Mobil

# Mobil DTE™ Oil Named Series

Mobil Industrial , Singapore

Premium Performance Circulating Lubricants

## Product Description

The Mobil DTE™ Oil Named Series of lubricants are premium performance circulating lubricants designed for applications including steam and hydro turbine sets and other systems where long lubricant service life is required. Mobil DTE Oil Named Series lubricants are formulated from highly refined base stocks and an additive system which provide an extremely high level of chemical and thermal stability, rapid and complete separation from water and a high resistance to emulsification. They provide excellent protection against rust and corrosion, including resistance to salt water, and good antiwear properties. They have a high viscosity index which ensures minimum variation of film thickness with temperature and minimum power loss during the warm up period. These grades have excellent air release properties which allow entrained air to separate, thus avoiding pump cavitation and erratic operation.

Mobil DTE Oil Named are the lubricants of choice for many users because of their reputation for long life, excellent equipment protection and outstanding versatility in the wide variety of industrial applications. DTE Oil Named lubricants are used widely in steam turbines and hydroturbines with splash, bath and ring-oiling arrangements, and all other continuous circulation methods involving pumps, valves and ancillary equipment. This product series is recommended for continous service in the lubrication of plain and rolling bearings and parallel shaft gearing. They have also been used successfully in rotary air compressor applications and reciprocating natural gas compressors as well as vacuum pumps. Their reputation is based on many decades of successful service and satisfied users.

## Features and Benefits

The Mobil DTE family of products is well known and highly regarded worldwide based on their outstanding performance and the R & D expertise and the global technical support which stand behind the brand. The highly versatile performance of Mobil DTE Oil Named oils has made them the oil of choice for a multitude of industrial equipment applications around the world.

Mobil DTE Named oils enjoy an excellent reputation in the lubrication of the circulation systems of steam turbines and hydro turbines, including geared turbines, plus a wide variety of ancillary equipment. As designs change and increase in severity, it is the challenge of our formulation scientists to understand the effect of these changes on the lubricant and to formulate these products for the broad versatility they are recognised for.

For the Mobil DTE Oil Named Series of lubricants, this process has resulted in the use of special base stocks for outstanding oxidation stability, plus a unique additive combination to ensure the excellent, wide-ranging performance of these oils. A review of the features, advantages and potential benefits of the product are shown below.

| Features | Advantages and Potential Benefits |
|---|---|
| Very high level of chemical and thermal stability and resistance to sludging and varnishing | Long oil charge life in circulation systems and reduced oil replacement costs |
| | Less unplanned downtime and reduced maintenance costs |
| Excellent water release properties | Improved operating efficiency |
| Very good antiwear protection | Longer equipment life, reduced maintenance and downtime |
| Long term protection against rust and corrosion | Longer equipment life, reduced maintenance and downtime |
| High resistance to foaming and excellent air release | Avoids pump cavitation, noisy and erratic operation |
| Highly versatile - multiple applications | Rationalize inventory, reduced inventory costs |

## Applications

The Mobil DTE Oil Named Series of lubricants are premium performance circulating lubricants designed for applications where long lubricant service life is required. Specific applications include:

- Land-based and marine steam turbine, hydro turbine and some gas turbine circulation systems, including pumps, valves and other ancillary equipment
- Continuous service in plain and roller bearings and parallel shaft gearing
- Turbines with oil supplied by splash, bath, ring oiling or other mechanical means
- Moderate severity hydraulic pumps
- Compressors and vacuum pumps handling air, natural gas, and inert gases, and with discharge temperatures not exceeding 150C

## Specifications and Approvals

| This product is recommended for use in applications requiring: | MOBIL DTE LIGHT | MOBIL DTE MEDIUM | MOBIL DTE HEAVY MEDIUM | MOBIL DTE HEAVY |
|---|---|---|---|---|
| GE GEK 27070 | X | | | |
| GE GEK 28143A | X | X | | |
| GE GEK 46506D | X | | | |

| This product meets or exceeds the requirements of: | MOBIL DTE LIGHT | MOBIL DTE MEDIUM | MOBIL DTE HEAVY MEDIUM | MOBIL DTE HEAVY |
|---|---|---|---|---|
| DIN 51515-1:2010-02 | X | X | X | X |
| GE Power GEK120498 | X | | | |
| JIS K-2213 Type 2 | X | X | X | |

## Properties and Specifications

| Property | MOBIL DTE LIGHT | MOBIL DTE MEDIUM | MOBIL DTE HEAVY MEDIUM | MOBIL DTE HEAVY |
|---|---|---|---|---|
| Grade | ISO 32 | ISO 46 | ISO 68 | ISO 100 |
| Air Release Time, 50 C, min, ASTM D3427 | 3 | 3 | 4 | 8 |
| Copper Strip Corrosion, 3 h, 100 C, Rating, ASTM D130 | 1B | 1B | 1B | 1B |
| Density @ 15 C, kg/l, ASTM D4052 | 0.850 | 0.860 | 0.860 | 0.880 |
| Emulsion, Time to 3 mL Emulsion, 54 C, min, ASTM D1401 | 15 | 15 | 20 | |
| FZG Scuffing, Fail Load Stage, A/8.3/90, ISO 14635-1 | | | 10 | 10 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 218 | 221 | 223 | 237 |
| Foam, Sequence I, Stability, ml, ASTM D892 | 0 | 0 | 0 | 0 |

| Property | MOBIL DTE LIGHT | MOBIL DTE MEDIUM | MOBIL DTE HEAVY MEDIUM | MOBIL DTE HEAVY |
|---|---|---|---|---|
| Foam, Sequence I, Tendency, ml, ASTM D892 | 20 | 50 | 50 | 50 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 5.5 | 6.9 | 8.7 | 10.9 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 31.0 | 44.5 | 65.1 | 95.1 |
| Pour Point, °C, ASTM D97 | -18 | -15 | -15 | -15 |
| Rust Characteristics, Procedure A, ASTM D665 | PASS | PASS | PASS | PASS |
| Rust Characteristics, Procedure B, ASTM D665 | PASS | PASS | PASS | PASS |
| Turbine Oil Stability Test, Life to 2.0 mg KOH/g, h, ASTM D943 | 5000 | 3700 | 4500 | 4500 |
| Viscosity Index, ASTM D2270 | 110 | 105 | 100 | 95 |

## 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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10-2026
ExxonMobil Asia Pacific Ltd
1 HarbourFront Place
#06-00 HarbourFront Tower One
Singapore 098633

+65 6885 8000
http://www.exxonmobil.com

Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com
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