

ISO 12828-2:2016-12 (E)

Validation methods for fire gas analyses - Part 2: Intralaboratory validation of quantification methods

| Contents | | Page |
|-----------------------|--|-------------|
| Foreword | | iv |
| Introduction | | v |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 1 |
| 4 | Symbols and abbreviated terms | 2 |
| 5 | General considerations | 2 |
| 5.1 | Actual concentration and measured concentration | 2 |
| 5.2 | Selection of analytical methods with respect to the physical fire model used | 3 |
| 5.3 | Validation of analytical techniques | 3 |
| 6 | Sampling and measurement effectiveness | 5 |
| 6.1 | General considerations | 5 |
| 6.2 | Sampling probe | 6 |
| 6.3 | Transportation of effluent from sampling probe to analysis system | 6 |
| 6.4 | Conditioning of the effluent | 7 |
| 6.5 | Measurement technique | 7 |
| 7 | Validation steps | 7 |
| 7.1 | General | 7 |
| 7.2 | Definition of the range of application and range of calibration | 8 |
| 7.3 | Validation of the independence from the matrix effects | 9 |
| 7.4 | Validation of the specificity of the chosen method | 9 |
| 7.4.1 | General | 9 |
| 7.4.2 | Simple method | 9 |
| 7.4.3 | Quantitative method | 10 |
| 7.5 | Influence of the measurement technique on results | 11 |
| 7.5.1 | Generalities | 11 |
| 7.5.2 | Simple methods | 13 |
| 7.5.3 | Quantitative method | 13 |
| 7.6 | Calibration studies | 16 |
| 7.6.1 | General | 16 |
| 7.6.2 | Analysis of calibration model using the Fisher statistic | 18 |
| 7.6.3 | The BIC (Bayesian Information Criterion) | 18 |
| 7.6.4 | Analysis of calibration model using the AICc (Corrected Akaike Information Criterion) | 19 |
| 8 | Determination of uncertainties | 19 |
| Annex A (informative) | Example of application of validation steps: Analysis of hydrogen chloride and hydrogen bromide from trapping solutions | 20 |
| Annex B (informative) | Example of an uncertainty calculation: Analysis of hydrogen chloride in trapping solutions | 30 |
| Bibliography | | 33 |