

DIN EN 16339:2025-06 (E)

Ambient air - Method for the determination of the concentration of nitrogen dioxide by diffusive sampling

| Contents | | Page |
|-------------------------|---|-------------|
| European foreword | | 4 |
| Introduction | | 5 |
| 1 | Scope | 6 |
| 2 | Normative references | 6 |
| 3 | Terms and definitions | 6 |
| 4 | Description of samplers | 8 |
| 4.1 | Principle | 8 |
| 4.2 | Diffusive samplers | 9 |
| 4.2.1 | Description | 9 |
| 4.2.2 | Preparation | 9 |
| 4.2.3 | Storage of samplers before and after sampling | 10 |
| 4.2.4 | Chemical interferences | 10 |
| 4.3 | Protective devices | 10 |
| 4.3.1 | General | 10 |
| 4.3.2 | Protective shelter | 10 |
| 4.3.3 | Protective filter | 11 |
| 4.4 | Instructions for use | 11 |
| 5 | Analysis | 11 |
| 5.1 | General | 11 |
| 5.2 | Colorimetric method | 12 |
| 5.2.1 | General | 12 |
| 5.2.2 | Calibration | 12 |
| 5.2.3 | Extraction | 12 |
| 5.2.4 | Analysis | 13 |
| 5.3 | Ion chromatography method | 13 |
| 5.3.1 | General | 13 |
| 5.3.2 | Calibration | 13 |
| 5.3.3 | Extraction | 13 |
| 5.3.4 | Analysis | 14 |
| 6 | Calculation of the concentration of nitrogen dioxide | 14 |
| 6.1 | Diffusive sampling rate | 14 |
| 6.2 | Mass concentration | 15 |
| 6.3 | Conversion to standard conditions of temperature and pressure | 16 |
| 7 | Quality control/quality assurance | 16 |
| 8 | Measurement strategy | 17 |
| 8.1 | Calibration of the diffusive sampling rate | 17 |
| 8.2 | Siting criteria | 18 |
| 8.3 | Use of replicates | 18 |
| 8.4 | Exposure | 18 |
| 8.5 | Co-location sites | 18 |
| 8.6 | Auxiliary information | 19 |

| | | |
|-----------|--|-----------|
| 9 | Performance requirements and measurement uncertainty | 19 |
| 10 | Report | 19 |
| | Annex A (normative) Description of tube-type samplers | 21 |
| | Annex B (informative) Description of other samplers | 27 |
| | Annex C (informative) Estimation of the diffusive sampling rate of the samplers | 32 |
| | Annex D (informative) Measurement uncertainty | 37 |
| | Annex E (informative) Reagents and equipment for analysis | 47 |
| | Annex F (informative) Validation data of the use of protective devices | 50 |
| | Bibliography | 51 |