



TECHNICAL DATA

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#450 PURE SYNTHETIC SMOKELESS FOOD GRADE H-1 CHAIN LUBE ISO 15 and 150

Pure Synthetic Smokeless Food Grade H-1 Chain Lube is a food grade anti-wear synthetic smokeless, odorless high temperature chain lubricant that is specially formulated for use as a lubricant on all types of high temperature oven chains that are exposed to temperatures up to 600°F.

Typically these high temperature chain applications can be found in the following food processing industries:

Meat and Poultry Processing Plants
Fish and Seafood Processing Plants
Ethnic Food Manufacturers
Cheese and Cheese Product Producers
Snack Food Manufacturers
Pet Food and Animal Feed Producers
Food and Beverage Container Manufacturers

Paper and Paperboard Manufacturers
Candy Manufacturers
Vegetable and Fruit Processors
Bakeries
Pasta Manufacturers
Oil Mills and Seed Cake Processors

Pure Synthetic Smokeless Food Grade H-1 Chain Lube meets the requirements for a USDA H-1 quality lubricant and the requirements of the United States Code of Federal Regulations 21CFR 178.3570, 178.3620(b), and 573.680 of the United States Food and Drug Administration's Regulations.

Pure Synthetic Smokeless Food Grade H-1 Chain Lube is blended from the highest quality a combination of naturally derived food grade polyol ester and food grade synthetic base fluids. These naturally derived food grade polyol esters and food grade synthetic base fluids provide the Pure Synthetic Smokeless Food Grade H-1 Chain Lube with the following advantages:

1. Excellent high temperature oxidation and thermal stability due to base stock's high degree of saturation and low acid number.
2. Very Low volatility. This results in less makeup due to evaporation loss.
3. High viscosity index
4. Excellent lubricity
5. High degree of solvency to keep the chains free from deposits.
6. Very high smoke point
7. Very low odor and clean flavor and taste if the product comes into contact with the food
8. Uniform and complete cover of the chain

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HIGH TEMPERATURE OXIDATION AND THERMAL STABILITY:

Many food grade chain lubricants have a tendency to oxidize into sludge and carbonaceous deposits and residues at elevated temperatures. These residues can block clearances, jam chain rollers and allow rapid wear to occur. Because of the Pure Synthetic Smokeless Food Grade H-1Chain Lube's fully saturated molecular structure, the potential of oxidation is greatly reduced. This results in the elimination of any carbon, varnish and sludge deposits being formed due to high temperature operation.

LOW VOLATILITY AND HIGH SMOKE POINT:

The extremely low volatility of the naturally derived food grade polyol esters and other food grade synthetic base fluids used in Pure Synthetic Smokeless Food Grade H-1Chain Lube' results in the elimination of the formation of dense obnoxious fumes and odors at high temperatures and results in lower makeup requirements due to evaporation.

HIGH VISCOSITY INDEX:

This results in a minimum change in viscosity with temperature. The proper viscosity for proper chain lubrication is provided regardless of temperature.

EXCELLENT LUBRICITY:

The naturally derived food grade polyol esters and other food grade synthetic base fluids used in Pure Synthetic Smokeless Food Grade H-1 Chain Lube provides the lubricant with outstanding load carrying capabilities, film strength, and anti-wear properties. This results in increased chain life.

HIGH DEGREE OF SOLVENCY:

The naturally derived food grade polyol esters' high degree of solvency provides the Pure Synthetic Smokeless Food Grade H-1Chain Lube with the ability to cleanup, breakdown and dissolve prior carbon, varnish and gum buildup. This high degree of solvency also allows the product to provide anti-sticking properties and release properties that result in the food product being processed from sticking to the chain.

VERY LOW ODOR AND CLEAN TASTE:

The naturally derived food grade polyol ester portion is refined to remove any volatile odor and flavor components, as well as any residual fatty acids. This results in the synthetic base stock that is used in the formulation of the Pure Synthetic Smokeless Food Grade H-1Chain Lube being colorless, odorless and essentially flavorless.

UNIFORM AND COMPLETE COVERAGE:

The naturally derived food grade polyol esters and other food grade synthetic base fluids viscosity characteristics allows the Pure Synthetic Smokeless Food Grade H-1Chain Lube to spread easily and completely over the surfaces of the chain so that it can penetrate and coat all of the moving parts, assuring trouble free operation and reduced frictional drag.

ENERGY EFFICIENCY:

Pure Synthetic Smokeless Food Grade H-1Chain Lube's low volatility characteristics, excellent oxidative and thermal stability, excellent lubricity and uniform and complete coverage properties result in a reduction of drag and friction on the chain mechanisms. This results in a significant reduction in starting loads and peak power demand, thus providing a realistic power cost savings.

Combined with the naturally derived food grade polyol esters and other food grade synthetic base fluids is a highly specialized high temperature additive package that provides the Pure Synthetic Smokeless Food Grade H-1 Chain Lube with the following special advantages:

1. Exceptional anti-wear and extreme pressure properties for reduced chain drag.
2. Exceptional rust and corrosion protection
3. Rapid penetration of the Pure Synthetic Smokeless Food Grade H-1 Chain Lube into the chain rollers, pins and sprockets.

TYPICAL PROPERTIES

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|--------------------------------------|--------------|--------------|
| ISO Grade | 15 | 150 |
| Specific Gravity @ 60°F/15°C | 0.95 | 0.932 |
| Viscosity cSt @ 40°C (ASTM D-445) | 13.5 – 15.50 | 138 – 165 |
| Viscosity cSt @ 100°C (ASTM D-445) | 3.5 – 4.0 | 19.3 – 22.00 |
| Viscosity Index (ASTM D-2270) | 218 | 159 |
| Flash Point °F/°C (ASTM D-92) | 464°/240° | 466°/241° |
| Pour Point °F/°C (ASTM D-92) | -35°/-31° | 0°/-18° |
| Four Ball Wear Test (ASTM D-4172) | | |
| Scar Diameter, mm | 0.3 | 0.3 |
| % Evaporation @ 6 hours (ASTM D-972) | | |
| @450°F/232°C | <3% | <3% |
| 500°F/260°C | <4% | <4% |
| Active Oxidation Method | | |
| Hours to oxidation at 100°C | +500 hours | +1000 hours |