

DIN EN 17155:2018-09 (E)

Liquid petroleum products - Determination of indicated cetane number (ICN) of middle distillate fuels - Primary reference fuels calibration method using a constant volume combustion chamber

| Contents | Page |
|--|-------------|
| European foreword..... | 4 |
| Introduction | 5 |
| 1 Scope..... | 6 |
| 2 Normative references..... | 6 |
| 3 Terms and definitions | 6 |
| 4 Principle | 8 |
| 5 Reagents and materials..... | 8 |
| 6 Apparatus..... | 10 |
| 7 Sampling..... | 11 |
| 8 Sample handling and preparation | 11 |
| 9 Apparatus installation..... | 11 |
| 10 Preparation of apparatus..... | 11 |
| 10.1 System start-up and warm-up | 11 |
| 10.2 Standard operating and test conditions | 12 |
| 11 Calibration, verification and quality control..... | 12 |
| 11.1 General..... | 12 |
| 11.2 PRF Calibration | 12 |
| 11.3 Apparatus verification | 13 |
| 11.4 Quality control (QC) | 13 |
| 12 Test procedure..... | 14 |
| 13 Calculation | 14 |
| 14 Expression of results..... | 14 |
| 15 Precision..... | 15 |
| 15.1 General..... | 15 |
| 15.2 Repeatability..... | 16 |
| 15.3 Reproducibility | 16 |
| 16 Test report..... | 16 |
| Annex A (normative) Combustion analyser with auto-sampler description..... | 17 |
| A.1 General..... | 17 |
| A.2 Apparatus description..... | 17 |
| A.2.1 Combustion chamber..... | 17 |
| A.2.2 Fuel injection system | 17 |
| A.2.3 Waste container..... | 18 |
| A.2.4 Coolant system | 19 |
| A.2.5 Combustion Charge Air and exhaust system..... | 19 |
| A.2.6 Automatic carousel..... | 20 |

| | | |
|------------|---|-----------|
| A.3 | Control and data acquisition | 20 |
| | Annex B (normative) Operation details in support of the standard test procedure..... | 21 |
| B.1 | General | 21 |
| B.2 | Test sequence after the combustion chamber is at a stable temperature..... | 21 |
| B.3 | Unit shutdown..... | 22 |
| | Annex C (informative) Preparation of calibration and verification fluids..... | 23 |
| C.1 | General | 23 |
| C.2 | Checks | 23 |
| C.3 | Blending..... | 23 |
| C.4 | Recording..... | 24 |
| | Bibliography | 25 |