

CLARION® Green Synthetic Fluids



OVERVIEW



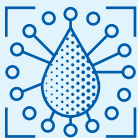
- High-performance, readily biodegradable anti-wear hydraulic fluids formulated with premium synthetic fluid components.
- Formulated with zinc-free, ashless additives. Zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.
- Provide protection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

FEATURES & BENEFITS




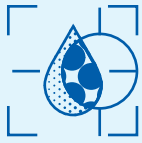
- Meet 2013 EPA Vessel General Permit (VGP) requirements for Environmentally Acceptable Lubricants (EAL).
- Low acute aquatic toxicity (as shown by LC-50 test)
- Readily biodegradable.
- Fully synthetic, zinc-free, ashless formulation with outstanding rust and corrosion protection.
- Excellent low-temperature performance.
- Contain inhibitors to minimize foaming and air entrainment.
- Premium 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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Dielectric strength is extremely sensitive to humidity and contamination. Once the containers are opened, the dielectric strength cannot be expected to remain at its original value. Containers should be kept tightly sealed and stored in a dry environment.