



VALVE ACTUATOR OIL

We value a sustainable approach to the environment. Lubrication can be clean and green while reducing costs.

Our Marinus product line is readily biodegradable by the Organization for Economic Co-operation and Development (OECD) standards. It is derived from extremely high quality renewable base stocks, which are 98% biodegraded after 28 days. These oils do not produce a lasting oily residue on water and do not impact plant and animal life. Marinus can be trusted in all environmentally sensitive areas.

Marinus Valve Actuator Oil contains custom formulated synthetic fluid designed to meet the needs of demanding gas over hydraulic applications.

Our lubricant meets the viscosity requirements identified by actuator manufactures over a wide range of temperatures providing smooth transmission of power to the valve stem and facilitates the opening and closing of valves within the specified time cycle.

The synthesized base fluid has low surface tension, which promotes natural anti-foaming properties. Foaming can cause poor fluid power transfer, slow actuator speed and increases fluid entrainment in the exhaust gas released into the environment.

- Addresses overhead vapor corrosion and submerged liquid phase corrosion.
- Meets OEM approvals for gas over hydraulic applications.
- Reduced environmental damage and liability.

Exceeds the biological degradation requirements of CEC- L33-A93 and the OECD

Marinus Valve Actuator Oil: For use in hydraulic valves to provide smooth transmission of power to the valve stem. Always Test functionality of valve prior to resuming gas transmission. Follow recommended safety precautions when working on gas lines.

Part#	3640-20-1 (20L Pail)	3640-205-1 (205L Drum)	3640-00-00 (Bulk)
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<u>TYPICAL PROPERTIES</u>	<u>ASTM METHOD</u>	<u>Marinus Valve Actuator Oil</u>
Appearance		Clear Pale Green
Viscosity @ -50°C (cSt)	D 445	2842.0
Viscosity @ -40°C (cSt)	D 445	857.7
Viscosity @ 40°C (cSt)	D 445	7.98
Viscosity @ 100°C (cSt)	D 445	2.4
Viscosity Index	D 2270	124
Pour Point (°C)	D 97	-66
Flash Point (°C)	D 92	196
Specific Gravity @ 22°C	D 1298	0.925



<u>PERFORMANCE TESTING</u>	<u>ASTM METHOD</u>	<u>Marinus Valve Actuator Oil</u>
Foaming Properties Sequence I/II/III – (Final ml)	D 892	0/0/0
Seal Compatibility – After heating in oil @100 °C for 72 hours		
Buna (% Change in Volume)	-	+8.37
Nitrile (% Change in Volume)	-	+20.93
Urethane / Moly-Sulfide (% Change in Volume)	-	+10.81
Trout Toxicity (Survival Rate %)	EPSI/RM/13	100
Phyto Toxicity LD50 Seed Germination		
Roblin Wheat (%)	-	37
Lodgepole Pine (%)	-	29
Timothy Grass (%)	-	18