



Clarion Lubricants for the Food and Beverage Industry

The webinar will begin in less than 10 minutes.

Tom Hiney

Erica McDonald

Doug Rice





Clarion Lubricants for the Food and Beverage Industry

The webinar will begin in less than 5 minutes.

Tom Hiney

Erica McDonald

Doug Rice





Clarion Lubricants for the Food and Beverage Industry

Tom Hiney
Erica McDonald
Doug Rice



Tom Hiney

- Tom Hiney, CLS, OMA-I
- Strategic Product Channel Manager
- BS, Business/Accounting
- MBA, International Business
- 35 Years Experience in Lubricants
- STLE Certified
 - Certified Lubrication Specialist
 - Oil Monitoring Analyst I
- 15 Years Sales Management Experience



Doug Rice

- Senior Product Specialist – Grease Technology
- BS in Chemistry
- 27 years of Experience
 - Laboratory Supervisor – Oklahoma City
 - Product Specialist – Fluids Technology
 - Product Specialist – Grease Technology
 - Technical Service Representative - Sales
 - Senior Account Manager – Sales
- Certifications
 - NLGI Certified Lubricating Grease Specialist (CLGS)
 - STLE Certified Lubrication Specialist (CLS)
 - STLE Oil Monitoring Analyst (OMA)



Erica McDonald

- CITGO Lubricants Product Specialist
- BS, Integrative Biology with Minor in Chemistry
- 10 Years in the Lubricants Industry, including extensive experience at the CITGO Cicero Lab
- LubeAlert Oil Condition Monitoring Program Support



