

# CLARION® Green Synthetic Fluids



## OVERVIEW



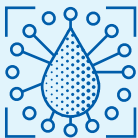
- High-performance, readily biodegradable anti-wear hydraulic fluids formulated with premium synthetic fluid components.
- Formulated with zinc-free, ashless additives. Zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.
- Provide protection for demanding hydraulic systems, especially those operating in environmentally sensitive areas.

## FEATURES & BENEFITS




- Meet 2013 EPA Vessel General Permit (VGP) requirements for Environmentally Acceptable Lubricants (EAL).
- Non-toxic in acute aquatic toxicity test (LC-50).
- 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 anti-wear protection for vane, piston, and gear pumps, motors, and other hydraulic components when used in accordance with the manufacturer's recommendations.

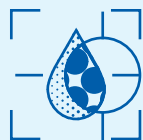
## APPLICATIONS




- Recommended for hydraulic system applications operating 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.
- Construction & Mining — bulldozers, graders, backhoes, conveyors, crawlers, hole drillers.
- 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.

• **ZINC-FREE**  
 • **READILY BIODEGRADABLE**   
 • **MEETS 2013 EPA VGP REQUIREMENTS**  
 • **NON-TOXIC PER LC-50 AQUATIC TOXICITY TEST**

## PROPERTIES



## Typical Properties for CLARION® Green Synthetic Fluids:

ISO Viscosity Grade	22	32	46	68
Material Code	633585009	633586009	633587009	633588009
Gravity, °API ASTM D4052	34.3	32.4	29.7	26.1
Flash Point, (COC) °C (°F) ASTM D92	180 (356)	180 (356)	180 (356)	190 (374)
Viscosity ASTM D445				
cSt @ 40°C	22.8	31.1	45.8	69.1
cSt @ 100°C	5.4	6.6	8.8	12.0
Viscosity Index, ASTM D2270	188	178	188	172
Pour Point, °C (°F) ASTM D97	-57 (-70)	-57 (-70)	-57 (-70)	-54 (-65)
Color, ASTM D1500	L1.5	L1.5	L1.5	L1.5
Foam Test ASTM D892				
Seq. I, ml	10-0	10-0	5-0	0-0
Seq. II, ml	25-0	30-0	30-0	40-0
Seq. III, ml	15-0	10-0	5-0	15-0
Water Separability at 130°F ASTM D1401	40/40/0/15	40/40/0/20	40/40/0/15	40/40/0/20
Dielectric Strength, kV, minimum ASTM D877	35	35	35	35
Total Acid No. mg KOH/g ASTM D664	0.1	0.1	0.1	0.1
RPVOT minutes ASTM D2272	1140	1050	850	780
 Biodegradability % ASTM D7373	>60	>60	>60	>60

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