

# Product Information



## Monolec® Syn All-Climate Gear Lubricant (9919-9920)

**Robust Formula Provides Long-Lasting Protection in Severe Service, including High & Low Temperatures**

Monolec® Syn All-Climate Gear Lubricant (9919-9920) is formulated with 100 percent synthetic base fluid and a synergistic additive package, making it the ideal choice for heavy-duty rolling stock transmissions and differentials in severe service conditions. It is also recommended for some high- and low-temperature industrial gearbox applications. Monolec Syn All-Climate's robust formula will not break down in severe service. It provides high-temperature oxidation resistance, low volatility and excellent thermal stability, allowing it to provide long-lasting protection for the application. It also retains its flow during subzero temperature conditions. The additive package includes wear-reducing, extreme pressure (EP) and anti-foaming additives.



### Beneficial Qualities

#### **Provides Reliable, Long-Lasting Service**

- Resists shearing and maintains viscosity in service
- Remains thermally stable
- Prevents formation of carbon deposits
- Reduces operating temps by transferring heat from gears
- Protects gears from wear, heavy loads and shock loading
- Increases equipment reliability, reducing replacement and repair costs
- Suppresses foam

#### **Performs in High and Low Temperatures**

- Provides high-temperature oxidation resistance

- Is reliable for low-temperature startups
- Continues to flow at subzero conditions

#### **Reduces Oil Consumption & Other Costs**

- Extends drain intervals due to long oil life
- Requires less make-up oil due to low volatility
- Reduces environmental impact with less waste oil for disposal
- Reduces maintenance and replacement costs with longer lasting parts and equipment

### Proprietary Additive

LE's proprietary additives are used exclusively in LE lubricants. Monolec® Syn All-Climate Gear Lubricant contains Monolec.

**Monolec®** wear-reducing additive creates a single molecular lubricating film on metal surfaces, vastly increasing oil film strength without affecting clearances. An invaluable component in LE's engine oils, industrial oils and many of its other lubricants, Monolec allows opposing surfaces to slide by one another, greatly reducing friction, heat and wear.



# Technical Data

## Monolec® Syn All-Climate Gear Lubricant (9919-9920)

|  | <u>9919</u> | <u>9920</u> |
|--|-------------|-------------|
| <b>Color</b>   | Green       | Green       |
| <b>SAE Grade</b>   | 75W-90      | 75W-140     |
| <b>Relative Density @ 60°F/60°F, ASTM D1298</b>            | 0.860       | 0.866       |
| <b>Viscosity @ 100°C, cSt, ASTM D445</b>                   | 16.0        | 24.8        |
| <b>Viscosity @ 40°C, cSt, ASTM D445</b>                    | 115         | 180         |
| <b>Viscosity Index ASTM D2270</b>                          | 140         | 165         |
| <b>Viscosity-Brookfield @ -40°C, cP, ASTM D2983</b>        | ≤150,000    | ≤150,000    |
| <b>Flash Point °C (°F), (COC), ASTM D92</b>                | 212 (414)   | 188 (370)   |
| <b>Pour Point °C (°F), ASTM D97</b>                        | -51 (-60)   | -45 (-49)   |
| <b>Copper Corrosion 3 hrs @ 100°C, ASTM D130</b>           | 1b          | 1b          |
| <b>Timken OK Load lbs, ASTM D2782</b>                      | 60          | 65          |
| <b>FZG Scuffing Load Capacity Fail Storage, ASTM D5182</b> | 12          | 12          |

### Performance Requirements Met or Exceeded

- AGMA 9005-EO2 (9919)
- API GL-5, MT-1 (9919-9920)
- Arvin Meritor 0-76-M (9920)
- Mack GO-J (9919-9920)
- MIL-PRF-2105E (9919-9920)
- Rockwell 0-76-B (9920), 0-76-D (9919), 0-76-J (9919-9920)
- SAE J2360 (9919-9920)
- Scania ST0 1:0, 2:0A (9920)
- Service Fill Limited Slip (9919)
- US Steel 224 (9919-9920)
- USDA H2 (9919-9920)
- ZF TE-ML 05B, 07A, 12B, 16F, 19C, 21B (9920)

### Typical Applications

- Differentials & transmissions in:
  - ◊ Over-the-road fleets
  - ◊ Heavy-duty rolling stock
  - ◊ Stop-and-go vehicles
  - ◊ Off-highway equipment
- Industrial gearboxes and worm drives that:
  - ◊ Call for SAE 75W-90 gear oil (9919)
  - ◊ Call for SAE 75W-140 gear oil (9920)
  - ◊ Are subjected to low and high temperatures, such as freezer units and paper drums