Agenda

Food Grade Lubricants Market

Introduction to Food Grade Lubricants

Clarion Products for Direct Food Contact

Clarion Products for Indirect Food Contact

Clarion Products for Food Packaging Applications

Clarion Products Sales Tips

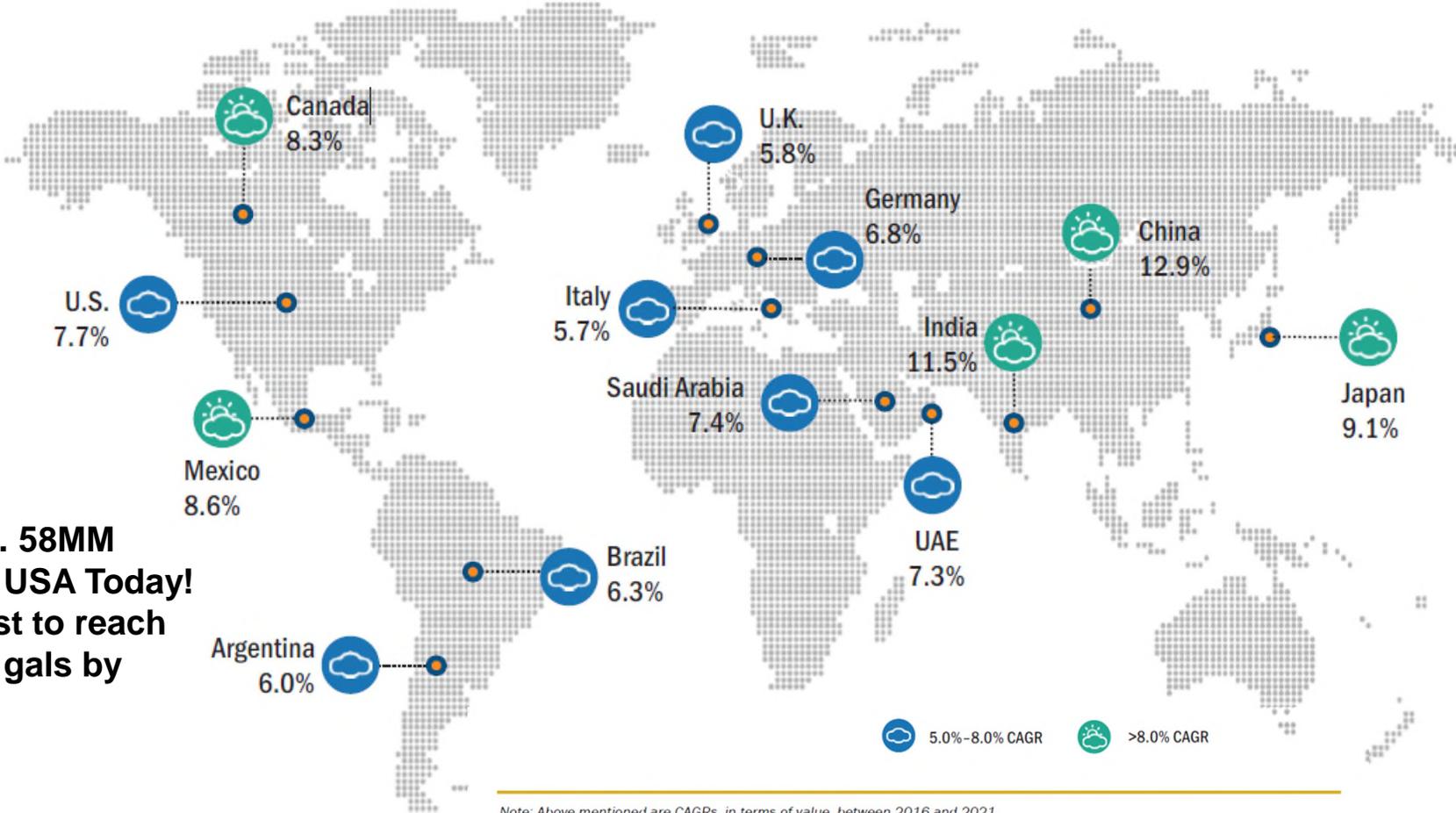
Bonus: LubeAssure Toolbox Demonstration



Clarion Lubricants for the Food and Beverage Industry

Food Grade Lubricants Market

Food Grade Lubricants Projected Growth



Approx. 58MM Gals in USA Today! Forecast to reach 100MM gals by 2028!

*Note: Above mentioned are CAGRs, in terms of value, between 2016 and 2021.
Source: Secondary Research, Expert Interviews, and MarketsandMarkets Analysis*

