

# Food, Bottling & Pellet Mill Industries

The webinar will begin in  
less than 10 minutes.



# Food, Bottling & Pellet Mill Industries

The webinar will begin in  
less than 5 minutes.





# Webinar starting soon; until then...



## TEST YOUR KNOWLEDGE

Which NSF registration describes food-grade lubricants made for incidental contact only?



H1

H2

3H



# Webinar starting soon; until then...



## TEST YOUR KNOWLEDGE

What purpose does Vitamin E serve in a food-grade lubricant?



Fire-Resistant

Oxidation Inhibitor

Wear Protection





# Webinar starting soon; until then...



## TEST YOUR KNOWLEDGE

According to the USDA, how many pounds of animal meat were produced in the United States in 2023?



140 billion pounds

151 billion pounds

164 billion pounds

183 billion pounds



# Food, Bottling & Pellet Mill Industries





# Amber Fessler – CLGS, CLS & OMA-I

- CITGO Sr. Technical Services Representative
- Materials Engineer
- 13 Years of Experience in Lubricants
- STLE Certified
  - Certified Lubrication Specialist
  - Oil Monitoring Analyst I
- NLGI Certified
  - Certified Lubricating Grease Specialist



# Want Resources?

Support  
Literature

Social  
Media  
Toolkit

Technical  
Services

Webinars

The screenshot shows the CITGO MarketNet website. At the top, there's a header with the CITGO logo, 'MarketNet' text, and a 'Lubes' dropdown menu. Below the header is a search bar and a navigation menu on the left with links like 'ABOUT CITGO', 'ACCOUNT MANAGEMENT', 'STANDARD ORDERS', 'NATIONAL ACCOUNTS', 'FREIGHTFREE OPTION', 'SWIFTSHIP PROGRAM', 'PRODUCT INFORMATION', 'LUBES ADVISOR', 'PRODUCT CROSS REFERENCE', 'PLANTS', 'LUBEASSURE', 'MARKETING TOOLBOX', 'TRAINING AND WORKSHOPS', and 'USER PROFILES'. The main content area features a welcome message and a grid of promotional tiles: 'SHOP PRINT STORE', 'GO FOR THE GREEN', '2024 LUBRICANTS PROGRAMS GUIDE', 'CLEARANCE SALE', 'MARKETER COUNCIL INFORMATION', 'AUTOMOTIVE LUBRICANTS PROGRAM', 'Webinars', 'Lubes Advisor', 'Learn About LubeAlert', 'NEW PRODUCTS', 'LubeAssure', 'PRODUCT CROSS REFERENCE', 'SOCIAL MEDIA TOOLKIT', and 'COMPLETE HEAVY DUTY PACKAGE CONTEST'. At the bottom, there's a banner for the '2024 LUBRICANTS PROGRAMS GUIDE' with a red arrow pointing to it from the 'Webinars' box in the diagram on the left.



# Future Webinars

**December 13: Upcoming  
OTR Specification Updates**



# Matthew Gerber – STLE OMA-I

- CITGO Sr. Product Specialist
- B.S. Mathematics & Chemistry
- M.S. Mathematics
- 13 Years of Experience in Lubricants
- 10 Years of Laboratory Experience





# Doug Rice – NLGI CLGS; STLE CLS & OMA-I

- Sr. Product Specialist
- Grease Technology
- B.S. Chemistry
- 31 Years of Experience in Lubricants including QC Laboratory Manager, Sr. Technical Service Representative and Sr. Account Manager



# Matt Hoeffner

- CITGO Sr. Account Manager
- B.S.E in Chemical Engineering
- Over 10 years in Lubricants with experience as a bench chemist, sales and technical services





