

# CLARION® Green Synthetic Gear Fluids



## OVERVIEW



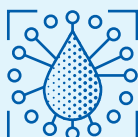
- High-performance, readily biodegradable extreme pressure gear lubricants formulated with premium synthetic fluid components.
- Formulated with zinc-free, ashless additives. Zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.
- Meet environmental compliance requirements while providing protection for heavily loaded machinery operating in environmentally sensitive areas.

## FEATURES & BENEFITS



- Meet 2013 EPA Vessel General Permit (VGP) requirements for Environmentally Acceptable Lubricants (EAL).
- Low acute aquatic toxicity (as shown by LC-50 test)
- Readily biodegradable.
- Fully synthetic, zinc-free, ashless formulation with outstanding rust and corrosion protection.
- Excellent low-temperature performance.
- Contain inhibitors to minimize foaming and air entrainment.
- Premium extreme pressure (EP) protection for heavily loaded industrial gears and plain or rolling element bearings.

## APPLICATIONS



- Recommended for lubrication of industrial gears and plain or rolling element bearings in environmentally sensitive areas where the use of a zinc-free, ashless, low aquatic toxicity, readily biodegradable fluid is desired.
- Marine — marine vessels, offshore and inshore rigs, tugs, dredges, dock equipment, cranes, pile-drivers, marine construction equipment, subsea equipment.
- Forestry — scalpers, excavators, wheel loaders.
- Oil & Gas Exploration – oil and gas drilling rigs.
- Fluid monitoring through Lubealert Oil Analysis is recommended to maximize service life. Moisture content should be maintained at less than 500 ppm.

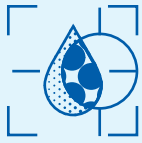
• MEETS EPA 2013 VGP EAL REQUIREMENTS


• READILY BIODEGRADABLE 

• NON-TOXIC PER LC-50 AQUATIC TOXICITY TEST

• EXTREME PRESSURE (EP) RATED

• ZINC-FREE

**PROPERTIES****Typical Properties for CLARION Green Synthetic Gear Fluids:**

<b>ISO Viscosity Grade</b>	<b>150</b>	<b>220</b>	<b>320</b>
<b>AGMA Grade</b>	<b>4EP</b>	<b>5EP</b>	<b>6EP</b>
Material Code	633589009	633590009	633591009
Gravity, °API ASTM D4052	22.1	18.92	16.42
Flash Point, (COC) °C (°F) ASTM D92	220 (428)	225 (437)	227 (440)
Pour Point, °C (°F) ASTM D97	-45 (-49)	-42 (-44)	-36 (-33)
Viscosity ASTM D445			
cSt @ 40°C	150	220	320
cSt @ 100°C	21.4	28.2	37.2
Viscosity Index, ASTM D2270	164	165	165
Color, ASTM D1500	L2.0	L2.0	L2.0
Foam Test ASTM D892			
Seq. I, mL-mL	0-0	0-0	10-0
Seq. II, mL-mL	0-0	20-0	15-0
Seq. III, mL-mL	0-0	0-0	0-0
Water Separability@ 180°F, mL/mL/mL/min ASTM D1401	>40/40/0/30	>40/38/0/30	>40/38/0/30
Copper Corrosion, 3 hrs @ 100°C, ASTM D130	1A	1A	1A
Rust Test, ASTM D665 A/B	Pass	Pass	Pass
RPVOT, minutes ASTM D2272	150	144	121
Four Ball Wear, mm ASTM D4172			
20 Kg	0.43	0.43	0.43
40 Kg	0.55	0.55	0.54
Four Ball Weld Point Kgf ASTM D2783	315	315	500
 Biodegradability, % ASTM D7373	>60	>60	>60

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