



# PRODUCT SPECIFICATION

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Product Name: **INDUSTRIAL GEAR OILS 460**

| PRIMARY TESTS                          | METHOD                        | SPECIFICATION    |        |        |
|----------------------------------------|-------------------------------|------------------|--------|--------|
|                                        |                               | MIN              | TYP    | MAX    |
| Appearance                             | Visual                        | Clear and Bright |        |        |
| Colour                                 | ASTM D1500 / TS 1713 ISO 2049 | 3.5              | 4      | 6      |
| Density 15 °C, g/ml                    | ASTM D4052 / TS EN ISO 12185  | 0.900            | 0.910  | 0.920  |
| Viscosity 40 °C, mm <sup>2</sup> /s    | ASTM D445 / TS EN ISO 3104    | 414              | 460    | 506    |
| Foaming Characteristics (II. Kd) ml/ml | ASTM D892 / TS 1834 ISO 6247  | 100/10           | 100/10 | 100/10 |

| SECONDARY TESTS                      | METHOD                            | SPECIFICATION |      |      |
|--------------------------------------|-----------------------------------|---------------|------|------|
| Viscosity 100 °C, mm <sup>2</sup> /s | ASTM D445 / TS EN ISO 3104        | 28 Typ.       |      |      |
| Viscosity Index                      | ASTM D2270 / TS ISO 2909          | 90            |      |      |
| Flash Point, °C (COC)                | ASTM D92 / TS EN ISO 2592         | 250           |      |      |
| Pour Point, °C                       | ASTM D97 / TS EN ISO 3016         |               |      | - 9  |
| Copper Corrosion (100 °C, 3 saat)    | ASTM D130 / TS 2741 EN ISO 2160   |               |      | 1    |
| Determination Of Water (Prs A)       | ASTM D2711 / TS 13409             |               |      |      |
| - Free Water, ml                     |                                   | 30            |      |      |
| - Emulsion, ml                       |                                   |               |      | 4    |
| - Water In Oil, %                    |                                   |               |      | 2    |
| Rust Test (Process A & Process B)    | ASTM D665 / TS 6830 ISO 7120      |               | Pass |      |
| Oxidation Stability, h               | ASTM D943 / TS EN ISO 4263-1      | 1000          |      |      |
| Water Content %m/m                   | ASTM D6304 / TS 6147 EN ISO 12937 |               |      | <0.1 |
| Acid Number, mgKOH/g                 | ASTM D664 / TS 2432 EN 12634      |               |      | 1    |

**PERFORMANCE LEVELS:** US Steel 224, AGMA 9005-E 02, DIN 51517 PART 3

| Document Code | Revision No/Date | Page No | Prepared                    | Checked                   | Approved        |
|---------------|------------------|---------|-----------------------------|---------------------------|-----------------|
| KG-ÜS-044     | 11/24.09.2024    | 1/1     | FACTORY HSEQ & LAB. MANAGER | MANAGEMENT REPRESENTATIVE | FACTORY MANAGER |

\* As the defined values are typical values, there can be some little changes according to the production. M Oil keeps all the rights to update and change the formulations of products without making any announcements. For the updated informations and technical data about the products and product packagings, please contact with M Oil.