# Agenda

What Are  
Food Grade  
Lubricants

Industries  
Requiring  
Food Grade  
Lubricants

Clarion  
Product  
Offerings

Selling  
Clarion  
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

# Food Safety Modernization Act

**“A Call to Action”**



January 4, 2011

Reactive to preventative

Transformed domestic and  
foreign regulatory standards

Preventative controls are  
required for human and animal  
food facilities



# Classifications

**3H Lubricants** – Direct contact release agents

- 21 CFR 172.878
- USP/NF

**H1 Lubricants** – Products approved for incidental food contact

- 21 CFR 178.3570
- HX-1 additives

**H2 Lubricants** – Products used for food-adjacent use *(No contact)*



# Common Certifications

Certified to  
NSF/ANSI  
60

Certified to  
NSF/ANSI  
61



Kosher



Halal

# Industries Requiring Food-Grade Lubricants

## Food Manufacturing

- Meat and Poultry
- Seafood
- Fruits and Vegetables
- Bakery
- Candy and Confectionary
- Dairy

## Bottling

- Dairy
- Beer/Wine
- Soft Drinks

## Pellet Mills





# Meat & Poultry



# Meat and Poultry



## Overhead Trolley Systems

- Hooks connected to a moving track
- For transporting carcasses and other large cuts of meat throughout the facility



## Meat Saws

- For cutting down animal carcasses into smaller pieces
- Can be hydraulic or electrical-powered



## Meat Grinders

- A screw conveyor mixes the meat and forces it against a fixed plate
- For grinding meat into small pieces, generally to make patties or sausages





# Meat and Poultry



## Meat Slicers

- For cutting meat into thin slices
- Rotating blade that maintains texture of product



## Forming Machines

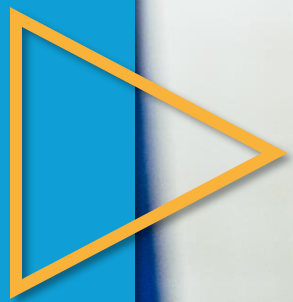
- For forming meat into patties, meatballs, nuggets, etc.
- Ensures consistency in size, shape and weight



## Stuffing Equipment

- For stuffing meat into casings to make sausages
- Both vertical and horizontal stuffing machines manufactured





Seafood





# Seafood



## **Head Cutters**

- Fish are generally transported on a slip-proof belt to a rotating blade
- Used to remove the heads and tails from fish

## **Separating Equipment**

- Used to separate the fish bones, flesh, and skin
- Output is minced fish meat that can be used in a variety of products

## **Peelers**

- Used to remove the shells from shrimp and other shellfish
- Shells are precisely cut to not damage the meat



# Food & Vegetable Processing





# Fruit & Vegetable Processing

## Rotary Cookers

- A type of food sterilizer that uses two horizontal cylinders to sterilize and cool canned products
- Utilize either steam or natural gas for heating

## Fruit and Vegetable Peelers

- Primarily utilized to remove the skin from fruits and vegetables
- Also utilized in making chips and cutting ribbons for soups and salads

## Polishers

- For cleaning vegetables, especially those grown underground
- Utilize brushes and abrasive rollers







Bakery



# Bakery

## Grain Delivery Equipment

- Pneumatic or Vacuum driven airlines with rotary airlocks
- Used to move grain, such as flour, throughout the facility

## Continuous Proofer

- A series of belts in a hygrometric environment
- Used to uniformly rise yeast-containing doughs

## Dividers

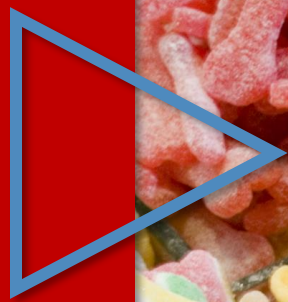
- Used to portion dough into consistent sizes
- Typically contain automatic shaping functions in continuous line

## Slicers

- Used to quickly slice breads and cakes
- Often adjustable to different breads and cakes to ensure a clean cut



# Candy & Confectionary





# Candy & Confectionary



## Conching Equipment

- Surfacing scraping and agitation removes acids and distributes cocoa butter
- For making chocolate smooth and consistent

## Candy Extruders

- Solid candy is pushed through metal plates into the desired shape
- The candy is often cut into smaller pieces after extrusion

