
- Stabilized™ HOBS Technology
 - U.S. Patents: 6,383,992; 6,534,454
 - Additional foreign and pending patents

TYPICAL SPECIFICATIONS		
Property	Method	Result
Viscosity, cSt 100°C	ASTM D-445	8.8
Viscosity, cSt 40°C	ASTM D-445	48.1
Viscosity Index	ASTM D-2270	164
Flash Point, °C	ASTM D-93	180
TBN (mg KOH/g)	ASTM D-2896	6.0
Pour Point, °C	ASTM D-97	-36
Cloud Point, °C	ASTM D-2500	-18
Brookfield @ -25°C, cP	ASTM D-2988	<7500
Biodegradability	CEC-L-33-A-94	>80%
Sulfated Ash	ASTM D-874	<0.001
Nitrogen % wt.	ASTM D-3228M	0.22
Bench & Engine Tests		
Compatibility	NMMA_CTCW	Pass
Filterability	NMMA_FPT	Pass
Fuel Miscibility	ASTM D-4682/#992	Pass
Rust	NMMA	Pass
Lubricity	AF-27	Pass
Yamaha CE50S Tightening/Lubricity Test	Equal to or better than references** OS250541	3.90/ 4.34/ Pass
Torque Drop, lb-in. Candidate/Reference/Eval.	Within 90% confidence level	
Readily Biodegradable >80% within 21 days in CEC L-33-T-82 test		