

FUNCTIONAL AW-354

Micropitting Top Treat for Industrial Gear Oils

APPLICATION:

FUNCTIONAL AW-354 is a phosphorus-based friction modifier based on industry standard chemistry to inhibit micropitting in top tier AGMA 9005 gear oils and improve wear on US Steel / AIT 224. **FUNCTIONAL AW-354** is ashless, sulfur- and chlorine-free with high compatibility in a range of petroleum and synthetic base stocks.

COMPOSITION:

FUNCTIONAL AW-354 is a phosphorus derivative.

| Typical Properties | |
|------------------------------|---------------------|
| Appearance | Colorless to Yellow |
| Color – ASTM D1500 | ≤ 1.0 |
| Odor | Mild |
| Lbs per Gallon | 8.1 |
| Flash Point – ASTM D93, PMCC | ≥ 160°C / 320°F |
| Phosphorus % | 5.3% |

TREATMENT LEVEL:

FUNCTIONAL AW-354 is chemically identical to competing materials and is typically used at:

- 0.25wt% as antiwear booster for US Steel 224
- 1.0wt% as micropitting resistance top treat for AGMA 9005
- 2.5wt% as limited slip differential additive in API GL-5 LS

| | Competitor L Micropitting Top Treat | FUNCTIONAL AW-354 Micropitting Top Treat |
|------------------|--|---|
| Color | Light Colored | Light Colored |
| Odor | Mild | Mild |
| Flashpoint, D93 | 165°C | 160°C+ |
| % Phosphorus | 5.25 | 5.3 |
| Specific Gravity | 0.898 | 0.9 |
| Viscosity @ 40C | 22 | 22.9 |
| Viscosity @ 100C | 5.4 | 5.8 |

Performance in US Steel Wear (54°C, 1800 rpm, 20 kgf load)

| | 0.0wt% | 0.10wt% | 0.25wt% |
|---------------|---------|---------|---------|
| US Steel Wear | 0.39 mm | 0.28 mm | 0.28 mm |
| COF | 0.0916 | 0.0687 | 0.0616 |

HANDLING:

FUNCTIONAL AW-354 is non-hazardous. Store indoors at 20-40°C (68-104°F). If frozen, move to hot room or use drum heater to melt.

This Technical Data Sheet and the Safety Data Sheet contain information believed to be accurate and reliable. No warranty is made, however, to information beyond the control of FUNCTIONAL PRODUCTS INC. The engineering and management personnel of the user are responsible for determining the suitability of this or any product for any specific application, and this information is offered to them for that purpose.

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