



## High Performance Renewable Lubricants

### **Bio-TCW 2-Cycle Engine Oil (Bio-TCW)**

Bio-TCW, 2-cycle engine oil, is a readily biodegradable<sup>1</sup> formula with proven technology that has passed the National Marine Manufacturers Association (NMMA) Certification Test TC-W (BIA) and TC-WII for 2-Cycle Engine Oil. This Low-Smoke Formula contains stabilized technology to improve fuel stability.

Bio-TCW has been especially designed to operate in water-cooled gasoline engines for the boating industry, and in 2-cycle air-cooled engines for general-purpose equipment and for personal and recreational transportation, such as motorcycles, snowmobiles, chain saws, and lawn and garden equipment. Bio-TCW meets and exceeds Motorcycle API TC and Husqvarna Chain Saw requirements.

Bio-TCW does not utilize a solvent to increase gasoline miscibility. This feature offers a significant safety advantage since the product has a flash point of 365<sup>0</sup> F and is, therefore, not classified as flammable or combustible according to OSHA or D.O.T. regulations. Bio-TCW is readily biodegradable and allows you to use one product to service both water-cooled and air-cooled 2-cycle engines.

#### Typical Characteristics

Property	Typical Value	Method
Viscosity, cSt 100°C	10.4	ASTM D-445
Viscosity, cSt 40°C	63	ASTM D-445
Viscosity Index	155	ASTM D-2270
Flash point, °C	185	ASTM D-93
TBN (mg KOH/gm)	2.94	ASTM D-2896

#### Bench Tests

Low Temperature Fluidity	Pass
Compatibility with Mineral Oil	Pass
Filterability	Pass
Fuel Miscibility	Pass
Rust	Pass
Biodegradability: CEC-L-33-A-94	(84%)

#### Engine Tests

TC-W2 Johnson 40 hp	
Varnish	8.7/6.2/Pass
Ring Stick	9.0/7.8/Pass
Yamaha CE50S	
Lubricity (>Ref.)	4.75/6.26
West Bend Deposit	
Piston Varnish	9.7
Ring Stick	8.8
Port Blocking (%)	4

This product is based on a proprietary and patented anti-oxidant, anti-wear, and cold flow technology. Base stocks are non-GMO agricultural vegetable oils. This stabilized technology provides high performance in high and low temperature applications, reducing oil thickening and deposits.

<sup>1</sup> Readily Biodegradable >80% within 21 days in CEC L-33-T-82 test.

#### To Order

Fax to 831-728-1753 or call 800-491-9473 for Customer Service  
Visit [www.wiserenewables.com](http://www.wiserenewables.com) or Email [sales@wiserenewables.com](mailto:sales@wiserenewables.com)

Available Size  
Container

Quantity (min.)

32 oz. Quart	1 gal. Bottle	5 gal. Pail	55 gal. Drum	330 gal. Tote