



## Mobil DTE™ Hydraulic Zinc Free Series

Mobil Industrial , Papua New Guinea

Hydraulic Oil

### Product Description

Mobil DTE™ Hydraulic Zinc Free Series oils are superior hydraulic oils specifically designed to meet the needs of modern, high pressure, industrial and mobile equipment hydraulic systems. They are formulated from high quality base stocks and specially selected zinc free additives. This unique additive system was developed to give exceptional protection due to excellent anti-wear performance in severe hydraulic applications.

The Mobil DTE™ Hydraulic Zinc Free oils exhibit excellent oxidation and thermal stability properties which can help to provide extended oil and filter life, as well as optimum equipment protection, thereby reducing both maintenance and product disposal costs. They are designed to work with systems operating under moderate to severe conditions where high levels of anti-wear and film strength protection are needed.

### Features and Benefits

The Mobil DTE™ Hydraulic Zinc Free hydraulic oils exhibit excellent oxidation resistance and thermal stability characteristics that can lead to extension of oil and filter change intervals and help to provide clean systems and trouble-free operation. Their high level of anti-wear properties and excellent film strength characteristics can lead to equipment performance that can not only result in fewer breakdowns, but also can help to enhance productivity. Their outstanding demulsibility permits the oils to work well in systems contaminated with small amounts of water, and readily separate large amounts of water.

| Features                                     | Advantages and Potential Benefits   |
|--|---|
| Thermal and Oxidation Stability              | Provides long oil and equipment life  |
| Anti-wear Properties                         | Helps reduce wear and protects pumps and components for extended equipment life               |
| Excellent Demulsibility Characteristics      | Protects systems where small quantities of moisture are present                               |
| Multi Metal Compatibility                    | Helps ensure excellent performance and protection with a wide variety of component metallurgy |
| Meets a Wide Range of Equipment Requirements | Minimizes inventory requirements  |

### Applications

- Systems employing multi-metal designs in pumps and other system components
- Applications where cross-contamination of hydraulic fluids and coolants can occur
- High pressure vane, piston and gear pumps
- Where small amounts of water are unavoidable
- In systems containing gears and bearings
- Systems requiring a high degree of load-carrying capability and anti-wear protection

### Specifications and Approvals

|   |                         |          |                         |          |                         |          |                         |          |                               |
|---|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------------|
| This product has the following approvals: | MOBIL HYDRAULIC FREE 22 | DTE ZINC | MOBIL HYDRAULIC FREE 32 | DTE ZINC | MOBIL HYDRAULIC FREE 46 | DTE ZINC | MOBIL HYDRAULIC FREE 68 | DTE ZINC | MOBIL HYDRAULIC ZINC FREE 100 |
|   |                         |          |                         |          |                         |          |                         |          |                               |

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|---|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------------|----------|
| Bosch Rexroth Fluid Rating List 90245     |                         |          | X                       |          | X                       |          | X                       |          |                               |          |
| Denison HF-0                              |                         |          | X                       |          | X                       |          | X                       |          |                               |          |
| Denison HF-1                              |                         |          | X                       |          | X                       |          | X                       |          |                               |          |
| Denison HF-2                              |                         |          | X                       |          | X                       |          | X                       |          |                               |          |
| Eaton E-FDGN-TB002-E                      |                         |          | X                       |          | X                       |          | X                       |          |                               |          |

| This product is recommended for use in applications requiring: |  |  |   |   |  |
|--|--|--|---|---|--|
| Fives Cincinnati P-68  |  |  | X |   |  |
| Fives Cincinnati P-69  |  |  |   | X |  |
| Fives Cincinnati P-70  |  |  | X |   |  |

| This product meets or exceeds the requirements of: |   |   |   |   |   |
|--|---|---|---|---|---|
| ASTM D6158 (Class HMHP)                            | X | X | X | X | X |
| China GB 11118.1-2011, L-HM(General)               | X | X | X | X | X |
| China GB 11118.1-2011, L-HM(HP)                    |   | X | X | X | X |
| DIN 51524-2:2017-06                                | X | X | X | X | X |
| ISO L-HM (ISO 11158:2009)                          | X | X | X | X | X |
| JCMAS HK VG32                                      |   | X |   |   |   |
| JCMAS HK VG46                                      |   |   | X |   |   |

### Properties and Specifications

| Property                                      | MOBIL HYDRAULIC FREE 22 | DTE ZINC | MOBIL HYDRAULIC FREE 32 | DTE ZINC | MOBIL HYDRAULIC FREE 46 | DTE ZINC | MOBIL HYDRAULIC FREE 68 | DTE ZINC | MOBIL HYDRAULIC ZINC FREE 100 | DTE ZINC |
|---|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-------------------------------|----------|
| Grade   | ISO 22                  |          | ISO 32                  |          | ISO 46                  |          | ISO 68                  |          | ISO 100                       |          |
| Density @ 15.6 C, kg/l, ASTM D4052            | 0.859                   |          | 0.857                   |          | 0.864                   |          | 0.871                   |          | 0.866                         |          |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 208                     |          | 224                     |          | 232                     |          | 242                     |          | 270                           |          |

| Property  | MOBIL<br>HYDRAULIC<br>FREE 22 | DTE<br>ZINC | MOBIL<br>HYDRAULIC<br>FREE 32 | DTE<br>ZINC | MOBIL<br>HYDRAULIC<br>FREE 46 | DTE<br>ZINC | MOBIL<br>HYDRAULIC<br>FREE 68 | DTE<br>ZINC | MOBIL<br>HYDRAULIC<br>FREE 100 | DTE<br>ZINC |
|---|-------------------------------|-------------|-------------------------------|-------------|-------------------------------|-------------|-------------------------------|-------------|--------------------------------|-------------|
| Foam, Sequence I,<br>Stability, ml, ASTM D892                 | 0                             |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Foam, Sequence I,<br>Tendency, ml, ASTM D892                  | 0                             |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Foam, Sequence II,<br>Stability, ml, ASTM D892                | 0                             |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Foam, Sequence II,<br>Tendency, ml, ASTM D892                 | 0                             |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Foam, Sequence III,<br>Stability, ml, ASTM D892               | 0                             |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Foam, Sequence III,<br>Tendency, ml, ASTM D892                | 10                            |             | 0                             |             | 0                             |             | 0                             |             | 0                              |             |
| Kinematic Viscosity @ 100<br>C, mm <sup>2</sup> /s, ASTM D445 | 4.5                           |             | 5.66                          |             | 7.01                          |             | 8.84                          |             | 11.77                          |             |
| Kinematic Viscosity @ 40<br>C, mm <sup>2</sup> /s, ASTM D445  | 22.6                          |             | 32.72                         |             | 46.26                         |             | 68.33                         |             | 99.86                          |             |
| Rust Prevention,<br>Procedure B, Rating,<br>ASTM D665         | PASS                          |             | PASS                          |             | PASS                          |             | PASS                          |             | PASS                           |             |
| Viscosity Index, ASTM<br>D2270                                | 115                           |             | 112                           |             | 108                           |             | 102                           |             | 107                            |             |

### 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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