

# MGO 0,1%

| Characteristics                                                         | Unit               | Limit | Category          |       |       |       | Test method reference         |
|-------------------------------------------------------------------------|--------------------|-------|-------------------|-------|-------|-------|-------------------------------|
|                                                                         |                    |       | DMX               | DMA   | DMZ   | DMB   |                               |
| Kinematic viscosity at 40 °Ca                                           | mm <sup>2</sup> /s | max.  | 5,500             | 6,000 | 6,000 | 11,00 | ISO 3104                      |
|                                                                         |                    | min.  | 1,400             | 2,000 | 3,000 | 2,000 |                               |
| Density at 15 °C                                                        | kg/m <sup>3</sup>  | max.  | —                 | 890,0 | 890,0 | 900,0 | see 7.1 ISO 3675 or ISO 12185 |
| Cetane index                                                            | —                  | min.  | 45                | 40    | 40    | 35    | ISO 4264                      |
| Sulfurb                                                                 | mass %             | max.  | 1,00              | 1,50  | 1,50  | 2,00  | see 7.2 ISO 8754, ISO 14596   |
| Flash point                                                             | °C                 | min.  | 43                | 60    | 60    | 60    | see 7.3 ISO 2719              |
| Hydrogen sulfidec                                                       | mg/kg              | max.  | 2,00              | 2,00  | 2,00  | 2,00  | IP 570                        |
| Acid number                                                             | mg KOH/g           | max.  | 0,5               | 0,5   | 0,5   | 0,5   | ASTM D664                     |
| Total sediment by hot filtration                                        | mass %             | max.  | —                 | —     | —     | 0,10* | see 7.4 ISO 10307-1           |
| Oxidation stability                                                     | g/m3               | max.  | 25                | 25    | 25    | 25f   | ISO 12205                     |
| Carbon residue: micro method on the 10 % volume distillation residue    | mass %             | max.  | 0,30              | 0,30  | 0,30  | —     | ISO 10370                     |
| Carbon residue: micro method                                            | mass %             | max.  | —                 | —     | —     | 0,30  | ISO 10370                     |
| Cloud point                                                             | °C                 | max.  | -16               | —     | —     | —     | ISO 3015                      |
| Pour point (upper)d                                                     | winter quality     | max.  | -6                | -6    | -6    | 0     | ISO 3016                      |
|                                                                         | Summer quality     | max.  | 0                 | 0     | 0     | 6     | ISO 3016                      |
| Appearance                                                              | —                  | —     | Clear and bright† |       |       |       | e, f, g                       |
| Water                                                                   | volume %           | max.  | —                 | —     | —     | 0,30* | ISO 3733                      |
| Ash                                                                     | mass %             | max.  | 0,010             | 0,010 | 0,010 | 0,010 | ISO 6245                      |
| Lubricity, corrected wear scar diameter (wsd 1,4) at 60 °C <sup>h</sup> | µm                 | max.  | 520               | 520   | 520   | 520g  | ISO 12156-1                   |

- a 1 mm<sup>2</sup>/s -1 cSt.
- b Notwithstanding the limits given, the purchaser shall define the maximum sulfur content in accordance with relevant statutory limitations. See Annex C.
- c Due to reasons stated in Annex D, the implementation date for compliance with the limit shall be 1 July 2012. Until such time, the specified value is given for guidance. For distillate fuels the precision data are currently being developed.
- d Purchasers should ensure that this pour point is suitable for the equipment on board, especially if the ship operates in cold climates.
- e If the sample is not clear and bright, the total sediment by hot filtration and water tests shall be required, see 7.4 and 7.6.
- f If the sample is not clear and bright, the test cannot be undertaken and hence the oxidation stability limit shall not apply.
- g If the sample is not clear and bright, the test cannot be undertaken and hence the lubricity limit shall not apply.
- h This requirement is applicable to fuels with a sulfur content below 500 mg/kg (0,050 mass %).
- j If the sample is dyed and not transparent, then the water limit and test method as given in 7.6 shall apply.