

CLARION® Food Machinery Gear Oils



OVERVIEW



- Designed for use in food machinery worm gears, spur gears, and valves.
- Formulated with a high-purity white mineral oil and additive system for food processing applications.
- Available in ISO grades 150, 220, 320, and 460.
- Do not contain any natural products derived from animals, nuts, or genetically modified organisms (GMOs).
- Suitable for use where vegetarian and nut-free foods are prepared.

FEATURES & BENEFITS



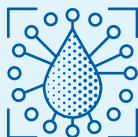
- Colorless, odorless, tasteless, non-staining lubricants that provide excellent wear, rust, and oxidation protection.
- Meet the requirements of U.S. FDA regulation 21 CFR 178.3570 for incidental food contact.
- NSH H1 registered for use in food processing plants under the jurisdiction of the USDA.
- Certified under NSF/ANSI/CAN Standards 60 and 61 (ISO 220 only). Certified as Kosher (Passover) with the Union of Orthodox Jewish Congregations of America (U).



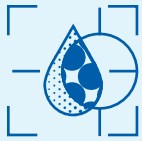
Certified to
NSF/ANSI/CAN
Standards
60 and 61

Clarion Food Machinery
Gear Oil 220 (ONLY)

APPLICATIONS



- General purpose lubricants for machinery that processes, packages, or transports food for human consumption.
- Recommended for use in food machinery worm gears, spur gears, and valves.
- ISO 150 grade is recommended for lubrication of rotary can seaming machines equipped with a total loss system, such as those made by Angelus Sanitary Can Seaming Company.
- ISO 220 grade is certified under NSF/ANSI/CAN Standards 60 and 61 and is recommended for water well pumps and water system machinery where an NSF/ANSI/CAN Standard 60 and/or Standard 61 certified lubricant is required or desired.

PROPERTIES**Typical Properties for CLARION Food Machinery Gear Oils**

ISO Grade	150	220	320	460
Material Code	633547009	633546009	633563009	633548009
Gravity, °API ASTM D4052	30.3	29.3	30.3	28.9
Density, lb/gallon	7.28	7.33	7.28	7.35
Flash Point, COC, °C (°F) ASTM D92	238 (460)	240 (464)	246	242 (468)
Pour Point, °C (°F) ASTM D97	-7 (+19)	-7 (+19)	-7(+19)	-7 (+19)
Viscosity ASTM D445				
cSt at 140°C	148	220	320	460
cSt at 100°C	15.0	18.8	25.8	29.6
Viscosity Index ASTM D2270	105	105	105	105
Color ASTM D1500	L0.5	L0.5	L0.5	L0.5
Water Separation @ 180°F, mL-mL-mL (min) ASTM D1401	40-38-2 (10)	40-38-2 (10)	40-40-0 (15)	40-39-1 (15)
Rust Test ASTM D665A	Pass	Pass	Pass	Pass
Four-Ball Wear ASTM D4172				
Scar, mm @ 20 Kg	0.32	0.34	0.34	0.34
Scar, mm @ 40 Kg	0.40	0.44	0.44	0.44
FZG Scuffing Load Capacity ASTM D5182	>12	>12	>12	>12
ANSI/AGMA 9005-E02	4EP	5EP	6EP	7EP
Oxidation Stability, hrs., ASTM D943	6000+	6000+	6000+	6000+
Kosher	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Halal	Ⓜ	Ⓜ	Ⓜ	Ⓜ
NSF Registered (Registration Number)	H1 (139651)	H1 (124623)	Pending	H1 (124630)
NSF/ANSI/CAN Standard 60 Certified	—	✓	—	—
NSF/ANSI/CAN Standard 61 Certified	—	✓	—	—
FDA, 21CFR 178.3570	✓	✓	✓	✓

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