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## **CERTIFICATE OF QUALITY No. L 53229-1**

Vessel/Operation :Sample and AnalysisJob Number :IM44596Product/Grade :Diesel - EN590Sample Number :85136

Location : Immingham

Sample Origin : Service Station Pump Fuel with the addition of SulNOxEco™

Date of Sampling : 08/01/2021
Date Received : 08/01/2021

Fuel Conditioner Date Tested : 08-18/01/2021

| Test                                  | Method                | Unit   | Specification   | Result         |
|---------------------------------------|-----------------------|--------|-----------------|----------------|
| Density @15 Deg C                     | IP365 ISO 12185       | kg/ltr | 0.8200 - 0.8450 | 0.8392         |
| Appearance @ 15 Deg C                 | * D4176               |        |                 | Clear & Bright |
| CFPP                                  | IP 309 EN116          | Deg C  | Minus 15        | Minus 20       |
| Viscosity @ 40 Deg C                  | IP71 ISO 3104         | cSt    | 2.000 - 4.500   | 2.465          |
| Derived Cetane Number                 | sc IP 498             | •      | 51.0 Min        | 51.5           |
| Cetane Index                          | * IP380 ISO 4264      |        | 46.0 Min        | 49.1           |
| %Recovered @ 250 Deg C                | IP123 ISO 3405        | %Vol   | 65 Max          | 40.9           |
| %Recovered @ 350 Deg C                | IP123 ISO 3405        | %Vol   | 85 Min          | 96.3           |
| 95% Recovered                         | IP123 ISO 3405        | Deg C  | 360 Max         | 356.4          |
| Pensky Martens Flash Point (Method A) | IP34 (A) ISO 2719 (A) | Deg C  | 55.0 Min        | 65.0           |
| Carbon Residue 10% Bottoms            | * EN10370             | %wt    | 0.30 Max        | 0.05           |
| Water Content                         | IP438 ISO12937        | mg/kg  | 200 Max         | 51             |
| Lubricity @ 60 Deg C                  | * ISO12156-1          | um     | 460 Max         | 223            |
| Poly Aromatic Hydrocarbons            | * IP391               | %wt    | 8.0 Max         | 3.0            |
| Oxidation Stability                   | * D2274 ISO 12205     | g/m³   | 25 Max          | <1             |
| Oxidation Stability                   | * EN 15751            | Hours  | 20 Min          | >40            |
| Ash Content                           | IP4 ISO 6245          | %wt    | 0.010 Max       | <0.001         |
| Sulphur Content                       | IP490                 | mg/kg  | 10.0 Max        | 6.2            |
| Copper Corrosion 3 hr @ 50 Deg C      | * IP154 ISO2160       | Class  | Class 1         | 1a             |

Latest issue of test methods used unless stated otherwise.

The above results relate only to the item tested.

Please refer to ASTM D3244-07 and to IP method 367 Appendix E for utilisation of test data for conformance with specifications

No Measurement Uncertainty (MOU) has been applied to the reported results. The MOU is available via the reference standard or via
request directly from the Laboratory.

Where sampling performed by Bureau Veritas, it is outside the scope of UKAS accreditation

\* denotes test is outside laboratories scope of UKAS accreditation

Product meets EN 590 specification based on tests performed and results obtained only with no MOU applied

Chemist

Richard Blyth
Tom Drewery
Jacob Lineker

12(6Q) 21/01/2021

M. Hollingsworth UK Laboratory Manager

Authorised Signatory for Bureau Veritas



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## **CERTIFICATE OF QUALITY No. L 53229-2**

Sample and Analysis Vessel/Operation:

Product/Grade:

Diesel - EN590

Location : Sample Origin: **Immingham** 

Service Station Pump Fuel with the addition of SulNOxEco™

**Fuel Conditioner** 

Job Number:

IM 44596

Sample Number:

85136

Date of Sampling: Date Received:

08/01/2021 08/01/2021

Date Tested:

08-18/01/2021

| Test                            | Method       | Unit  | Specification | Result    |
|---------------------------------|--------------|-------|---------------|-----------|
| Total Contamination             | EN 12662     | mg/kg | 24 Max        | 12.9      |
| Fatty Acid Methyl Ester Content | * EN14078    | %vol  | 7.0 Max       | 6.7       |
| Manganese                       | * EN16579    | mg/l  | 2.0 Max       | <1        |
| Filter Blocking Tendency        | * IP 387 - B | -     | 2.52 Max      | 1.04      |
| - Sample Temperature            | * IP 387 - B | Deg C |               | 20.0      |
| - Volume Pumped                 | * IP 387 - B | ml    |               | 300       |
| - Initial Pressure              | * IP 387 - B | kPa   |               | 16        |
| - Final Pressure                | * IP 387 - B | kPa   |               | 31        |
| Cold Filter Blocking Tendency   | * IP 618     | •     |               | 1.15      |
| - Sample Temperature            | * IP 618     | Deg C |               | Minus 1.0 |
| - Volume Pumped                 | * IP 618     | ml    |               | 300       |
| - Initial Pressure              | * IP 618     | kPa   |               | 25        |
| - Final Pressure                | * IP 618     | kPa   |               | 59        |
|                                 |              |       |               |           |

Latest issue of test methods used unless stated otherwise.

The above results relate only to the item tested.

Please refer to ASTM D3244-07 and to IP method 367 Appendix E for utilisation of test data for conformance with specifications No Measurement Uncertainty (MOU) has been applied to the reported results. The MOU is available via the reference standard or via request directly from the Laboratory.

Where sampling performed by Bureau Veritas, it is outside the scope of UKAS accreditation

denotes test is outside laboratories scope of UKAS accreditation

Product meets EN 590 specification based on tests performed and results obtained only with no MOU applied

Chemist

Richard Blyth Tom Drewery Jacob Lineker

UK Laboratory Manager

21/01/2021

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