## Sorters

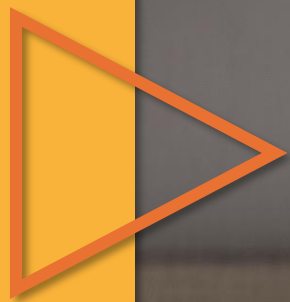
- Removes debris and off-specification molded candy
- Newer machines use optics; older machines based on thickness and shape

## Depositors

- For accurately filling molds with chocolate or other liquid confections
- Can be modified for different molds and types of candy



Dairy







# Dairy

## **Separators**

- Used to separate cream from milk
- A series of high-speed discs rotating in unison

## **Homogenizer**

- For dispersing milk fat uniformly throughout milk
- Operate at extremely high pressure, often above 1000psi

## **Pasteurizer**

- For heating up milk to kill microbial growth
- Continuous (Plate Heat Exchanger) or Batch (Vat Cooker) Style



# General Equipment



# General Equipment



## Tunnel & Spiral Freezers

- For efficient and quick freezing of food products
- Typically utilize Nitrogen or Carbon Dioxide as refrigerant



## Continuous & Tunnel Ovens

- For cooking food along an assembly line
- Allows for consistent cooking across multiple batches



## Mixing Equipment

- For mixing doughs, meat, or other mixtures to a uniform consistency
- Ribbon, Vacuum, High Shear Models



# General Equipment



## Can Seamers

- For putting the lids on products sold in cans
- Lids are lowered into place and the seam is tightened



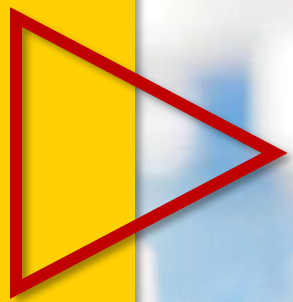
## Wrapping Equipment

- For packaging food before it is sold
- Horizontal Flow Wrappers or Vertical film form and seal models typical



## Vacuum Sealers

- For removing air and sealing products for freshness control
- Both inline (continuous) and off-line (batch) models exist



Bottling



# Bottling

Many industries use bottling equipment, we'll focus on the ones requiring food-grade lubricants:

- Beverages
- Cooking Oils
- Syrups
- Sauces

There are two major pieces of equipment involved in the bottling process: filling and capping





# Bottle Fillers

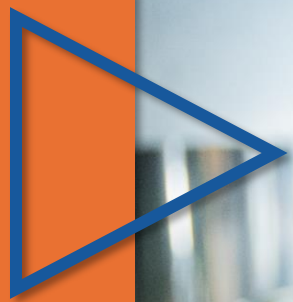
- Nozzles enter the top of the bottle and fill to meet a specification. These can be by weight, height, or volume
- Bottles can be made from glass, plastic, or aluminum
- For plastic bottles, there are two different types:
  - Blow molded bottles
  - Pre-formed bottles

# Capping Machines

- Once the bottle is filled, it needs to be immediately capped to preserve freshness and prevent debris or contamination
- In the beverage industry, this will happen immediately after filling
- Depending on the type of bottle, the caps may either be pressed or twisted on



# Pellet Mills







# Pellet Mills

Used to create pellets from a powdered material

Not all pellet mills require food-grade lubricants, but those in food production and animal feed will

Two main configurations: flat die, ring die

It needs to be regularly lubricated with grease due to high loads and the presence of moisture



# Clarion Food Grade Lubricants

A background image of a bakery production line. In the foreground, a black conveyor belt moves several types of bread: round rolls, small buns, and long, thin baguettes. The breads are golden-brown and appear freshly baked. The conveyor belt is flanked by stainless steel guides. In the background, more conveyor belts and bakery equipment are visible, slightly out of focus, showing a large-scale industrial production environment.

