

METATRON™ 450

DESCRIPTION

Metatron 450 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 315°C.

Metatron 450 meets the requirements for a USDA H-I 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.

APPLICATIONS

Metatron 450 can be used in the lubrication of all high temperature applications. Typically these high temperature chain applications can be found in the following food processing industries:

Meat and Poultry Processing Plants	Paper and Paperboard Manufacturers
Fish and Seafood Processing Plants	Candy Manufacturers
Ethnic Food Manufacturers	Vegetable and Fruit Processors
Cheese and Cheese Product Producers	Bakeries
Snack Food Manufacturers	Pasta Manufacturers
Pet Food and Animal Feed Producers	Oil Mills and Seed Cake Processors
Food and Beverage Container	Manufacturers

COMPOSITION AND PERFORMANCE CHARACTERISTICS

Metatron 450 is blended from the highest quality naturally derived food grade polyol esters. These naturally derived food grade polyol esters provides the

Metatron 450 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 due to the base stock's low viscosity

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 **Metatron 450**'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 used in **Metatron 450** 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 used in **Metatron 450** 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 **Metatron 450** 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 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 **Metatron 450** being colorless, odorless and essentially flavorless.

UNIFORM AND COMPLETE COVERAGE:

The naturally derived food grade polyol esters low viscosity allows the **Metatron 450** 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:

Metatron 450's low volatility characteristics, excellent oxidative and thermal stability, excellent lubricity and uniform and complete coverage properties results in a reduction of drag and friction on the chain mechanisms that provides a significant reduction in starting loads and peak power demand, thus providing a realistic power cost savings.

Combined with these naturally derived food grade polyol esters is a highly specialized high temperature additive package that provides the **Metatron 450** 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 **Metatron 450** into the chain rollers, pins and sprockets.

TYPICAL PROPERTIES

ISO Grade	15
Viscosity cSt @ 40°C (ASTM D-445)	17
Specific Gravity @ 77°F/25°C	0.95
Viscosity cSt @ 100°C (ASTM D-445)	4.7
Viscosity Index (ASTM D-2270)	218
Flash Point °F/°C (ASTM D-92)	464°/240°
Pour Point °F/°C (ASTM D-92)	-35°/-31°
Four Ball Wear Test (ASTM D-4172)	
Scar Diameter, mm	0.3
% Evaporation @ 6 hours (ASTM D-972)	
@450°F/232°C	<3%
500°F/260°C	<4%
Active Oxidation Method	
Hours to oxidation at 100°C	+500 hours