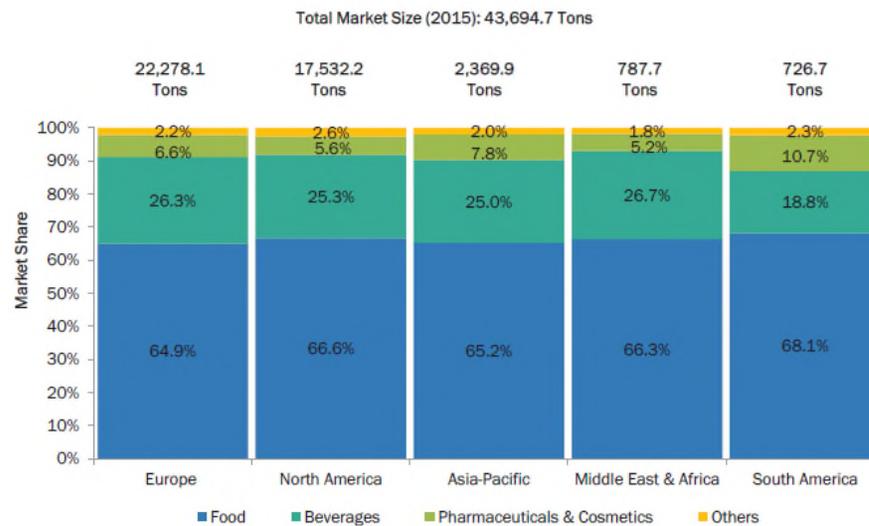
Food Grade Lubricants Market

Food Grade Lubricants Market – Global Forecast to 2021



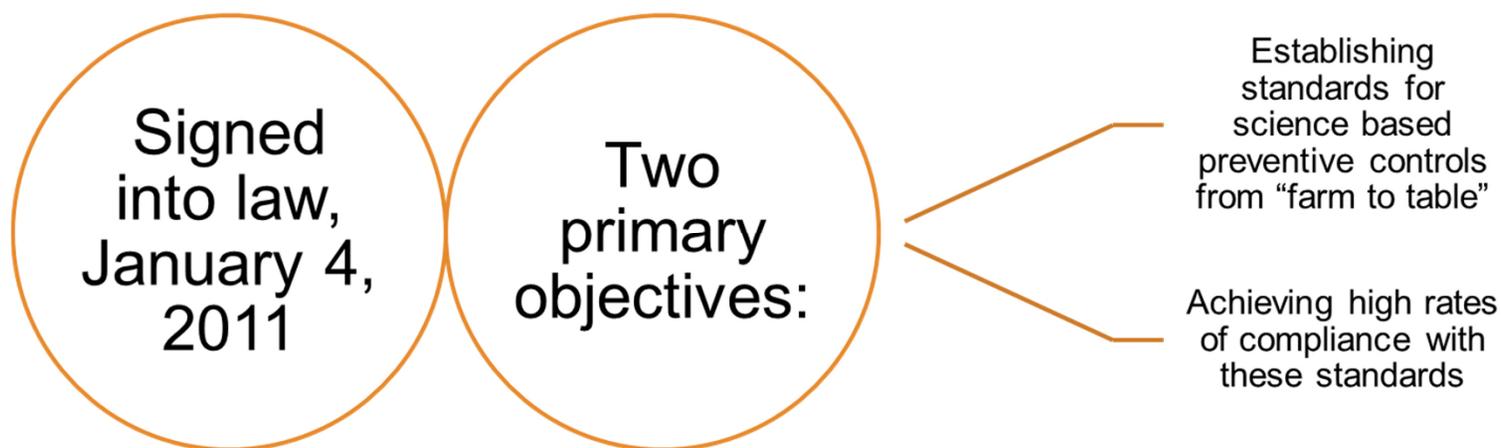
4.5 FOOD GRADE LUBRICANTS MARKET SHARE, BY APPLICATION AND REGION, 2015

FIGURE 13 FOOD IS THE BIGGEST APPLICATION SEGMENT FOR FOOD GRADE LUBRICANTS IN 2015

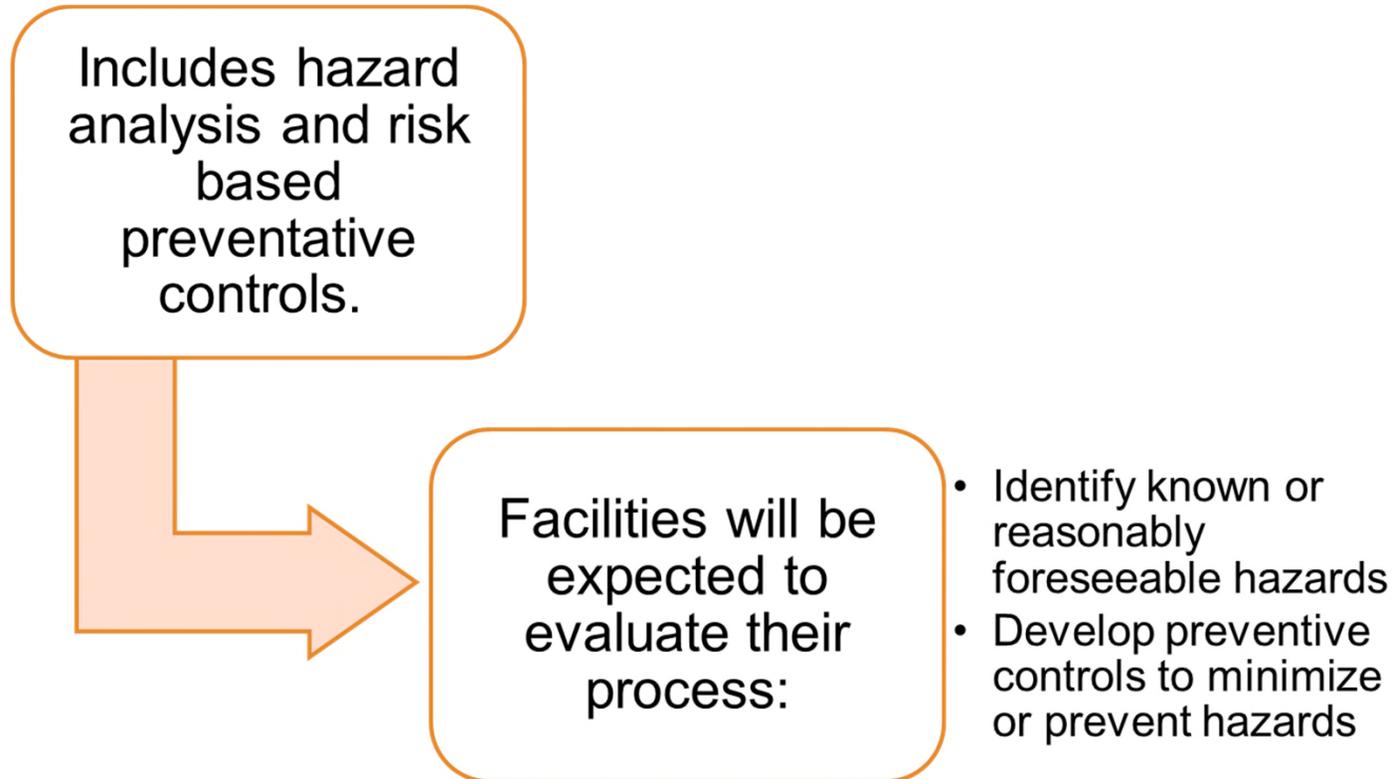


Source: Annual Reports, Press Releases, Investor Presentations, ICIS News, Expert Interviews, and MarketsandMarkets Analysis

Food Safety Modernization Act



Food Safety Modernization Act



Clarion Lubricants for the Food and Beverage Industry

Introduction to Food Grade Lubricants

What is a Food Grade Lubricant?

- A lubricant that is safe to use in facilities producing food and beverages but....
 - Who or what makes sure the lubricant is safe?
 - How is safe defined?
 - Are all lubricants that are called food grade designed for all applications?
 - There are regulatory and industry requirements that answer these questions
 - Use classifications
-

Classification Driven by Intended Use

- Direct Food Contact
 - NSF 3H, USP, NF 21 CFR 172.878
 - Incidental Food Contact
 - NSF H1 21 CFR 178.3570
 - No Food Contact
 - NSF H2
 - The concentration limit of an H1 lubricant in food is 10 ppm.
-



Food Grade Lubricants

- Direct food contact lubricants must meet strict purity requirements.
