

Mobil DTE série FM

Lubrifiants pour l'Industrie agro-alimentaire

Description

Les Mobil DTE FM sont des huiles de haute performance destinées à la lubrification d'un grand nombre de matériels de l'Industrie agro-alimentaire. Ces huiles sont classées USDA H1 et répondent à la dénomination 21 CFR 178.3570 attribuée par l'organisme américain "Food and Drug Administration".

Formulées à partir d'huiles de base et d'additifs non toxiques conformes à l'USDA/FDA, les Mobil DTE FM ne présentent ni goût, ni odeur. Elles possèdent des propriétés anti-usure, une excellente stabilité à l'oxydation et assurent une très bonne protection contre la rouille.

Les Mobil DTE FM se révèlent très performantes pour le graissage des engrenages, des paliers et des systèmes de circulation. Leur efficacité est prouvée dans des applications hydrauliques montrant des exigences particulières telles que servo-valves à faibles jeux, machines outils numériques etc... Leur compatibilité multi-métaux en fait un produit de choix qui sera préconisé par la majorité des constructeurs de matériels.

Les Mobil DTE FM présentent d'excellents résultats au test FZG (très bonne protection contre l'usure et le grippage) ; cela autorise leur application dans tout système (autre qu'hydraulique) contenant des engrenages et des paliers. Grâce à l'indice de viscosité élevé de leurs huiles de base, les Mobil DTE FM restent fiables dans une large gamme de températures.

Avantages

Caractéristiques	Avantages et bénéfices potentiels
Formule "Non-Toxique"	Applications dans le process et les systèmes d'emballages dans l'Industrie Agro-alimentaire
Propriétés anti-usure importantes	Réduction de l'usure Longue durée de vie de l'équipement
Excellente stabilité à l'oxydation	Augmentation de la durée de vie de l'huile et de l'équipement Allongement de la durée de vie des filtres
Haut niveau de protection contre la corrosion	Prévention contre la corrosion des systèmes hydrauliques internes Réduction des effets négatifs dus à la présence d'eau ou à l'humidité Protection des composants multi-métaux
Répondent aux exigences d'une large gamme d'équipements	Applications multi-services - Un produit peut en remplacer plusieurs Moins de lubrifiants sur site Réduction des risques d'erreurs d'applications
Excellente séparation avec l'air	Réduction du moussage et de ses effets néfastes
Très bonne séparation avec l'eau	Protection des systèmes fonctionnant en présence de légères quantités d'eau Séparation rapide avec de plus grosses quantités.



Applications

- Lubrification de nombreux matériels dans l'Industrie Agro-alimentaire (usines de poissons, emballages, etc..)
- Lubrification des engrenages, des paliers et des systèmes hydrauliques et de circulation
- Compresseurs et pompes à vide (air et gaz inertes)
- Lubrificateurs d'air
- Tout système fortement chargé et requérant une protection anti-usure
- Mobil DTE FM 220, 320, 460 et 680 sont recommandées dans les applications du froid et dans les installations extérieures compte tenu de leurs propriétés à basse température et de leur stabilité thermique.

Spécifications

Répondent aux spécifications suivantes:	Mobil DTE FM 32	Mobil DTE FM 46	Mobil DTE FM 68	Mobil DTE FM 100	Mobil DTE FM 150	Mobil DTE FM 220	Mobil DTE FM 320	Mobil DTE FM 460	Mobil DTE FM 680
FDA 21 CFR 178.3570	X	X	X	X	X	X	X	X	X
USDA H1	X	X	X	X	X	X	X	X	X

Caractéristiques typiques

	Mobil DTE FM 32	Mobil DTE FM 46	Mobil DTE FM 68	Mobil DTE FM 100	Mobil DTE FM 150	Mobil DTE FM 220	Mobil DTE FM 320	Mobil DTE FM 460	Mobil DTE FM 680
Grade ISO	32	46	68	100	150	220			
Viscosité, ASTM D 445									
cSt à 40°C	31.9	45.5	68.5	96.7	155.5	214.3	325.8	439.5	670.0
cSt à 100°C	5.5	6.8	8.7	10.9	17.0	24.5	34.2	43.4	61.2
Indice de viscosité, ASTM D 2270	106	105	101	97	118	143	148	152	159
Densité à 15.6 C/15.6 C, ASTM D 4.52	0.862	0.868	0.873	0.878	0.869	0.854	0.852	0.852	0.853
Corrosion lame de cuivre, ASTM D 130	1A	1A	1A	1A	1A	1A	1A	1A	1A
Propriétés anti-rouille Proc. A, ASTM D 665	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Point d'écoulement, °C, ASTM D 97	-12	-9	-12	-18	-12	-21	-30	-36	-39
Point d'éclair, °C, ASTM D 92	212	226	228	246	250	246	272	284	278
FZG, DIN 51354, Etage de rupture	11	12+	12+	12+	12+	12+	12+	12+	12+
Usure 4-Billes, ASTM D 4172, Diamètre de l'empreinte, 20Kg, 54°C, 1800 rpm, 1 hr, mm	0.25	0.25	0.25	0.25	0.26	0.25	0.25	0.30	0.30

Santé et Sécurité

D'après les informations toxicologiques disponibles, ce produit ne doit pas provoquer d'effets adverses sur la santé lorsqu'il est utilisé dans l'application prévue et conformément aux recommandations fournies dans la Fiche de Données de Sécurité (FDS). Les fiches de données de sécurité sont disponibles sur simple demande auprès des Services à la Clientèle. Ce produit ne doit pas être utilisé pour des applications autres que celles pour lesquelles il est destiné. En cas d'élimination de l'huile usée, veuillez respecter les réglementations en vigueur et protéger l'environnement.

