



## Mobil EAL™ 224H

Mobil Industrial , United States

Hydraulic Fluid

### Product Description

Mobil EAL 224H is a premium performance environmentally aware hydraulic fluid designed to provide outstanding performance in hydraulic and circulation systems operating at moderate conditions. It provides excellent anti-wear and film strength characteristics necessary for hydraulic systems operating under high load and high pressures. Its 12-stage rating in the FZG Gear Load test demonstrates a high level of protection against wear and scuffing and the suitability of this product to protect gears and bearings used in conjunction with hydraulic systems. Mobil EAL 224H provides excellent protection against corrosion and ensures very good multi-metal compatibility allowing its use in systems employing various metallurgy that may be used in pump and component designs. It also provides very good thin oil film protection against rusting. In addition to its exceptional performance capability, it satisfies the requirements for ready biodegradability and non-toxicity making it a desirable product where leakage or spillage of conventional oils could result in damage to the environment.

It is formulated from select, high-quality, high-VI vegetable oils and a specifically engineered additive system to meet or exceed the performance requirements of most hydraulic pump and system builders while satisfying the stringent criteria for biodegradability and toxicity.

### Features and Benefits

Mobil EAL 224H provides excellent anti-wear, lubricity, and film strength performance in hydraulic and circulation systems operating under moderate operating conditions. The ready biodegradability and virtually non-toxic nature of this product makes it an excellent choice where leakage or spillage could enter environmentally sensitive areas. The inadvertent leakage or spillage of this product in environmentally sensitive areas could result in easier clean-up and lower remediation costs.

| Features   | Advantages and Potential Benefits  |
|--|--|
| Ready Biodegradability and Non-Toxicity            | Reduces potential for environmental damage<br>Lowers potential remediation and clean-up costs caused by spills or leakage<br>Becomes an integral part of plant environmental program |
| Outstanding Load-Carrying and Anti-Wear Properties | Protects system components against wear and scuffing<br>Provides long equipment life   |
| Exceptional Corrosion Protection                   | Reduces corrosion of internal system components  |
| Excellent Multi-Metal Compatibility                | Will not react with steel or copper alloys   |
| Good Elastomer Compatibility                       | Works well with same elastomers used with conventional mineral based oils. No need for special seals or elastomers   |

### Applications

- Hydraulic systems where spills or leakage could result in damage to the environment
- In systems where readily biodegradable and virtually non-toxic fluids may be required
- Gear systems requiring either an ISO VG 32 or 46 oil with mild extreme-pressure characteristics
- Systems containing servo-valves
- Hydraulic systems operating with oil temperatures in the range of 0 F to 180 F
- Marine and mobile equipment operating in environmentally sensitive areas

- Circulation systems operating under mild to moderate service conditions
- Industrial hydraulic systems where leaked or spilled fluids could get into plant effluent
- Air line oilers and some limited oil-mist generating systems
- Air-over-hydraulic fluid systems operating in environmentally sensitive areas

### Specifications and Approvals

#### Mobil EAL 224H recommended for use in applications requiring:

- Environmentally friendly characteristics
- Anti-wear protection
- Compatibility with system components

### Properties and Specifications

| Property   |       |
|--|-------|
| Aquatic Toxicity, LL50, ppm, OECD 203 Mod  | >5000 |
| Biodegradability, CO2 Conversion, %, EPA560/6-82-003                             | >70   |
| Flash Point, Cleveland Open Cup, °C, ASTM D92                                    | 294   |
| Four-Ball Wear Test, Scar Diameter, 40 kg, 600 rpm, 30 min, 93 C, mm, ASTM D4172 | 0.35  |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1                             | 12    |
| Kinematic Viscosity @ 100 C, mm <sup>2</sup> /s, ASTM D445                       | 8.3   |
| Kinematic Viscosity @ 40 C, mm <sup>2</sup> /s, ASTM D445                        | 36.78 |
| Pour Point, °C, ASTM D97   | -34   |
| Specific Gravity, 15 C/15 C, ASTM D1298  | 0.921 |
| Vickers 104C Wear Test at 66 C, mg, D2882  | 10    |
| Viscosity Index, ASTM D2270  | 212   |

### Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ <http://www.msds.exxonmobil.com/psims/psims.aspx>

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