 - Incidental food contact lubricants include hydraulic fluids, gear lubricants, compressor fluids, greases, etc.
 - These products are designed to lubricate and protect machinery in the food and beverage processing industry.
 - They are formulated with approved components:
 - Base Fluid – White Mineral Oil, Certain Synthetics (PAO, PAG, Esters)
 - Additives – Limited additives, and in limited concentration in the product formulation
 - Thickeners – Limited range of thickeners allowed
-

Certifying and Government Agencies

- U.S. Pharmacopoeia (USP)
 - High Viscosity Oils
- National Formulary (NF)
 - Low Viscosity Oils
- US Department of Agriculture (USDA)
- US Food and Drug Administration (FDA)
- NSF International



Picture courtesy of Siemens web site

Religious Certifications

- Kosher (Union of Orthodox Jewish Congregations of America)



- Halal certification of compliance with Islamic food law



Potable Water

- NSF/ANSI Standards 60, 61
 - Specific to products used for potable water system safety
 - Well pumps, water system pumps, gearboxes



**Certified to
NSF/ANSI-60/61**

NSF/ANSI 60 and 61 Products

- Clarion Food Grade White Mineral Oils 200 and 350
- Clarion Food Machinery AW Oils 32 and 68
- Clarion Food Machinery Gear Oil 220
- Clarion Food Machinery HT EP Grease 2
- Clarion Food Machinery Grease No. 2
- ClariPac Technical Grade White Oils 200 and 350





What is Needed in a Food Grade Lubricant?

