

## PETRO-GARD® 220

### EXTREME HIGH TEMPERATURE SYNTHETIC OVEN CHAIN LUBRICANT

**DESCRIPTION: Synthetic, Fully Formulated With Esters, ISO 220 (SAE 50)  
High Flash Point, Excellent Wear Protection, NSF H-2 Registered**

PETRO-GARD® 220 is formulated from premium state of the art synthetic polyol ester base oils and proprietary additives for conveyor roller ball bearing chains, pin/roller chains, tortilla chains, slides and gears that operate in extreme high temperature oven environments. PETRO-GARD® 220 has established several OEM approvals and credible testimonies from bakeries and other industries worldwide.

#### FEATURES & BENEFITS:

- NSF H-2 registered, meets USDA 1998 H-2 guidelines: Can be used in food plants for non-food contact. Contains no known carcinogens and is environmentally friendly.
- Exceptional Wear Protection: It has one of the highest lubricity ratings to protect against wear, friction, rust and corrosion; thus, extending bearing, chain and equipment life.
- Reduced Carbonization & Oxidation: PETRO-GARD® 220 is a clean, ashless fluid-film that decreases energy consumption by maintaining optimal amperage, eliminating chain stretching and chain dragging.
- Lower Evaporation & Volatility: Very stable in high temperatures, provides longer lubrication intervals, saves money on lubricant consumption, has less smoke and no objectionable odors.
- High Flash Point: PETRO-GARD® 220 has a high flash point exceeding 615°F & can be applied to either a hot or cold chain while in production, hence reducing maintenance cost and increasing productivity.

#### PHYSICAL PROPERTIES:

| Property                       | Test Method | Typical Specification |
|--------------------------------|-------------|-----------------------|
| ISO GRADE                      | ASTM D445   | 220                   |
| Specific Gravity, 15.6°C       | ASTM D1298  | < 1.0                 |
| Viscosity, cSt @ 40°C (104°F)  | ASTM D445   | 220                   |
| Viscosity, cSt @ 100°C (212°F) | ASTM D445   | 19                    |
| Viscosity Index                | ASTM D2270  | 95                    |
| Fire Point, °C (°F)            | ASTM D92    | 340°C (655°F)         |
| Flash Point, °C (°F)           | ASTM D92    | 310°C (590°F)         |
| Pour Point, °C (°F)            | ASTM D97    | -20°C (-6°F)          |
| Acid No., mg KOH/g             | ASTM D3242  | 0.2                   |

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**Member of the American Baking Society**

|  |            |                   |
|--|------------|-------------------|
| 4-Ball Wear Test, 40 Kg, 1200 RPM, @ 100°C (212°F)<br>1 hr. Average wear scar diameter, mm | ASTM D4172 | 0.4               |
| 4-Ball Wear Test, 40 Kg, 600 RPM, @ 200°C (392°F)<br>1 hr. Average wear scar diameter, mm  | ASTM D4172 | 0.5               |
| Evaporation Loss, 6.5 HRS. @ 204°C (400°F), %  | ASTM D972  | 0.9               |
| Falex Tooth Wear (15 min., 700 lb. gage load,) Teeth Lost                                  | ASTM D2670 | 0                 |
| Rust Test, 48 Hrs. Distilled Water   | ASTM D665A | Pass              |
| Rust Test, 48 Hrs. Sea Water   | ASTM D665B | Pass              |
| Typical RBOT @ 150°C, Oxidation Lifetime, min.   | ASTM D2272 | 1,180             |
| Appearance   | QL4099     | Light Amber Color |

**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

**REGULATORY STATUS:**

| PETROCHEM P/N#          | PETRO-GARD® 220 |
|-------------------------|-----------------|
| TSCA (USA)              | √               |
| EINECS (EU)             | √               |
| NDSL (Canada)           | √               |
| AICS (Australia)        | √               |
| ECL (Korea)             | √               |
| PICCS (Philippines)     | √               |
| Direct Food Contact No. | H2              |
| NSF Registration Number | 138124          |
| Food Processing Plants  | Yes             |



**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.