Le logo Mobil et le Pégase sont des marques déposées de Exxon Mobil Corporation et de ses filiales

Lubrifiants et produits spéciaux ExxonMobil

Il est possible que certains produits ne soient pas disponibles localement. Pour plus d'information, prenez contact avec votre point de vente régional ou visitez www.exxonmobil.com.

La société ExxonMobil est composée de nombreuses sociétés affiliées et filiales dont le nom peut incorporer l'appellation Esso, Mobil ou ExxonMobil. Ce document ne contient aucune clause destinée à annuler ou à remplacer l'individualité corporative des sociétés locales. Les entités affiliées à ExxonMobil demeurent responsables et doivent répondre de toute action locale. En raison de la recherche et du développement continus des produits, l'information contenue dans la présente est sujette à modification sans préavis. Les caractéristiques typiques peuvent varier légèrement.

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600411-60 MOBIL DTE FM 220
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL DTE FM 220
06/12/2001

SUPPLIER: Esso Petroleum Company Limited
ExxonMobil House
Ermyrn Way
Leatherhead, Surrey
KT22 8UX

Environmental/Health Emergency telephone: 01372 222 000 (UK)
44 1372 222 000 (Ireland)

INTENDED USE: Food machinery oil

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: PET./SYNTH. HYDROCARBONS AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

None.

3. HAZARDS IDENTIFICATION

Under normal conditions of use, this product is not considered hazardous according to EU regulatory guidelines (see Section 15).

POTENTIAL HEALTH EFFECTS: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation.

For further health effects/toxicological data, see Section 11.

NOTE: This product should not be used for any other purpose without expert advice.

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a doctor.

SKIN CONTACT: Wash contact areas with soap and water. Remove and clean oil soaked clothing daily and wash affected area.

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION: Not expected to be a problem. However, if respiratory irritation, dizziness, nausea, or unconsciousness occurs due to excessive vapor or mist exposure, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or mouth-to-mouth resuscitation.

INGESTION: Not expected to be a problem. Seek medical attention if discomfort occurs. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposures. Prevent runoff from fire control or dilution from entering waterways or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, firefighters MUST use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Note: Pressurized mists may form a flammable mixture.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): > 227(441) (IP 36 / ASTM D-92).

Flammable Limits (approx.% vol.in air) - LEL 0.9%, UEL: 7.0%

NFPA HAZARD ID: Health: 0 , Flammability: 1 , Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. In case of accident or road spill, contact the Police and Fire Brigade and, if appropriate, the Area Water Authority.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping or contain spilled material with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

WATER SPILL: Confine the spill immediately with booms. Warn other ships in the vicinity. Notify port and other relevant authorities. Remove from the surface by skimming or with suitable absorbents. If permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

SPECIFIC USES: Food machinery oil

HANDLING: High pressure injection under the skin may occur due to the rupture of pressurized lines. Always seek medical attention. No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Keep containers closed when not in use. Do not store in open or unlabelled containers. Store away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

SPECIAL PRECAUTIONS: Prevent small spills and leakages to avoid slip hazard.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

When mists/aerosols can occur, the following are recommended: 5 mg/m³ (as oil mist) - ACGIH Threshold Limit Value (TLV), 10 mg/m³ (as oil mist) - ACGIH Short Term Exposure Limit (STEL)

VENTILATION: If mists are generated, use adequate ventilation, local exhaust or enclosures to control below exposure limits.

RESPIRATORY PROTECTION: If mists are generated, and/or when ventilation is not adequate, wear approved respirator.

EYE PROTECTION: If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.

SKIN PROTECTION: Not normally required. When splashing or liquid contact can occur frequently, wear oil resistant gloves and/or other protective clothing. Good personal hygiene practices should always be followed.

