

## Product Data Sheet

### **Mobil ATF 220** Automatic Transmission Fluid (Dexron II D)

#### **Product Description and Application**

Mobil ATF 220 is a premium quality automatic transmission fluid made from solvent refined mineral oils combined with a Viscosity Index improver and anti-oxidant, anti-wear, detergent, defoamant and friction modifying additives. It is suitable for use in those applications where Dexron II D fluids are recommended.

It is formulated to function as a power transmission fluid in torque converters, a hydraulic fluid in control and servo systems, a lubricant for bearings and gears, a friction controlling medium for the bands and clutches and a heat transfer medium to carry heat generated in transmissions to the gear case or oil cooler.

Mobil ATF 220 has a low pour point and, due to its high Viscosity Index, undergoes relatively small changes in fluidity, regardless of operating on ambient temperatures. This ensures excellent performance as a hydraulic medium, giving good operation under high temperature conditions and minimises power losses under cold conditions. The oxidation resistance and detergent properties reduce the possibility of deposit formation and lacquering on component parts, which can interfere with correct operation of the transmission unit and its control system. Mobil ATF 220 has excellent foam resistance, which minimises foam formation in service. It also has excellent anti-wear properties for planetary gears and thrust washers.

Smooth transmission operation depends upon perfect synchronisation of engagement and release, as the load is transferred from one unit to another and demands the use of a very light fluid having extremely high lubricating properties. Mobil ATF 220 is formulated with a balanced additive system to ensure optimum performance.

Mobil ATF 220 is recommended for most passenger car, commercial vehicle, cross-country and bus automatic transmissions. It is also recommended for most power steering systems, agricultural and general purpose hydraulic applications, and some manual transmissions where automatic transmission fluids are specified.

#### **Benefits**

Mobil ATF 220 offers the following benefits:

- Correct frictional characteristics give smooth transmission and perfect synchronisation
- Longer retention of frictional characteristics under continual severe operating conditions
- Protection against deposit formation and evaporation losses at high operating temperatures
- Excellent low temperature operation, ensuring prompt circulation of fluid
- Good protection, against wear, resistance to rust, corrosion and foam
- Compatible with seal materials used in transmission units
- Lower maintenance costs, and improved operating profit

## Specifications

Mobil ATF 220 is approved against or meets the following specifications and builder service fill requirements:

- Allison Type C-4 ( Approval C4 21132295 )
- Caterpillar TO-2
- MAN 339 D
- Mercedes Benz sheet 236.6 / 236.7
- Voith (G607), Diwa, Diwamatic, Porsche, Renk, Volkswagen and Certoplan transmissions and torque converters
- ZF TE-ML-09 Power and Hydrostatic steering gearboxes in passenger cars
- ZF TE-ML-11 Automatic gearboxes in passenger cars
- ZF TE-ML-14 Ecomat torque converters in heavy duty vehicles

## Health and Safety

Based on available toxicological information, it has been determined that this product poses no significant health risk when used and handled properly.

Details on handling, as well as health and safety information, can be found in the Material Safety Data Bulletin which can be obtained through Mobil Oil Company Ltd., by telephoning 01372 22 2000.

Typical physical characteristics are given in the table. These are intended as a guide to industry and are not necessarily manufacturing or marketing specifications.

## Typical Characteristics

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### Mobil ATF 220

Viscosity, cSt at 40°C	38.8
Viscosity, cSt at 100°C	7.7
Viscosity Index min.	170
Brookfield Viscosity, cP at -40°C	39,400
Pour Point, °C max.	-44
Flash Point, °C min. COC	196
Colour	Red

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Due to continual product research and development, the information contained herein is subject to change without notice.

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## MATERIAL SAFETY DATA BULLETIN

ELIS: 400264

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### MOBIL ATF 220

#### 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL ATF 220

SUPPLIER: Mobil Oil Company Limited  
Acting as Agents for  
Mobil Lubricants UK Limited  
ExxonMobil House  
Ermyrn Way, Leatherhead  
Surrey, KT22 8UX

Health Emergency Telephone: 01372 22 2000 (UK)  
00 44 1372 222 000 (IRELAND)

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: SEVERE TREAT MIN. OILS & ADDITIVES

INGREDIENTS CONSIDERED HAZARDOUS TO HEALTH:

This product is not hazardous to health as defined by the EC Dangerous Substances/Preparations Directives. See Section 15 for a regulatory analysis of the ingredients.

See Section 15 for European Label Information.

#### 3. HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE: No significant effects expected.

#### 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.

INHALATION: Not expected to be a problem.

INGESTION: Not expected to be a problem. However, if greater than 1/2 litre (pint) ingested, seek medical attention.

