



CLARION® GREEN SYNTHETIC FLUIDS

Date 01/14

DESCRIPTION: Clarion Green Synthetic Fluids are a series of high performance readily biodegradable anti-wear hydraulic fluids formulated with premium synthetic fluid components and zinc free ashless additives to provide protection for demanding hydraulic systems, especially those operating in environmentally sensitive areas.

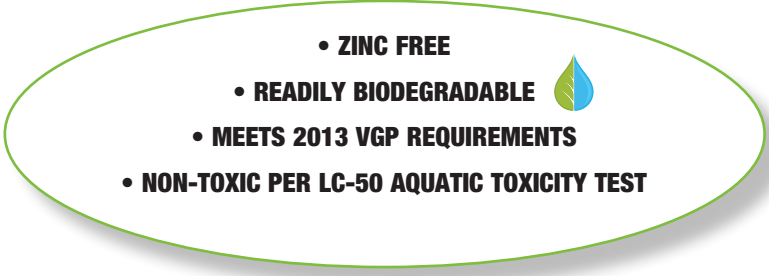

Clarion Green Synthetic Fluids are zinc free. Zinc compounds are regulated as priority pollutants under provisions of the Clean Water Act and SARA Title 313.

- BENEFITS:**
- Readily biodegradable, fully synthetic formulation
 - Non-toxic in acute aquatic toxicity test (LC-50)
 - Zinc free ashless formulation
 - Excellent low temperature performance
 - Provide outstanding rust and corrosion protection
 - Contain inhibitors to minimize foaming and air entrainment
 - Provide premium anti-wear protection to pumps, motors and other hydraulic components
 - Meets Coast Guard Vessel General Permit (December 2013) requirements for readily biodegradable lubricants

APPLICATIONS: Clarion Green Synthetic Fluids offer anti-wear protection to vane, piston and gear pumps, motors, valves and other hydraulic circuit components when used in accordance with the manufacturer's recommendations. Provides excellent fluidity in low temperature 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 such as:

- 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® CPM Oil Analyses is recommended to maximize the service life of Clarion Green Synthetic Fluids. Moisture content should be maintained at less than 500 ppm.

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

(Continued)



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Date 01/14 - (Continued)

TYPICAL PROPERTIES:

CLARION® GREEN SYNTHETIC FLUIDS

ISO VIS Grade	22	32	46	68
Material Code	633585009	633586009	633587009	633588009
Gravity, ASTM D 4052, °API	34.3	32.4	29.7	26.1
Flash Point, ASTM D 92 (COC) °C (°F)	180 (356)	180 (356)	180 (356)	190 (374)
Viscosity, ASTM D 445, at 40°C	22.8	31.1	45.8	69.1
at 100°C	5.4	6.6	8.8	12.0
Viscosity Index, ASTM D 2270	188	178	188	172
Pour Point, ASTM D 97, °C (°F)	-57 (-70)	-57 (-70)	-57 (-70)	-54 (-65)
Color, ASTM D 1500	L1.5	L1.5	L1.5	L1.5
Foam Test, 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, ASTM D 1401, at 130°F	40/40/0/15	40/40/0/20	40/40/0/15	40/40/0/20
Dielectric Strength, ASTM D 877,				
KV, minimum	35	35	35	35
Total Acid No., ASTM D 664, mg KOH/g	0.1	0.1	0.1	0.1
RPVOT, ASTM D 2272, minutes	1140	1050	850	780
Biodegradability, ASTM D 7373	>60	>60	>60	>60

