

## MARINÖL Marine 2T Outboard Oil

### Product Description

**MARINÖL MARINE 2-T OUTBOARD OIL** is a premium ashless synthetic blend 2-stroke engine oil specifically developed for modern water-cooled marine outboard engines. Formulated to meet the performance requirements of NMMA TC-W3, it delivers superior lubrication, piston cleanliness, and corrosion protection in demanding marine environments. The advanced additive system minimizes exhaust smoke, reduces carbon deposits, and protects critical engine components from rust and wear caused by saltwater exposure.

### Product Features & Benefits

- **Ashless Additive Technology:** Prevents spark plug fouling and piston ring sticking
- **Excellent Wear Protection:** Protects bearings and cylinder walls under severe conditions
- **High Detergency:** Controls carbon build-up and keeps exhaust ports clean
- **Superior Corrosion Resistance:** Protects against rust and saltwater damage
- **Low Smoke Formula:** Cleaner combustion and reduced exhaust emissions
- **Excellent Fuel Miscibility:** Rapid mixing with gasoline in premix and injection systems

### Typical Properties by Viscosity Grade

Property	Method	Typical Result
Appearance	Visual	Blue / Green liquid
Density @ 15°C	ASTM D4052	0.865 - 0.875 g/cm <sup>3</sup>
Kinematic Viscosity @ 40°C	ASTM D445	50 - 55 mm <sup>2</sup> /s
Kinematic Viscosity @ 100°C	ASTM D445	8.0 - 9.0 mm <sup>2</sup> /s
Viscosity Index	ASTM D2270	130 - 140
Flash Point (COC)	ASTM D92	≥ 100 °C
Pour Point	ASTM D97	≤ -30 °C
TBN	ASTM D2896	Not applicable (ashless formulation)
Ash Content	ASTM D874	<0.01 % wt
Color	Visual	Dyed (Blue/Green)

### Mixing Ratio

Use as per manufacturer's instructions. Typical mix ratio: 1:50 (2%) unless otherwise specified.

### Application

- Recommended for 2-stroke outboard engines requiring NMMA TC-W3 specification
- Suitable for use in outboard motors, jet skis, personal watercraft (PWC), and small marine 2-cycle engines
- Compatible with oil-injection and premix lubrication systems
- **Typical premix ratio:** 1:50 (2%) or according to engine manufacturer's instructions
- Suitable for major marine engine brands including **Yamaha, Mercury, Suzuki, Evinrude, Johnson, and Tohatsu**

### PERFORMANCE STANDARDS

- Meets or exceeds NMMA TC-W3 requirements
- Meets API TC performance level
- Backward compatible with TC-W and TC-WII specifications

### Recommended For

- High-performance and high-RPM marine outboard engines
- Water-cooled 2-stroke gasoline engines operating in saltwater or freshwater conditions
- Applications requiring ashless, low-smoke lubricant technology



## **STORAGE & HANDLING**

- Store in a dry, well-ventilated area away from direct sunlight
- Keep container tightly closed when not in use
- Avoid contamination with water, dirt, or other lubricants

## **Health, Safety, and Environment**

- Consult Safety Data Sheet (SDS) prior to use
- Avoid prolonged skin contact and eye exposure
- Dispose of used oil in accordance with local environmental regulations
- Do not discharge into waterways or marine environments