- Performance requirements
 - Anti-wear
 - Rust and corrosion protection
 - Contaminant resistant
 - Water washout
 - Dust, juices, sugars, etc.
 - Additional physical requirements
 - Tasteless
 - Odorless
 - Inert
 - Allergen free
-

Clarion Lubricants for the Food and Beverage Industry

Lubricants for Direct Food Contact



Clarion Food Grade White Mineral Oils

- NSF 3H Lubricants as defined in 21 CFR 172.878
 - Also meet 21 CFR 178.3620(a) for components of non-food articles intended for contact with food (food packaging)
 - High-purity oils produced by an ultra-high pressure hydrotreating process
 - Stabilized with vitamin E as an oxidation inhibitor
 - Colorless, odorless, tasteless, inert, and allergen free
 - Free of natural products derived from animals, nuts, or GMOs
 - Grades: 70, 90, 200, 350, 500
 - ISO Grades: 10, 15, 32, 68, 100
-

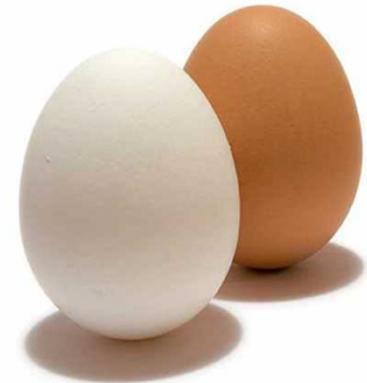
Clarion Food Grade White Mineral Oil Spray

- High purity National Formulary (NF) white mineral oil
- Meets 21 CFR 172.878
- NSF 3H registered
- Colorless, odorless, tasteless, inert, and allergen free
- Aerosol packaging with propellant
- ISO 22 viscosity grade



Direct Food Contact Applications

- Release Agent
 - Baking, smoked meats, etc.
- Dust Control
 - Grains, to prevent explosive dust/air mixtures
- Coating and sealant
 - Fruits, vegetables, eggs
- Float
 - Vinegar
 - Wine



Clarion Lubricants for the Food and Beverage Industry

Lubricants for Incidental Food Contact



Clarion Products for Incidental Food Contact

- NSF H1 Lubricants as defined in 21 CFR 178.3570
 - Used for plant maintenance in the food and beverage processing industry:
 - Hydraulic Fluid
 - Gear Lubricant
 - Compressor Fluid
 - Grease
 - Formulated with limited base fluids, HX-1 listed additives (in limited concentration), and limited thickeners (for grease)
-

Incidental Food Contact Lubricant Applications

Hydraulic systems

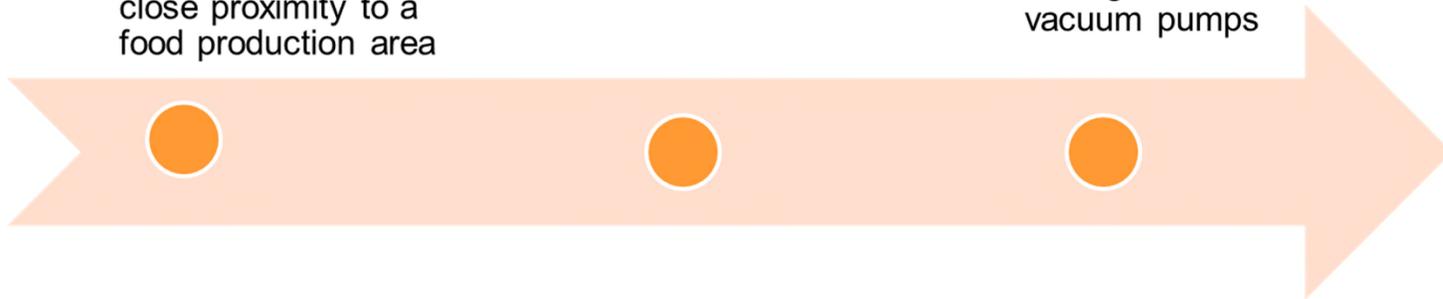
- Due to pressurized system, a burst hose could potentially contaminate food even if not within close proximity to a food production area

Air compressors

- Where is the air being used?
- Is air in contact with food or food packaging?