Lubricants for **direct** food contact



# Direct Food Contact Applications

## Release Agent

- Baking
- Smoked meats

## Dust Control

- Prevent explosive dust/air mixtures (grains)

## Coating and Sealant

- Fruits
- Vegetables
- Eggs

## Float

- Vinegar
- Wine

# Clarion Food Grade White Mineral Oils

- NSF 3H Lubricant as defined in 21 CFR 172.878
- Meet 21 CFR 178.3620(a)
- Produced by an ultra-high-pressure hydrotreating process
- Stabilized with vitamin E
- 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

- Meets 21 CFR 172.878
- NSF 3H registered
- Colorless, odorless, tasteless, inert and allergen-free
- Aerosol packaging with propellant

**ISO 22 viscosity grade**





# Clarion Food Grade Lubricants

Lubricants for **indirect** food contact



# Incidental Food Contact Applications

Gear drives, bearings, conveyors, blowers, refrigeration, vacuum pumps, and air compressors



## 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?

# Clarion Food Machinery AW Oils

- Designed specifically for processing equipment
- Does 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



Designed for food process applications

Factory Mutual approved

ISO 46 viscosity grade

# Clarion Food Machinery Gear Oils

Food machinery applications

Colorless, odorless and tasteless

Certified Kosher and Halal

ISO grades: 150, 220, and 460

# Clarion Synthetic Gear Fluids

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®

Designed for food service industry

Excellent oxidation stability

Long service life

Wide temperature range

Compatible with seal and gasket materials

**ISO viscosity grades: 32, 46, and 68**

# Clarion Synthetic Refrigeration Fluid

High-performance

Does not contain paraffin wax

Compatible with most paints and elastomers

Designed for use in rotary screw compressors

**ISO Viscosity Grade 68**

For mechanical seals

Excellent low-temperature fluidity

Excellent High-temperature stability

Compatible with commonly used seal materials

ISO grades: 5 & 22



CLARION PROPRIETARY SERVICES  
TO HELP KEEP EVERYTHING  
RUNNING SMOOTHLY.



# 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 Greases

Suitable for Incidental Food Contact







### CLARION Food Machinery Grease #2

- NSF H-1, ANSI Standard 61 Anhydrous Calcium
- NLGI No. 2
- Polymer Fortified
- Very Adhesive
- Water Resistant
- Transparent



### CLARION Food Machinery HT EP Greases

- Aluminum Complex
- White Appearance
- Very Adhesive
- NSF H-1, NSF/ANSI Standard 61 (#2)
- Good EP/AW Performance
- Fully Additive Treated



### CLARION PM Hi-Temp Food Machinery 100 Greases

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



### CLARION Chain and Trolley Lube

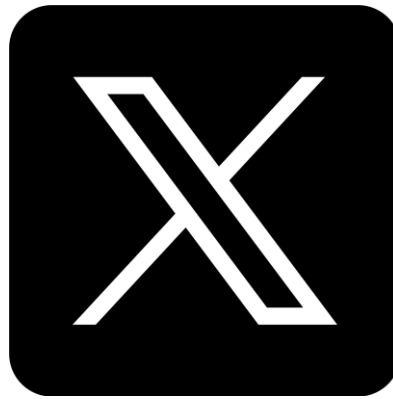
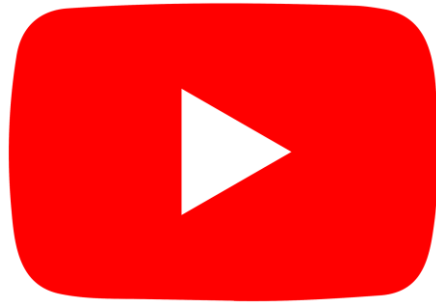
- Anhydrous Calcium
- No. 0000 Consistency
- Smooth
- Some Polymer for Adhesion
- Clear
- Wear Resistant
- Water Resistant
- H-1



The background of the slide is a close-up, macro photograph of a golden-yellow liquid, likely oil, showing numerous spherical droplets and bubbles of varying sizes. The lighting creates bright highlights and deep shadows, giving the droplets a three-dimensional appearance. A blue banner with a right-pointing arrow shape is overlaid on the upper left portion of the image.

