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# TECHNICAL DATA

## OPTI-LUBE 220



### HIGH TEMPERATURE PERFORMANCE SYNTHETIC OVEN CHAIN LUBRICANT

OPTI-LUBE 220 is Petrochem's newly developed, #1 High-Temp Performance Synthetic Oven Chain Lubricant designed for conveyor roller ball bearing chains, pin/roller chains, tortilla chains, slides and gears that operate in very high temperature oven environments. OPTI-LUBE 220 is formulated from premium state of the art synthetic polyol ester (POE) base oils and proprietary additives. NSF H-2 approved; can be used in food plants for non-food contact. Contains no carcinogens and is environmentally friendly.

- 1.) Very Low Evaporation Rates – Longer Lubrication Life & Stays Liquid
- 2.) Extremely Clean Lubricant – Chain will Stay Clean & Show Minimal Deposits
- 3.) Very High Flashpoint – Will not smoke and lubricates very well if the hot chain does not have time to cool down during the exit/entrance of an oven.
- 4.) Exceptional anti-wear and bearing protection – Low Friction and Wear
- 5.) Reduces Maintenance
- 6.) Keeps Amperage Low and Stable

Property	Test Method	Typical Specification
ISO GRADE	ASTM D 445	220
Specific Gravity, 15.6°C	ASTM D 1298	0.98
Viscosity, cSt @ 40°C (104°F)	ASTM D 445	220
Viscosity, cSt @ 100°C (212°F)	ASTM D 445	20.6
Viscosity Index	ASTM D 2270	112
Fire Point, °C (°F)	ASTM D 92	368°C (695°F)
Flash Point, °C (°F)	ASTM D 92	326°C (618°F)
Pour Point, °C (°F)	ASTM D 97	-30°C (-20°F)
Acid No., mg KOH/g	ASTM D3242	0.2
4-Ball Wear Test, 40 Kg, 1200 RPM, @ <u>167°F</u> , 1 hr. Average wear scar diameter, mm	ASTM D 4172	0.4
4-Ball Wear Test, 40 Kg, 1200 RPM, @ <u>400°F</u> , 1 hr. Average wear scar diameter, mm	SPECIAL TEST	0.55



**PETROCHEM, INC.**  
**SPECIALTY LUBRICANTS**

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*Member of the American Baking Society*



OPTI-LUBE 220

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Rust Test, 48 Hrs. Distilled Water	ASTM D 665A	Pass
Rust Test, 48 Hrs. Sea Water	ASTM D 665B	Pass
Evaporation Loss, 8.0 HRS. @ 204°C (400°F), %	ASTM D-972	0.79
Evaporation Loss, 168 HRS @ 204°C (400°F), %	ASTM D-972	5.05
Appearance	QL 4099	Light Amber Liquid



EVAPORATION LOSS, 450 DEGREES F, %									FLASH POINTS, DEGREES F
HOURS:	8 hours	24 hours	48 hours	72 hours	96 hours	120 hours	144 hours	168 hours	
<b>OPTI-LUBE 220</b> ISO 220 PREMIUM ESTER BASED H-2	0.79%	0.90%	1.86%	3.00%	3.58%	4.05%	4.54%	5.05%	610
<b>FOODSAFE PETRO-SYN FG-220</b> (ISO 220, H-1 ESTER)	3.11%	4.99%	7.39%	9.52%	12.63%	14.24%	16.87%	18.91%	595
<b>PETRO-GARD 220</b> ISO 220 (H-2 ESTER BASED)	2.75%	9.60%	18.50%	23.97%	30.96%	36.05%	40.81%	46.09%	588

RESULTS: INDEPENDENT TEST LABORATORY

Carbon Residue Test: @ 450 Degrees F	8 hours	8 hours	48 hours	72 hours	96 hours	120 hours	144 hours	168 hours
<b>OPTI-LUBE 220</b>	None	Minimal	Minimal	Minimal	Minimal	Light	Light	Light
<b>FOODSAFE PETRO-SYN FG-220</b>	None	Light	Light	Moderate	Moderate	Moderate	Moderate	Significant
<b>PETRO-GARD 220</b>	None	Light	Moderate	Significant	Significant	Significant	Significant	Significant

Test data concludes Petrochem's OPTI-LUBE 220 outperforms other well known High-Temperature Chain lubricants including products by Petrochem on the evaporation rates. OPTI-LUBE 220 will significantly last longer on chains, hence, offering extended lubrication intervals. The product also has a very high flashpoint which will remain liquid after long exposure to extreme temperatures and conclusively shows minimal evaporation and deposits.

In addition, OPTI-LUBE 220 produces minimal to light carbon deposits over 168 hours; best recorded data by a leading OEM in the baking industry.

APPLICATIONS:

Bakery Oven Chains  
Roller Ball Bearing Chains on Oven Conveyors  
Pin/Roller Chains on Tunnel & Tray Ovens  
Tenter Frame Oven Chains  
Paint Oven Chains  
Wood Laminating Oven Chains  
Fiberglass Production  
Cement Plants  
Kiln Car Wheel Bearings & Support Rollers  
Beverage Can Lines  
Lithographic Chains  
Drying Ovens

STORAGE & HANDLING PRACTICES:

Warehouse in unopened containers at ambient conditions. Under these conditions, storage life is practically indefinite. For information on the safe handling and use of this product, refer to the Material Safety Data Sheet. For more information and availability, call (630) 513-6350.