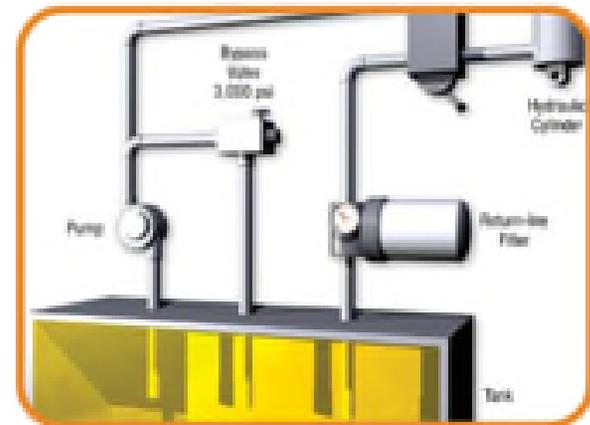
Other

Gear drives,
bearings,
conveyors,
blowers,
refrigeration,
vacuum pumps



Clarion Food Machinery AW Oils

- Hydraulic fluids designed specifically for use as lubricants for processing equipment
- Do not contain any natural products derived from animals, nuts, or GMOs
- Colorless, odorless, and tasteless
- Certified as Kosher and Halal
- ISO grades: 32, 46, 68, and 100





Clarion Food Grade FR Fluid

- Food grade water-glycol fire resistant hydraulic fluid designed for food process applications
 - Factory Mutual approved
 - ISO 46 viscosity grade
-



Clarion Food Machinery Gear Oils

- Gear oils designed for use in food machinery applications
 - Colorless, odorless, and tasteless
 - Certified Kosher and Halal
 - ISO grades: 150, 220, and 460
-

Clarion Synthetic Gear Fluids

- Synthetic gear fluid
- Excellent performance in food and beverage canning machinery
- Colorless, odorless, and tasteless
- Exceptional heat resistance and low temperature fluidity
- ISO viscosity grades: 150, 220, and 320



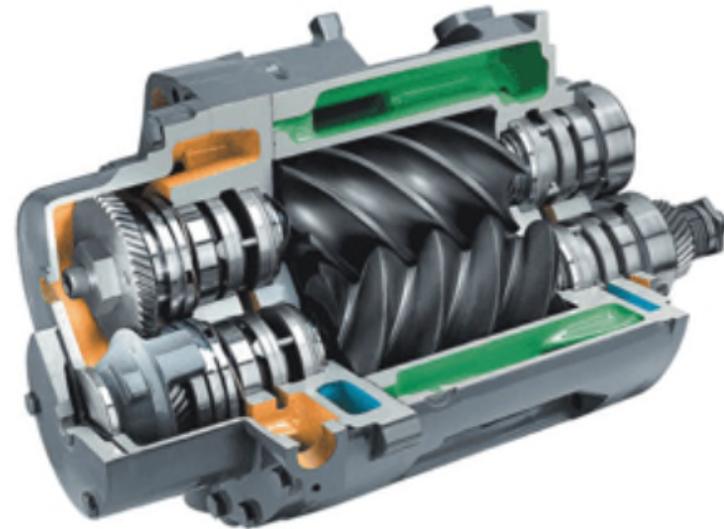
Clarion CompressorGard

- Synthetic compressor fluids designed for use in the food service industry
- Excellent oxidation stability and long service life
- Ideal for wide temperature range use
- Compatible with seal and gasket materials normally used in hydraulic and compressor systems
- Recommended as a hydraulic fluid where extreme temperatures exist
- ISO viscosity grades 32, 46, and 68



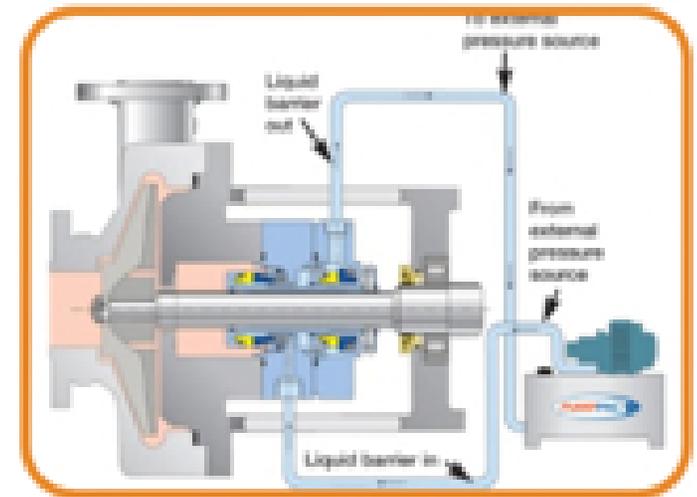
Clarion Synthetic Refrigeration Fluid

- High-performance refrigeration compressor lubricant
- Does not contain paraffin wax component to form deposits
- Compatible with most paints and elastomers used in refrigeration systems
- Designed for use in rotary screw compressors
- ISO 68