ENVIRONMENTAL CONTROLS: SEE SECTION 7

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

GENERAL:

PHYSICAL STATE: Liquid

COLOUR: Straw

ODOUR: Mild

ODOUR THRESHOLD-ppm: NE

IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION:

pH: NA

BOILING POINT C(F): > 316(600)

FLASH POINT C(F): > 227(441) (IP 36 / ASTM D-92)

FLAMMABILITY (solids): NE

AUTO FLAMMABILITY C(F): NA

EXPLOSIVE PROPERTIES: NA

OXIDIZING PROPERTIES: NA

VAPOUR PRESSURE-mmHg 20 C: < 0.1

RELATIVE DENSITY, 15/4 C: 0.885

SOLUBILITY IN WATER: Negligible

PARTITION COEFFICIENT: > 3.5

VISCOSITY AT 40 C, cSt: 212.0

VISCOSITY AT 100 C, cSt: 24.2

VAPOUR DENSITY: > 2.0

EVAPORATION RATE: NE

OTHER INFORMATION:

MELTING POINT C(F): NA

POUR POINT C(F): -24(-11)

FREEZING POINT C(F): NE

DMSO EXTRACT, IP-346 (WT.%): <3, for mineral oil only

NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat and high energy sources of ignition.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidisers.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at
ambient temperatures.
HAZARDOUS POLYMERISATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY: Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
DERMAL TOXICITY: Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
INHALATION TOXICITY: Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.
EYE IRRITATION: Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.
SKIN IRRITATION: Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.
OTHER ACUTE TOXICITY DATA: Although an acute inhalation study was not performed with this product, a variety of mineral and synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than a nonspecific inflammatory response in the lung to the aerosolized mineral oil. The presence of additives in other tested formulations (in approximately the same amounts as in the present formulation) did not alter the observed effects.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

No significant adverse effects were found in studies using repeated dermal applications of similar formulations to the skin of laboratory animals for 13 weeks at doses significantly higher than those expected during normal industrial exposure. The animals were evaluated extensively for effects of exposure (hematology, serum chemistry, urinalysis, organ weights, microscopic examination of tissues etc.).

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

No teratogenic effects would be expected from dermal exposure, based on laboratory developmental toxicity studies of major components in this formulation and/or materials of similar composition.

---CHRONIC TOXICOLOGY (SUMMARY)---

Repeated and/or prolonged exposure may cause irritation to the skin, eyes or respiratory tract. Overexposure to oil mist may result in oil droplet deposition and/or granuloma formation. For

mineral base oils: Base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as Modified Ames Test, IP-346, and/or other analytical methods. Synthetic base oils representative of those in this product have been tested in the Ames assay and other tests of mutagenicity with negative results. These base oils are not expected to be carcinogenic with chronic dermal exposures.

---SENSITIZATION (SUMMARY)---

Not expected to be sensitizing based on tests of this product, components, or similar products.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

In the absence of specific environmental data for this product, this assessment is based on information for representative products.

ECOTOXICITY: Available ecotoxicity data (LL50 >1000 mg/L) indicates that adverse effects to aquatic organisms are not expected from this product.

MOBILITY: When released into the environment, adsorption to sediment and soil will be the predominant behavior.

PERSISTENCE AND DEGRADABILITY: This product is expected to be inherently biodegradable.

BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely due to the very low water solubility of this product, therefore bioavailability to aquatic organisms is minimal.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any licensed waste disposal site. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

EUROPEAN WASTE CODE: 13 01 11 (synthetic hydraulic oils) Waste generated from the intended use of this product is assigned the above waste disposal code. However, deviation from the intended

use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user. This waste is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of the Directive applies.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

STATIC ACCUMULATOR (50 picosiemens or less): YES

15. REGULATORY INFORMATION

EU Labelling: Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labeling not required.

THIS PRODUCT MEETS THE REQUIREMENTS OF FDA REGULATION(S): 178.3570

THIS PRODUCT HAS BEEN AUTHORIZED BY USDA FOR USE UNDER THE FOLLOWING CATEGORY: This product is acceptable as a lubricant with incidental food contact (complies with earlier USDA guidelines for H-1 lubricant use).

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
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*** NO REPORTABLE INGREDIENTS ***

--- REGULATORY LISTS SEARCHED ---

1=IARC 1	6=NO ALLERGI	11=DE TERAT B	16=DE CARC B	21=CH CARC
2=IARC 2A	7=SE ALLERGY	12=DE TERAT C	17=AT TERAT A	
3=IARC 2B	8=SE CARC	13=DE TERAT D	18=AT TERAT B	
4=NTP CARC	9=DK CARC	14=DE CARC A1	19=AT TERAT C	
5=NTP SUS	10=DE TERAT A	15=DE CARC A2	20=AT TERAT D	

CARC=CARCINOGEN; SUS=SUSPECTED CARCINOGEN; TERAT=TERATOGENIC

AT = Austria	DE = Germany	NO = Norway
CH = Switzerland	DK = Denmark	SE = Sweden

16. OTHER INFORMATION

NOTE: EXXONMOBIL PRODUCTS ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

INDUSTRIAL LABEL

Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation. Always observe good hygiene measures. First Aid: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapor, remove to fresh air. If ingested, do not induce vomiting. If symptoms persist seek medical assistance. Read and understand the MSDS before using this product.

COSHH Regulations: Product reviewed and no action under COSHH considered necessary.

Any sections of this Material Safety Data Sheet which are printed in bold text highlights recent significant changes which have been made to the advice or information given.

For Internal Use Only: MHC: 1* 1* 1* 1* 1*, MPPEC: A, TRN:
600411-60, ELIS: 400050
EHS Approval Date: 06DEC2001

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