

# DIN EN 18051:2025-02 (E)

## Automotive fuels - Determination of content of butoxy-benzene in middle distillates - Gas chromatographic method using a flame ionization detector (GC-FID)

---

| <b>Contents</b>   |  | <b>Page</b> |
|---|--|-------------|
| European foreword .....                                     |  | 3           |
| Introduction .....  |  | 4           |
| 1 Scope .....   |  | 5           |
| 2 Normative references .....                                |  | 5           |
| 3 Terms, definitions and abbreviations .....                |  | 5           |
| 3.1 Terms and definitions .....                             |  | 5           |
| 3.2 Abbreviations .....                                     |  | 5           |
| 4 Principle .....   |  | 6           |
| 5 Reagents and materials .....                              |  | 6           |
| 6 Apparatus .....   |  | 6           |
| 7 Sampling .....  |  | 8           |
| 8 Preparation and handling of working solutions .....       |  | 8           |
| 8.1 Preparation of stock calibration solution .....         |  | 8           |
| 8.2 Preparation of working calibration solution (WCS) ..... |  | 8           |
| 8.3 Preparation of linearity working solution (LWS) .....   |  | 9           |
| 8.4 Storage of solutions .....                              |  | 9           |
| 9 Apparatus preparation .....                               |  | 9           |
| 9.1 Gas chromatograph preparation .....                     |  | 9           |
| 9.2 System performance check .....                          |  | 9           |
| 9.2.1 Determine heart-cutting time .....                    |  | 9           |
| 9.2.2 Peak skew check .....                                 |  | 10          |
| 9.2.3 Linearity check .....                                 |  | 10          |
| 9.2.4 Determine response factor .....                       |  | 11          |
| 10 Procedure .....  |  | 11          |
| 10.1 Initial step .....                                     |  | 11          |
| 10.2 Validation analysis .....                              |  | 11          |
| 10.3 Sample analysis .....                                  |  | 12          |
| 11 Calculation .....  |  | 12          |
| 12 Expression of results .....                              |  | 12          |
| 13 Precision .....  |  | 13          |
| 13.1 General .....  |  | 13          |
| 13.2 Repeatability .....                                    |  | 13          |
| 13.3 Reproducibility .....                                  |  | 13          |
| 14 Test report .....  |  | 13          |
| Annex A (normative) Typical GC settings .....               |  | 14          |
| A.1 Recommended GC setting .....                            |  | 14          |
| A.2 Exemplary chromatograms .....                           |  | 15          |
| Bibliography .....  |  | 16          |