



**TCW3
2-Cycle
Engine Oil
(TCW3)**

TCW3, 2-cycle engine oil is a readily biodegradable¹ formula that passes the National Marine Manufacturers Association (NMMA) 2-cycle engine oil Certification Test and meets or exceeds the requirements for high performance air-cooled engines. WISE TCW3 also meets and exceeds Motorcycle API TC and Husqvarna Chain Saw requirements. This **low-smoke formula** contains stabilized technology to improve fuel stability.

TCW3 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 as well as for personal and recreational transportation, such as motorcycles, snowmobiles, chain saws, and lawn and garden equipment.

TCW3 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°F and is, therefore, not classified as flammable or combustible according to OSHA or D.O.T. regulations. TCW3 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	9.0	ASTM D-445
Flash point, °C	185	ASTM D-93
Pour point, °C	-36	ASTM D-97
TBN (mg KOH/gm)	2.94	ASTM D-2896
Biodegradability	92%	CEC-L-33-T-82

Bench Tests	Method	Pass/Fail Criteria
Cloud point, °C	-29	ASTM D-2500
Compatibility	clear	Homogeneous after mixed separately with each reference oil (*.**) and stored 48 hours
Brookfield (fluidity) cP @ -25°C	5130	ASTM D-2988
Evaluation	pass	Less than 7500 cP
Miscibility (inversions @ -25°C)		ASTM D-4682
Candidate/reference	75/95	No more than 10% inversion than reference*
Evaluation	pass	
Rust test, %		NMMA Procedure equal to or better than reference*
Candidate/reference	3.16/4.04	
Evaluation	pass	NMMA Procedure
Filterability, % Change, Candidate/Evaluation	+6.5/ pass	Decrease in flow not greater than 20%

¹ 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.wisesolutions.net or Email sales@wisesolutions.net

**Available Size
Container**

Quantity (min.)

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



Performance Biolubricants and Colloidal Cleaners

TCW3 2-Cycle Engine Oil Program Summary

OMC 40 Horsepower Test (98 hours)		Not lower than 0.6 below same ratings of reference*
Average Piston Varnish, Candidate/Reference	9.2 / 8.9	
Top Ring Stick, Candidate/Reference	10.0 / 9.5	
Evaluation	Pass	
OMC 70 Horsepower Test (100 hours)		Equal to or better than some ratings of reference***
Average Piston Deposits, Candidate/Reference	6.5 / 5.0	
Second Ring Stick, Candidate/Reference	9.6 / 7.6	
Evaluation	Pass	
Mercury 15 Horsepower Test (100 hours)	100 hours	100 hours with no stuck rings, plus
Scuffing, Candidate Evaluation	Pass	a) scuffing within allowable limits (30%)
Bearing Stickiness, Candidate Evaluation	Pass	b) needles must fall easily from wrist pin
Compression Loss, Candidate Evaluation	Pass	c) 20 psi maximum compression loss
Overall Candidate Evaluation	Pass	(reference*** run every 5 candidate runs)
Yamaha CE50S Tightening/Lubricity Test		Equal to or better than reference** within 90% confidence level
Torque Drop, lb-in. Candidate/Reference/Eval.	5.18 / 5.43 / Pass	
Yamaha CE50S Preignition Test (100 hours)		Equal to or better than reference*
Major Preignitions, Candidate/Reference/Eval.	1/1/Pass	

* #93738 (TC-W II reference oil) ** XPA-3259 *** OR-71591