# Selling Clarion Food Grade Lubricants



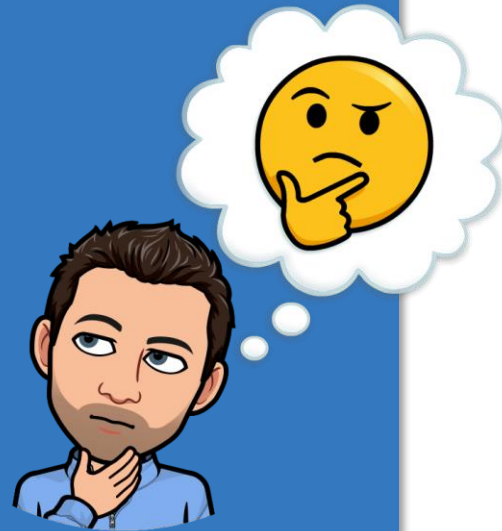


CITGO Sr.  
Account  
Manager

Peers/Sales  
Manager

Research &  
Social Media

Where  
Should  
You  
Start?



# Target Accounts



Meat Processing



Bakeries



Seafood



Fruits & Vegetables



Beverages



Feed Pellet Mills





# Who do I ask for?

HSE  
Managers

Plant  
Managers

Maintenance  
Managers


Purchasing  
Managers



**Store.  
Transfer.  
Identify.**



**OS INTRODUCTION**

**TRADITIONAL PRACTICES**




**Traditional Lubricant Storage & Handling Practices are...**

- Filthy
- Disorganized
- Unsafe
- Wasteful
- **DESTRUCTIVE**

"By the time you can see or feel the dirt in the oil, much damage to your machine has already been done."

Jim Filth, Noria Corporation




**LubeAssure**


**LUBRICATION  
MANAGEMENT  
PROGRAM**

Welcome to the LubeAssure Portal, your home for support, training and tools to help you better serve your Industrial customer.


We know a well-organized production line lubrication system can help reduce mistakes. The CITGO LubeAssure Lubrication Management Program offers this system and the tools you can use to optimize your lubrication program and keep your entire maintenance team informed.




Access label wizard - interactive tool to create custom labels.



Access lube equipment catalog for filter buggies, to desiccant filters, lube storage cabinets.




List price sheet for items found in catalog (excluding lube cabinets - See SAM for quote).



Which oil is right for the vehicle you are looking for? The CITGO Lubes Advisor will give you the corresponding CITGO brand oil for your needed vehicle.

**How to Implement the OILSAFE® Labeling System**


**Customized & Standard Fluid Identification from Bulk Storage to the Point of Use**



**BULK STORAGE UNITS**


The first step in the chain of custody. Ensuring that Lubrication Technicians can **clearly identify the lubricant they need.**

Solutions range from simple adhesive labels through to solutions that include complete MSDS information.



**TRANSFER CONTAINERS & LIDS**

Cross contamination of lubricants can be just as damaging as dirt and water. **Match** the transfer container label to the bulk label to eliminate the potential for cross contamination, and ensure that employee's **Right To Know** entitlements are addressed.



**POINT OF USE**

Getting the **right lubricant** into the **right fill point** (contaminant free) is one of the simplest ways to reduce maintenance and operating costs.

**Matching** the container label to the fill point label is the final step.



# Wall Posters





# Clarion Lubrication Guide Flyers





# Pellet Mills



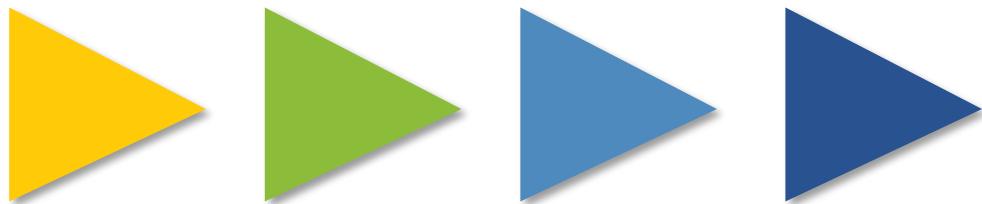
### Maximize Your Pellet Mill's Performance with Superior Lubrication Solutions

Unlock the full potential of your pellet mill with our premium greases and lubricants. Experience peak efficiency, optimal productivity and reduced maintenance costs all while extending the life of your machinery. Choose our high-performance products for unbeatable results!

