



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>(51) International Patent Classification<sup>6</sup> :</b><br><b>C10M 119/06, 133/36, 135/02, 135/04</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>A1</b> | <b>(11) International Publication Number:</b> <b>WO 99/64543</b><br><b>(43) International Publication Date:</b> 16 December 1999 (16.12.99)                                                                            |
| <b>(21) International Application Number:</b> PCT/US99/12145<br><b>(22) International Filing Date:</b> 2 June 1999 (02.06.99)<br><br><b>(30) Priority Data:</b><br>09/095,825      11 June 1998 (11.06.98)      US<br><br><b>(71) Applicant:</b> MOBIL OIL CORPORATION [US/US]; 3225<br>Gallows Road, Fairfax, VA 22037 (US).<br><br><b>(72) Inventors:</b> CAREY, Victor, M.; 132 Lipizzan Road, Sewell,<br>NJ 08080-1622 (US). FOGARTY, John, Thomas; 329<br>Snowgoose Lane, Mullica Hill, NJ 08062 (US).<br><br><b>(74) Agents:</b> KEEN, Malcolm, D. et al.; Mobil Oil Corporation,<br>3225 Gallows Road, Fairfax, VA 22037 (US).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |           | <b>(81) Designated States:</b> AU, BR, JP, SG, ZA, European patent (AT,<br>BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,<br>MC, NL, PT, SE).<br><br><b>Published</b><br><i>With international search report.</i> |
| <b>(54) Title:</b> DIESEL ENGINE CYLINDER OILS<br><br><b>(57) Abstract</b><br><p>Diesel engine cylinder oils of improved cleanliness and load carrying ability and reduced port deposit characteristics for use in marine and stationary slow speed diesel engines are based on medium heavy Group I or Group II neutral base oils, typically from 300 to 500 SUS using a liquid, oil-miscible polyisobutylene (PIB) in combination with the neutral base stock and an additive package comprising a detergent component or components, an antioxidant, an antiwear agent, and a dispersant. The detergent component preferably comprises one or more overbased phenates, phenylates, salicylates or sulfonates in order to confer the desired alkalinity characteristics on the finished oil. The oils are produced in the viscosity range of 15 to 25 cS (100 °C), usually with a nominal viscosity of 20 or 24 cS, i.e., from 18.5 to 21.9 cS or 21.9 to 26.1 cS (100 °C). The viscosity index of the improved oils is at least 95, typically from 105 to 120. Total Base Number of the oils is in the range 40 to 100.</p> |           |                                                                                                                                                                                                                        |

\*(Referred to in PCT Gazette No. 13/2000, Section II)