



## Mobil DTE™ FM Series

### Food Machinery Lubricants

#### Product Description

Mobil DTE™ FM Series oils are high performance lubricants designed to satisfy a wide range of multi-use equipment requirements for the food processing and packaging industry. These lubricants are qualified as NSF H1 type lubricants and also comply with Title 21 CFR 178.3570 by the Food and Drug Administration (USA) for use where there is the potential for incidental food contact. Mobil DTE FM Series are manufactured at ISO 22000 certified facilities that also meet the requirements of ISO 21469 helping to ensure that the highest levels of product integrity are maintained.

The lubricants are tasteless, odourless, premium quality lubricants formulated with non-toxic NSF/FDA food grade additives and base oils. The additive system provides good wear protection, excellent oxidation stability and protection against rust. They provide good system cleanliness, long oil/filter life, and optimum equipment protection. The Mobil DTE FM Series oils are excellent gear, bearing and circulating oils. They are also suitable for handling the critical requirements of hydraulic system components such as close clearance servo-valves and the high accuracy numerically controlled (NC) machine tools. These products meet the most rigorous performance requirements of a wide range of system and component manufacturers using various multi-metallurgy designs allowing a single product with outstanding performance characteristics.

The Mobil DTE FM Series oils have high ratings in the FZG Gear Test demonstrating their excellent protection against wear and scuffing. This allows their use in systems other than hydraulics that may contain gears and bearings. The naturally high viscosity index of the base oils ensures outstanding performance over a wide temperature range.

#### Features and Benefits

Features	Advantages and Potential Benefits
Non-Toxic Formulation	Allows use in food packaging and processing applications
Very Good Anti-wear Properties	Reduces wear Extends equipment life
Excellent Oxidation Stability	Provides long oil and equipment life Extends filter life
High Level Corrosion Protection	Prevents internal hydraulic system corrosion Reduces negative effects of moisture in systems Provides corrosion protection of multi-metallurgy component designs
Meets a Wide Range of equipment requirements	Multi-service applications - One product can replace several Minimises inventory requirements Reduced potential for product misapplication
Excellent Air Separation Characteristics	Reduces foaming and its negative effects
Very Good Water Separation Properties	Protects systems where small quantities of moisture are present Readily separates larger quantities of water

#### Applications

- Suitable for multi-service applications in the lubrication of machinery used in all food processing industries, fish processing and meat packing plants
- Excellent gear, bearing, circulating system and hydraulic oils
- Compressors and vacuum pumps handling air and inert gasses
- Air line lubricators
- Systems requiring a high degree of load-carrying capability and anti-wear protection
- Machines employing a wide range of components using various metallurgy

## Specifications and Approvals

Mobil DTE FM Series meets or exceeds the requirements of:	Mobil DTE FM 32	Mobil DTE FM 46	Mobil DTE FM 68
FDA 21 CFR 178.3570	X	X	X

Mobil DTE FM Series is registered to the requirement of:	Mobil DTE FM 32	Mobil DTE FM 46	Mobil DTE FM 68
NSF H1	X	X	X
NSF Registration Number	130662	123225	123227

## Typical Properties

	Mobil DTE FM 32	Mobil DTE FM 46	Mobil DTE FM 68
ISO Grade	32	46	68
Viscosity, ASTM D 445			
cSt @ 40° C	31.9	45.5	68.5
cSt @ 100° C	5.5	6.8	8.7
Viscosity Index, ASTM D 2270	106	105	101
Specific Gravity @ 15.6° C/15.6° C, ASTM D 4.52	0.862	0.868	0.873
Copper Strip Corrosion, ASTM D 130	1A	1A	1A
Rust Characteristics Proc. A, ASTM D 665	Pass	Pass	Pass
Pour Point, °C, ASTM D 97	-12	-9	-12
Flash Point, °C, ASTM D 92	212	226	228
FZG, DIN 51354, Fail Stage	11	12+	12+
4-Ball wear, ASTM D 4172, Scar Dia, 20Kg, 54° C, 1800 rpm, 1 hr, mm	0.25	0.25	0.25

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the applications referred to above and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contact office, or via the Internet. This product should not be used for purposes other than the applications referred to above. If disposing of used product, take care to protect the environment.

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Esso Petroleum Company limited  
ExxonMobil House, Ermyn Way, Leatherhead, Surrey KT22 8UX

44 (0)1372 222000  
<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](http://www.exxonmobil.com). ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil-affiliate entities.

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