## 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: None. Flash Point C(F): 196(385) (IP 36 / ASTM D-92). Flammable limits - LEL NA, UEL NA.

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

HAZARDOUS DECOMPOSITION PRODUCTS: Metal oxides. Carbon monoxide.

## 6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills as required to appropriate authorities such as the local Environmental Health Officer or Fire Brigade. If spills are likely to enter any drain, waterway or groundwater, contact the Area Water Authority. 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: Contain and adsorb on fire retardant treated sawdust, diatomaceous earth, etc. Shovel up and dispose of at an appropriate licensed waste disposal site in accordance with current applicable laws and regulations and product characteristics at time of disposal.

ENVIRONMENTAL PRECAUTIONS: Prevent spills from entering storm sewers or drains and contact with soil.

PERSONAL PRECAUTIONS: See Section 8

## 7. HANDLING AND STORAGE

HANDLING: No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Do not store in open or unlabelled containers. Store away from strong oxidizing agents or combustible material.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: No special requirements under ordinary conditions of use and with adequate ventilation.

RESPIRATORY PROTECTION: No special requirements under ordinary conditions of use and with adequate ventilation.

EYE PROTECTION: Normal industrial eye protection practices should be employed.

SKIN PROTECTION: No special equipment required. However, good personal hygiene practices should always be followed.

EXPOSURE LIMITS: This product does not contain any components which have recognized exposure limits. However, a product exposure limit of 5.00 mg/m<sup>3</sup> is suggested for oil mist.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

PHYSICAL STATE: Liquid  
COLOUR: Red  
ODOUR: Mild  
ODOUR THRESHOLD-ppm: NE  
pH: NA  
BOILING POINT C(F): > 316(600)  
MELTING POINT C(F): NA  
FLASH POINT C(F): 196(385) (IP 36 / ASTM D-92)  
FLAMMABILITY: NE  
AUTO FLAMMABILITY: NE  
EXPLOSIVE PROPERTIES: NA  
OXIDIZING PROPERTIES: NA  
VAPOUR PRESSURE-mmHg 20 C: < 0.1  
VAPOUR DENSITY: > 2.0  
EVAPORATION RATE: NE  
RELATIVE DENSITY, 15/4 C: 0.873  
SOLUBILITY IN WATER: Negligible  
PARTITION COEFFICIENT: > 3.5  
VISCOSITY AT 40 C, cSt: 38.7  
VISCOSITY AT 100 C, cSt: > 7.1  
POUR POINT C(F): -49(-56)  
FREEZING POINT C(F): NE  
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.  
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidisers.  
HAZARDOUS DECOMPOSITION PRODUCTS: Metal oxides. Carbon monoxide.  
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: Not applicable ---Harmful concentrations of mists and/or vapours are unlikely to be encountered through any customary or reasonably foreseeable handling, use, or misuse of this product.

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.

### ---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Severely solvent refined and severely hydrotreated mineral base oils have been tested at our Environmental and Health Sciences Laboratory at doses significantly higher than those expected during normal industrial exposure. Extensive evaluations showed no adverse effects.

### ---CHRONIC TOXICOLOGY (SUMMARY)---

The base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic 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 the Modified Ames Test and IP-346.

## 12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS: This product is expected to be inherently biodegradable. There is no evidence to suggest bioaccumulation will occur. It is not expected to be toxic to aquatic organisms.

Accidental spillage may lead to penetration in soil and groundwater. However, there is no evidence that this would cause adverse ecological effects.

## 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited by the controlling authority. 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 02 02 (non-chlorinated engine, gear and lubricating 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.

## 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.

## 15. REGULATORY INFORMATION

EU Labelling: EU labelling not required.

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

USE: Transmission fluid

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

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

NOTE: PRODUCT IS NOT FORMULATED TO CONTAIN PCBS.

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

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For Internal Use Only: MHC: 1\* 1\* NA 1\* 1\*, MPPEC: A, TRN:  
522177-60, GLIS: 400264, CMCS97: 970535

EHS Approval Date: 19NOV1999

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It is believed that all the information given in this bulletin (which supersedes all previous issues) is accurate at the time of printing. Such information is offered in good faith but without guarantee and without any representation that the product concerned is suitable for any use or application. Without limitation of the foregoing, nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending any licence under valid patents.

We pursue a policy of constant research and development aimed at product improvement and, therefore, we reserve the right to change the formulation, specification and characteristics of products without notice. User should verify current specifications with us and ascertain that products are suitable for intended uses and applications.

Where the information provided herein discloses a potential hazard or hazardous ingredient, adequate warning must be provided to employees and users and appropriate precautions taken, including the practice of good industrial hygiene.

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Environmental, Health and Safety Department, Paulsboro. NJ. USA.

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