



TECHNICAL DATA

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#289 FOOD GRADE MACHINERY LUBE

Food Grade Machinery Lube is an anti-wear, tacky food grade oil that is specially formulated for use in the lubrication of food, feed and pharmaceutical processing and packaging equipment, especially those pieces of equipment that are subjected to high loads and high moisture conditions.

Food Grade Machinery Lube meets the requirements for a USDA 1998 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.

Food Grade Machinery Lube can be used in the lubrication of all types of chain, bearing, trim press, seamer and general oiling applications where there is a chance of incidental contact with food, foodstuffs, drinking water, potable water, or ground water may occur. Typically, these applications can be found in the following industries:

Meat and Poultry Processing Plants
Fish and Seafood Processing Plants
Soft Drink and Bottling Plants
Cheese and Cheese Product Producers
Snack Food Manufacturers
Pet Food and Animal Feed Producers
Pharmaceutical and Drug Manufacturers
Food and Beverage Container Manufacturers
Water Well Drillers

Egg Processing Plants
Breweries and Wineries
Vegetable and Fruit Processors
Bakeries
Pasta Manufacturers
Oil Mills and Seed Cake Processors
Cosmetic Manufacturers
Paper and Paperboard Manufacturers
Drinking and Potable Water Treatment Plants

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Food Grade Machinery is blended from the finest quality, highly refined, severely hydro-finished, purified, non-toxic, non-staining paraffin base technical white and U.S.P. grade white oils available. Combined with these paraffin base technical white oils is a specialized non-toxic food grade approved additive package, which provides the Food Grade Machinery Lube with the following performance characteristics:

1. Excellent lubricity and film strength.
2. Enhanced oxidative stability.
3. Excellent resistance to thermal degradation.
4. A high viscosity index to provide superior lubrication in the hot and old areas of the machine.
5. Excellent hydrolytic stability and resistance to emulsification.
6. Excellent resistance to acidic compounds.
7. Exceptional anti-wear and load carrying capabilities.
8. Excellent rust and corrosion inhibition.
9. Excellent anti-foam and air release properties.
10. Protection against rancidity and build up due to bacterial and fungal growth.
11. Longer service life and less deposit formation.
12. The ability to cling tenaciously to metal surfaces even after shutdown that imparts a load carrying film on the lubricated surfaces, that eliminates metal-to-metal contact on start-up.
13. Neutral odor and taste.
14. Compatibility with the elastomers, gaskets, seals and paints normally used in food machinery lubrication systems.
15. Improved machine efficiency.
16. Reduced oil and energy consumption.
17. Reduced system maintenance.
18. Reduced downtime.

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ISO Grade	100	150
SAE Grade	30	40
AGMA Grade	3	4
Specific Gravity @ 15.5°C (60°F)	0.8719	0.8693
Viscosity, SUS @ 38°C (100°F) (ASTM D-445)	498.2-519.40	734.6-821.9
Viscosity @ 40°C, cSt (ASTM D-445)	95.00-100	140-157
Viscosity @ 100°C, cSt (ASTM D-445)	10.00-12.00	14.00-16.00
Viscosity Index (ASTM D-2270)	110	105
Flash Point °F/°C (ASTM D-92)	457°/236°	477°/247°
Fire Point °F/°C (ASTM D-92)	485°/252°	495°/247°
Pour Point °F/°C (ASTM D-97)	15°/-9°	-20°/-7°
Copper Strip Corrosion Test (ASTM D-130)	1a	1a
Rust Test (ASTM D-665)		
Procedure A (Distilled Water)	Pass	Pass
Procedure B (Salt Water)	Pass	Pass
Demulsibility Test (ASTM D-1401)		
Oil-Water-Emulsion	40-40-0	40-40-0
Minutes	20	20
Oxidation Stability Test (ASTM D-943)		
Hours to TAN of 2	3,500	3,500
Sludge Tendencies (ASTM D-4310)		
Total Sludge, mg	36	36
Four Ball Wear Test (ASTM D-4172)		
(1 hour/40kg/130°F/54°C)		
Wear Scar Diameter, mm	0.4	0.4
Four Ball EP Test (ASTM D-2783)		
Weld Point, kgs.	250	315
Falex Continuous Load Procedure A (ASTM D-3233)		
Failure Load, lbs.	1740	1800
Conradson Carbon Residue (ASTM D-189)	0.03	0.03
Total Acid Number (ASTM D-664)	0.5	0.5
% Evaporation Loss (ASTM D-972)		
6.5 hours @ 400°F/204°C	10	10
% Evaporation Loss (ASTM D-972)		
22 hours @ 225°F/107°C	2	3
Foam Test (ASTM D-892)		
Sequence I	0/0	0/0
Sequence II	0/0	0/0
Sequence III	0/0	0/0
FZF A/8.3/90 (ASTM D-5182)		
Load Failure Stage	11th	11 th

Packaging: Food Grade Machinery Lube is available in 55-gallon drums, 30- gallon drums and 5-gallon pails.