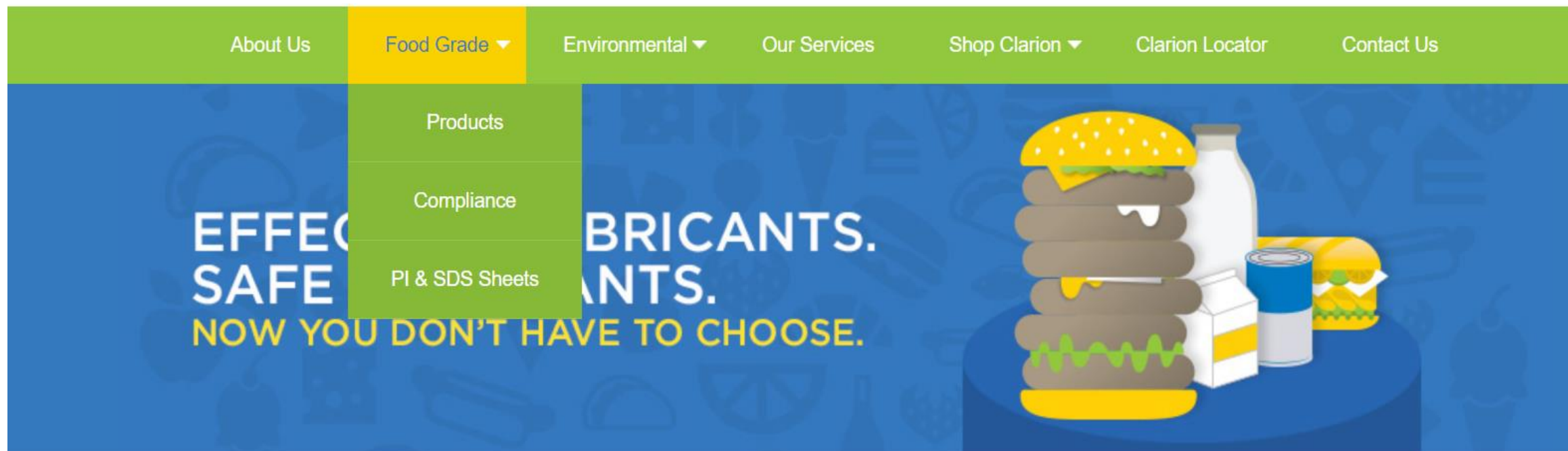
**Pellet Mill Lubricants Features & Benefits:**

- Outstanding wear protection for plain and rolling bearings
- Safeguard against rust and corrosion
- Excellent resistance to water washout
- Extreme pressure protection against high-load conditions
- Effective in both high and low-temperature environments





# Clarion Website



## Compliance and What It Means to You

The Food Safety Modernization Act (FSMA) represents the most sweeping reform to the powers of the FDA in 70 years and is designed to prevent contamination before it occurs. Clarion Lubricants has you covered. Clarion is dedicated to helping you comply with the current lubricant guidelines and take proactive steps so that you can quickly adapt to future changes.

## Quick Guide to Food Grade Lubricants

An easy-to-follow overview of how Clarion Food Grade Lubricants can help you protect your equipment, this Quick Guide will walk you through how to minimize risk of contamination and optimize performance.

