# BV - MGO ISO 8217

*Gazole marin – 15 février 2026*

En février 2026, le laboratoire indépendant et accrédité Bureau Veritas a analysé un échantillon de MGO amélioré avec la **Technologie des Enzymes XBEE**.

L'analyse démontre que ce carburant est en conformité avec la norme MGO ISO 8217:2017.

Conclusions :

*Les essais ont été réalisés après incorporation d'une dose volumétrique de 1/4000 de l'additif XBEE, suivie d'une période de conservation de l'échantillon à température constante de deux semaines. L'échantillon additivé par la technologie XBEE est conforme aux limites fixées par les spécifications MGO de la norme ISO 8217:2017.*

| Analyses | Normes | Sans XBEE | Avec XBEE | Unités | Limites |
|---|---|---|---|---|---|
| Aspect | Visuelle | Clair et limpide | Clair et limpide | - | Clair et limpide |
| Densité à 15°C | EN ISO 12185 | 847.60 | 847.3 | kg/m³ | 890.00 max |
| Indice de cétane calculé | ISO 4264 | 53.8 | 53.8 | index | 40.00 min |
| Viscosité à 40°C | EN ISO 3104 | 3.806 | 4.301 | mm²/s | 2.00-6.00 |
| Point éclair | EN ISO 2719 | 79.0 | 80.5 | °C | 60.0 min |
| Stabilité à l'oxydation | EN ISO 12205 | 2 | <1 | g/m³ | 25 max |
| Teneur en soufre | EN ISO 8754 | 0.094 | 0.091 | % (m/m) | 1.00 max |
| Cendres | ISO 6245 | <0.001 | <0.001 | % (m/m) | 0.01 max |
| Résidu de carbone (10%) | EN ISO 10370 | <0.10 | 0.05 | % wt | 0.30 max |
| H.F.R.R. | ISO 12156-1 | 371 | 358 | µm | 520 max |
| H2S | IP 570 – Proc. A | <0.60 | <0.60 | mg/kg | 2.00 max |
| Acidité | ASTM D664 | 0.13 | 0.13 | mgKOH/g | 0.5 max |
| Point de trouble | EN 23015 | +9 | +9 | °C | - |
| Température limite de filtrabilité | EN 116 | +4 | +4 | °C | - |
| Point d'écoulement | ISO 3016 | -3 | -3 | °C | 0 max |

# Annexes

Rapports originaux

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| Our ref | **BEANT-25-11573-XXV2000680** | Asset | **Submitted Sample** |
| Location | **Not specified** | Seals | **None** |
| Product | **MGO** | Packed | **Plastic** |
| Reference id | **XBEE** | Submitted by | **Ourselves** |
| Sample received | **13-02-2026** | End of analysis | **15-02-2026** |
| Subject | **Submitted samples** | | |
| Sample from | **Sample as received** | | |

| Test | Method | Unit | Result |
|---|---|---|---|
| Viscosity at 40 °C (a) | EN ISO 3104 | $mm^2/s$ | 3.806 |
| Density at 15 °C (a) | EN ISO 12185 | $kg/m^3$ | 847.6 |
| Cetane Index ( four equation) | ISO 4264 | | 53.8 |
| Sulphur (EDF) (a) | EN ISO 8754 | %m/m | 0.094 |
| Flash Point PM - proc. A (a) | EN ISO 2719 | Deg C | 79.0 |
| Hydrogen Sulphide | IP 570 - Proc. A | mg/kg | <0.60 |
| Acid number | ASTM D664 | mg KOH/g | 0.13 |
| Oxidation Stability, 95 °C | EN ISO 12205 | $g/m^3$ | 2 |
| MCR on 10 % residue | EN ISO 10370 | % m/m | <0.10 |
| Cloud Point (a) | EN 23015 | Deg C | 9 |
| Cold Filter Plugging Point (a) | EN 116 | Deg C | 4 |
| Pour Point - Upper (a) | ISO 3016 | Deg C | -3 |
| Appearance (a) | Visual | | clear&bright |
| Ash content | ISO 6245 | % m/m | <0.001 |
| Lubricity, method HFRR | ISO 12156-1 | micron | 371 |

*Unless specified, the latest version at our disposal of the test methods has been used.*
*The results relate only to the items tested.*

AUTHORIZATION

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All tests marked by (a)
are accredited by
BELAC ref. 486-TEST
ISO/IEC 17025

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# Certificate of Analysis

| | | | |
|---|---|---|---|
| Our ref | **BEANT-25-11573-XXV2000681** | Asset | **Submitted Sample** |
| Location | **Not specified** | Seals | **None** |
| Product | **MGO with XBEE additive doping** | Packed | **Plastic** |
| Reference id | **XBEE** | Submitted by | **Ourselves** |
| Sample received | **13-02-2026** | End of analysis | **04-03-2026** |
| Subject | **Submitted samples** | | |
| Sample from | **Sample as received** | | |

| Test | Method | Unit | Result |
|---|---|---|---|
| Viscosity at 40 °C (a) | EN ISO 3104 | $mm^2/s$ | 4.301 |
| Density at 15 °C (a) | EN ISO 12185 | $kg/m^3$ | 847.3 |
| Cetane Index ( four equation) | ISO 4264 | | 53.8 |
| Sulphur (EDF) (a) | EN ISO 8754 | %m/m | 0.091 |
| Flash Point PM - proc. A (a) | EN ISO 2719 | Deg C | 80.5 |
| Hydrogen Sulphide | IP 570 - Proc. A | mg/kg | <0.60 |
| Acid number | ASTM D664 | mg KOH/g | 0.13 |
| Oxidation Stability, 95 °C | EN ISO 12205 | $g/m^3$ | <1 |
| MCR on 10 % residue | EN ISO 10370 | % m/m | 0.05 |
| Cloud Point (a) | EN 23015 | Deg C | 9 |
| Cold Filter Plugging Point (a) | EN 116 | Deg C | 4 |
| Pour Point - Upper (a) | ISO 3016 | Deg C | -3 |
| Appearance (a) | Visual | | clear&bright(*) |
| Ash content | ISO 6245 | % m/m | <0.001 |
| Lubricity, method HFRR | ISO 12156-1 | micron | 358 |

*Unless specified, the latest version at our disposal of the test methods has been used.*
*The results relate only to the items tested.*

**Remarks:**

(*) Please note: Minor liquid seperation was observed after 2 weeks of settling. All analysis have been performed after homogenization of the sample, no free liquid was observed after this.

AUTHORIZATION

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