

**CITGO CLARION® FOOD GRADE
A / W HYDRAULIC OILS**



Date 10/06

- DESCRIPTION:** CITGO Clarion Food Grade A/W Hydraulic Oils use an additive system designed specifically for lubricants for food processing equipment. They are formulated with a high purity white mineral oil and additive system for food processing applications. They are available in five ISO viscosity grades.
- QUALITIES:** CITGO Clarion Food Grade A/W Hydraulic Oils meet the requirements of U.S. FDA regulation 21 CFR 178.3570 for lubricants with the possibility of incidental contact with food for human consumption, and are registered as NSF H1 lubricants (formerly USDA H1), for use in food processing plants under the jurisdiction of the USDA.
- CITGO Clarion Food Grade A/W Hydraulic Oils are certified as Kosher (passover) with the Union of Orthodox Jewish Congregations of America®. CITGO Clarion Food Grade A/W Hydraulic Oil 32 is certified to ANSI/NSF Standard 60, Drinking Water Treatment Chemicals – Health Effects.
- These lubricants are colorless, odorless, tasteless, non-staining lubricants that provide excellent wear, rust, and oxidation protection. CITGO Clarion Food Grade A/W Hydraulic Oils 100 and 220 are fortified with high molecular weight polymer for improved high temperature performance.
- APPLICATIONS:** CITGO Clarion Food Grade A/W Hydraulic Oils are general purpose lubricants for machinery that processes, packages, or transports food for human consumption. These oils are recommended for medium pressure hydraulic systems, and circulating systems.
- CITGO Clarion Food Grade A/W Hydraulic Oils 32, 46, and 68 Oils are recommended for medium pressure hydraulic systems in food processing, canning, bottling, and air line lubrication.
- CITGO Clarion Food Grade A/W Hydraulic Oil 100 and 220 Oils are light duty gear oils designed for use in food machinery worm gears, spur gears and valves.

TYPICAL PROPERTIES:

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FOOD GRADE A/W HYDRAULIC OILS**

VIS GRADE	32	46	68	100	220
Material Code	633541001	633542001	633543001	633544001	633546001
Gravity, ASTM D 4052, °API	32.6	32.2	31.1	30.6	30.1
Pounds Per Gallon	7.18	7.20	7.25	7.27	7.38
Flash Point, ASTM D 92, °F (°C)	380 (193)	400 (204)	415 (213)	420 (216)	430 (227)
Pour Point, ASTM D 97, °F (°C)	15 (-9)	15 (-9)	15 (-9)	15 (-9)	20 (-7)
Viscosity, ASTM D 445, cSt at 40°C	32	46	68	100	220
cSt at 100°C	5.3	6.5	8.3	10.7	18.8
Water Separation, ASTM D 1401, minutes					
at 130°F	15	15	15	20	–
at 180°F	–	–	–	–	20
Turbine Oil Rust Test, ASTM D 665A	Pass	Pass	Pass	Pass	Pass
Four-Ball Wear, ASTM D 4172,					
Scar, mm at 20 Kg	0.32	0.32	0.32	0.34	0.34
Scar, mm at 40 Kg	0.40	0.40	0.40	0.42	0.44
Vickers Pump Wear, ASTM D 2882, mg	15	15	15	–	–
Oxidation Stability, ASTM D 943, hrs	8000+	8000+	8000+	8000+	6000+
Kosher	Ⓢ	Ⓢ	Ⓢ	Ⓢ	Ⓢ
NSF Registered	H1	H1	H1	H1	H1
NSF/ANSI Certified	STD 60	–	–	–	–
FDA, 21CFR 178.3570	✓	✓	✓	✓	✓