



Premium performance, synthetic EP gear oil and circulating oil designed for use in a wide range of industrial equipment operating under severe conditions, such as heavy and/or shock loading and elevated temperatures, where short service life with conventional lubricants can be expected. Formulated with a combination of poly-alpha-olefin and synthetic ester base fluids and selected additives to provide effective EP performance and wear protection, increased thermal/oxidation stability and protection against corrosion and rust.

### APPLICATIONS

- All types of gear systems in mobile and stationary industrial equipment where an EP lubricant is specified, including spur, bevel and worm gears.
- Plain and anti-friction bearings subjected to heavy-duty operating conditions.
- Circulating oil systems where an EP lubricant is required.
- Outdoor machinery exposed to wide ambient temperature conditions, such as crane, hoist and winch gearboxes.
- Speed reducers, chain drives, sprockets and flexible couplings.
- Bath, splash, circulating and spray lubrication systems.

### BENEFITS

- **Thermally stable**  
Effective thermal and oxidation stability reduces deposit formation, maintaining a cleaner gear/circulating oil system.
- **Protects metal surfaces**  
EP additive provides protection against wear of bearing and gear surfaces during heavy-duty operation. Effective rust and corrosion inhibitors protect all system components.
- **Proven performance**  
Effective air and water separation characteristics reduce the risk of surface wear caused by loss of lubricating oil film. Compatibility with many conventional seal materials and mineral-type circulating oils eliminates operational problems if changing oil types.

### PERFORMANCE STANDARDS

|   |
|---|
| AIST No. 224 (US Steel Specification No. 224) |
| ANSI/AGMA Standard 9005-E02 EP                |
| DIN 51517 Part 3 CLP                          |
| Joy TO-SMEP (ISO 220) and TO-SHEP (ISO 320)   |



### TYPICAL CHARACTERISTICS

|   |             |             |             |
|---|-------------|-------------|-------------|
| Product Code  | 3000        | 3273        | 3274        |
| ISO Grade   | 220         | 320         | 680         |
| Flash Point, COC, °C  | 238         | 238         | 242         |
| FZG, Fail Stage   | > 12        | > 12        | > 12        |
| Four-Ball EP Weld (ASTM D2783), kgf                                       | 250         | 250         | 250         |
| Pour Point, °C  | -45         | -39         | -30         |
| Viscosity,<br>at 40°C, mm <sup>2</sup> /s<br>at 100°C, mm <sup>2</sup> /s | 209<br>26.9 | 304<br>35.8 | 646<br>63.0 |
| Viscosity Index   | 164         | 165         | 168         |

### PACK SIZES

|           |     |     |     |
|-----------|-----|-----|-----|
| ISO Grade | 220 | 320 | 680 |
| 1000L     | ✓   | ✓   | ✓   |
| 208L      | ✓   | ✓   |     |
| 20L       | ✓   | ✓   |     |

### ENVIRONMENT, HEALTH AND SAFETY

Users should consult the MSDS, follow the precautions outlined and comply with all laws and regulations concerning its use and disposal. Used packaging material should not be incinerated or exposed to flame. After use, protect your environment. Do not pollute drains, soil or water with used product.

### OTHER INFORMATION

For further information on Caltex products and services call the Technical Solutions on 1300 364 169.

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