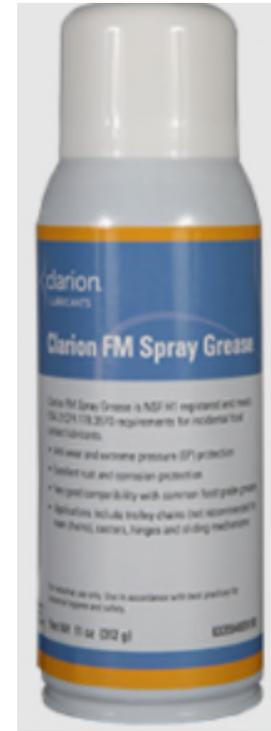
Clarion SynBar Fluids

- Synthetic barrier fluids for mechanical seals
- Excellent low-temperature fluidity and high-temperature stability for wide service temperature range
- Compatible with commonly used seal materials
- ISO grades: 5 and 22



Clarion FM Silicone Spray

- High quality silicone fluid content
- Rapid drying time
- Long lasting dry film lubricant



Clarion Food Machinery Grease #2



- NSF H-1, ANSI Standard 60 & 61 (water pumps & water system machinery)
- Anhydrous Calcium
- NLGI 2 Grade
- Polymer Fortified
- Very Adhesive
- Water Resistant
- Transparent

Clarion Food Machinery HT EP Greases



- Aluminum Complex
- White Appearance
- Very Adhesive
- NLGI 1 and 2 Grades
- NSF H-1, ANSI Standard 60 & 61 (#2)
- Good EP/AW Performance (400 Weld, 40 lb. Timken OK Load)
- Fully Additive Treated

Clarion Chain and Trolley Lube



- Anhydrous Calcium
- No. 0000 Consistency
- Smooth
- Some Polymer for Adhesion
- Clear
- Wear Resistant
- Water Resistant
- H-1

Clarion FM CS EP Grease



- Calcium Sulfonate
- White Appearance
- NSF H-1 Certified
- NLGI 2 Grade
- 400 Weld
- ISO 220 (oil + polymer)
- Outstanding Rust Protection
- Good for use in food pellet mills

Clarion PM Hi-Temp Food Machinery 100 Greases



- Animal Food Pellet Mill Grease
- Aluminum Complex (Water Resistant)
- NSF H-1 Certified
- NLGI 1 and 2 Grades
- ISO 100
- High Dropping Point
- Excellent EP/AW
- Rust Resistant

Clarion FM Grease Spray



- Aluminum Complex
- White
- ISO 150
- Good EP: 315 Weld
- Good AW
 - 0.46 mm Wear Scar
- No. 0.5 Consistency

Clarion Lubricants for Incidental Food Contact

- Clarion Food Machinery A/W Oils
- Clarion Food Grade FR Fluid
- Clarion Food Machinery Gear Oils
- Clarion Synthetic Gear Fluids
- Clarion CompressorGard
- Clarion SynBar Fluids
- Clarion Synthetic Refrigeration Fluid
- Clarion Food Machinery HT EP Greases
- Clarion FM CS EP 2 Grease
- Clarion PM Hi-Temp Food Machinery 100 Greases
- Clarion Food Machinery Grease 2
- Clarion Chain and Trolley Lube
- Clarion FM Silicone Spray
- Clarion FM Spray Grease



CITGO Lithoplex EM Full Synthetic Grease



- Electric Motor Bearing Grease
- Lithium Complex Thickener
- ISO 100 Synthetic base oils
- Excellent Oxidation Resistance
- Outstanding Wear Protection
- Protects against Rust and Corrosion
- Compatible with best selling competitive polyurea greases
- **Not for contact with food**

Clarion Lubricants for the Food and Beverage Industry

Technical White Oil Products

ClariPac Technical Grade White Oils

- Defined by 21 CFR 178.3620(b)
 - Refined by high pressure hydrotreating
 - Stabilized with vitamin E as an antioxidant
 - Colorless, odorless, and tasteless
 - Some application examples:
 - Adhesives, coatings
 - Filters
 - Plasticizers
 - Foil and paper manufacture
 - Dust suppressant for aggregate materials and grains
not intended for human consumption
-
- Grades: 70, 90, 200, 350, 500
 - ISO Grades: 10, 15, 32, 68, 100



Clarion Lubricants for the Food and Beverage Industry

Sales Tips

For when it goes wrong!



