

**LUBE**

# TECHNI-GRAM



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## **Food Grade Lubricants Continue To Evolve**

While other types of manufacturing may experience ups and downs, food processing continues to grow. Plants need to run ever faster and longer between shutdowns...many plants are operating 24/7. Downtime is extremely critical, as it eats into profits and a company's competitive advantage.

At the same time, concerns about food safety are rising. In a recent survey of food and beverage plant managers, food safety was the number one top concern. This has led many food plants to prefer food-grade lubricants even for applications where they are not ordinarily required. Food inspectors and plant management alike want to reduce the risk of batch contamination, product recall, fines and potential damage to corporate image. It is no longer a matter of choosing between food-grade and non food-grade lubricants; the question for plant management is whether to use a synthetic or mineral-based lubricant. Fortunately, oil technologists and protective additive chemistry are responding.

For many years, the United States Department of Agriculture's Food Safety and Inspection Service Division (USDA/FSIS) reviewed the formulations of maintenance and operating chemicals, including lubricants, for use in official meat and poultry establishments that operate under USDA inspection.

In 1998, the USDA announced it was eliminating the approval program. Eventually the National Sanitation Foundation (NSF) became the most recognized predecessor of USDA for food grade lubricants approval. The NSF, an internationally respected, nonprofit consumer products monitoring organization, developed an authorization program that mirrors the USDA/FSIS program and is guided by Title 21 of the FDA's Code of Federal Regulations

True food-grade, USDA H-1 authorized lubricants are compounds that are permitted on equipment where food may potentially be exposed to the lubricated part of the machine. These instances are referred to by the USDA/FSIS as incidental contact.

USDA H-2 authorized lubricants, usually containing nontoxic ingredients, may be used in food-processing plants on equipment in locations where there is no possibility of the lubricant or lubricated part of the machine to contact edible products.



*... to keep it running*

While many mineral oil-based products meet the NSF International Food-Grade (H-1) requirements, they often do not measure up to the more demanding temperature and load requirements of modern food, beverage and pharmaceutical processing equipment.

For years, SWEPCO has maintained that a properly formulated mineral oil-based lubricant will outperform a synthetic in most applications. Generally speaking, synthetic lubricants are niche lubricants...the aerospace industry (jet engines, space crafts, etc.), extreme polar operations, process gases, etc. We have chosen a synthetic base oil for our H-1 food grade lubricant line, because H-1 lubricants ARE one of these special niches where a synthetic provides better performance. Food grade lubricants have been forced into a niche because they cannot be formulated with the wide range of high performance additive technology incorporated into SWEPCO Lubricants (H-2).

For over 70 years, Southwestern Petroleum Corporation has been a leading innovator in the development of specialty, high performance lubricants. Along with SWEPCO's SPX Technology, we formulated our H-1 fluid lubricant line with an additive enhanced polyalphaolefin (PAO). PAO's are actually "synthesized hydrocarbons" and their strengths include:

- Fully compatible with mineral oils
- Low pour point
- High viscosity index
- Extremely high oxidation stability
- Low volatility
- Good hydrolytic stability (water separation)

SWEPCO's additive enhanced PAO H-1 Food Grade Fluid Line provides the broadest application range in food processing applications due to their higher viscosity index and lower pour point. An additive enhanced H-1 "white" oil has a recommended temperature range of +32° F to 150° F, while SWEPCO's additive enhanced PAO extends that range significantly...-30°F and below to above 180° F. Additional benefits include:

- Longer life due to low volatility and better oxidation stability
- Better performance in the presence of water and steam
- Compatibility with most seals

SWEPCO Synthetic Lube H-1 Food Grade Lubricants, which are tasteless, odorless, and non-toxic, have been designed to maximize equipment life, as well as reduce maintenance and the frequency of lubrication for food processing equipment components. SWEPCO's additive enhanced PAO's provide unsurpassed H-1 anti-wear and extreme pressure performance, oxidation resistance and temperature stability, as well as rust and corrosion resistance.