**Quick Guide to Food Grade Lubricants**





# Risks of Non-Compliance

A single product recall is estimated to cost 10 MM USD in direct costs to the manufacturer

According to the NSF between 2008 and 2017, 55% of product recalls were due to chemical contaminants and biotoxins

# Massive Costs Associated with Recalls

Earlier in 2024 one Northeast U.S. meat company recalled over 90,000 lbs of product due to contamination from a non-food grade mineral oil

- Restaurant customers complained about the chemical taste in the meat they were served
- Drum was found mislabeled or incorrectly filled with non-food grade product that was then applied to food contact surfaces





# SwiftShip Initiative



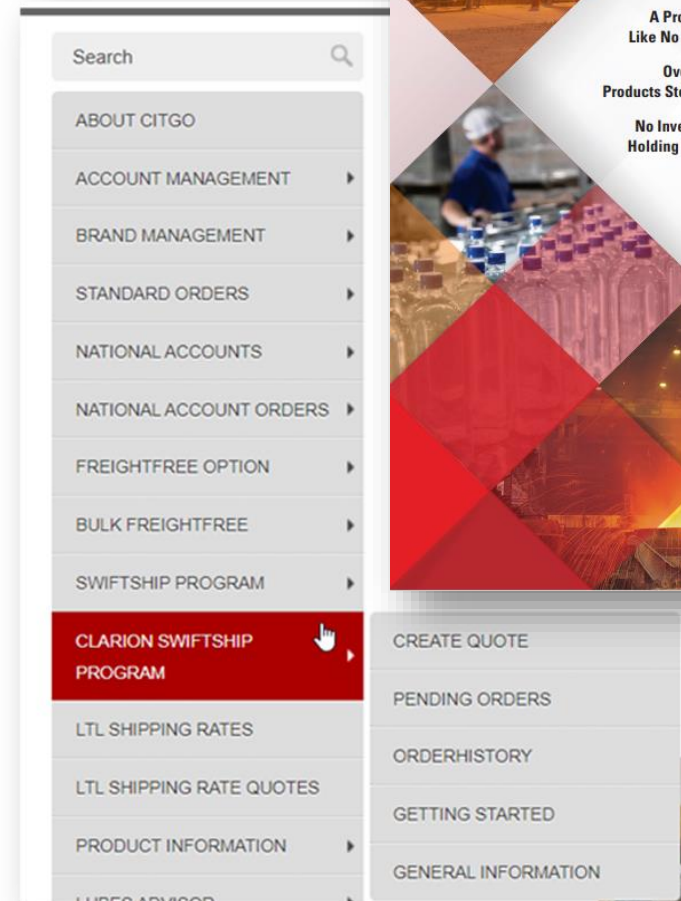
Wolf Lake Facility



26 Product SKUs!



**Project Commitment:** Dedicated team ensuring a lasting initiative



**swiftship**

**EASILY STREAMLINE  
YOUR PURCHASING AND  
LOGISTICS PROCESSES IN  
AS LITTLE AS 4 CLICKS**

**CITGO® SwiftShip Program Features:**

- Easy to navigate order management portal on MarketNet
- Expanded product line: a new range of top-quality Clarion® Lubricants and Industrial Synthetic lubricants available
- Access to real-time pricing, floor stock visibility and our intuitive cross-reference tool
- Real-time information forwarding capabilities
  - OEM Recommendations
  - Safety Data Sheets
  - Product Information Sheets
- Prompt delivery of products to your customers

**A Program Like No Other**

**Over 100 Products Stocked**

**No Inventory Holding Costs**

**CITGO LUBRICANTS** **clarion LUBRICANTS**

Your trusted partner for all your industrial and specialty lubricant needs

Order Management Line:  
1-800-331-4068, option 1  
ordermanagement@citgo.com

Learn How to Access CITGO SwiftShip on MarketNet

# Questions?



Please post your  
questions using the  
Q&A function.



**For technical inquiries or issues:**  
Lubes Answer Line 800-248-4684  
[lubeshelp@citgo.com](mailto:lubeshelp@citgo.com)





# Thank You!

See you next time!