The **Who** of the Clarion Sale

Plant Maintenance/Engineer, key ***influencer*** to lubricant products purchased

Plant Operations



Purchasing

Cost sensitive to increased purchase price but generally the ***follower***.

Healthy & Safety

Government regulations and advocate for compliance – key ***decision-maker***



Use your tools!



Equipment	Component	Features and Recommendation
CAN SEAMERS	Seamer Reservoir	•Clarion Food Machinery Gear Oil 150 for oil-lubricated seamers utilizing once-through application or Clarion Synthetic Fluid 150 for oil-lubricated seamers utilizing a circulating system
	Grease Points and/or Auto Lubricator	•Clarion Food Machinery HT EP 2 multi-purpose grease for all incidental food-contact areas, high temperatures and speeds, water resistance, excellent pumpability, good corrosion protection, and great wear protection •Clarion PM Hi-Temp FM 100 1 for automated bearing lubrication systems
BOTTLE CAPPERS AND CROWNERS	Gearbox Crankcase	•Clarion Food Machinery Gear Oils for general duty applications •Clarion Synthetic Gear Fluids for severe duty and extended temperature range
	Grease Points and/or Auto Lubricator	•Clarion Food Machinery HT EP 2 multi-purpose grease for all incidental food-contact areas, high temperatures and speeds, water resistance, excellent pumpability, good corrosion protection, and great wear protection •Clarion PM Hi-Temp FM 100 1 for automated bearing lubrication systems
NOVELTY BAR MACHINES	Gearbox/Hydraulics Reservoir	•Clarion SynBar 22 for extreme low temp applications - contains anti-wear additives and rust inhibitors
	Chain Oil Reservoir	•Clarion SynBar 22 for extreme low temp applications - contains anti-wear additives and rust inhibitors
	Auto Lubricator	•Clarion PM Hi-Temp FM 100 1 Note: On equipment that uses EPDM seals, typically very low temperature applications such as freezers, a non-petroleum-based grease is required due to compatibility issues
	Grease Points and/or Auto Lubricator	•Clarion Food Machinery HT EP 2 multi-purpose grease for all manually applied incidental food-contact areas, high temperatures and speeds, water resistance, excellent pumpability, good corrosion protection, and great wear protection •Clarion PM Hi-Temp FM 100 1 for automated bearing lubrication systems
PAPER CUP FORMING MACHINES	Gearbox Crankcase	Clarion Food Machinery Gear Oils
	Cup Lip Fluid Reservoir	Clarion Food Grade White Mineral Oil 90

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CITGO LubeAssure



ILMA meeting Sept. 2020

...surviving in the current market requires “understanding how to leverage your product features and the benefits that make you win, and understanding how to leverage those across other end-use sectors to maintain sales.”

Annie Jarquin of Parsipanny, [Kline & Co.](#)

At Issue: how to quickly procure and then apply the knowledge, tools and material to support the industrial customer base creating competitive differentiation.



Questions

- Please post your questions using the Q&A function.
-



How to Contact Us

- Lubes Answer Line

800-248-4684

8:00 AM - 12:00 PM, 1:00 PM – 5:00 PM CT
Monday through Thursday

8:00 AM - 12:00 PM, 1:00 PM – 4:30 PM CT
Friday

lubeshelp@citgo.com



Future Webinars

- | | |
|---------------|-----------------------------------|
| July 9, 2021 | Lubricants for the Steel Industry |
| July 23, 2021 | Wear Modes and Failure Analysis |
| July 30, 2021 | LubeAssure Toolbox Demo |
-

More Tools from CITGO!

Bonus DEMO

