

DIN EN ISO 6974-1:2012-11 (E)

Natural gas - Determination of composition and associated uncertainty by gas chromatography - Part 1: General guidelines and calculation of composition (ISO 6974-1:2012)

Contents	Page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols	9
4.1 Symbols	9
4.2 Subscripts	10
5 Principles of analysis	10
5.1 General considerations	10
5.2 Method of operation	11
5.3 Mode of operation	12
5.4 Directly and indirectly measured components	12
5.5 Normalization	12
6 Analytical procedure	12
6.1 General considerations	12
6.2 Step 1 — Defining the working range	15
6.3 Step 2 — Defining the requirements of the analytical method	15
6.4 Step 3 — Selecting equipment and working conditions	15
6.5 Step 4 — Response characteristics (primary calibration or performance evaluation)	16
6.6 Step 5 — Relative response factors	19
6.7 Step 6 — Routine calibration/quality assurance check	20
6.8 Step 7 — Analysis of samples	21
6.9 Step 8 — Calculation of component mole fractions	22
7 Control chart	25
8 Test report	25
Annex A (informative) Comparative application ranges and characteristics of analytical methods described in ISO 6974-3 to ISO 6974-6	27
Annex B (informative) Alternative approach to bridging and normalization	29
Annex C (informative) Methane-by-difference approach	36
Annex D (normative) Relative response factors	37
Annex E (informative) Testing for outliers	39
Annex F (normative) Pressure correction during calibration and sample analysis	40
Annex G (informative) Software suitable for generalized least squares regression analysis	42
Annex H (informative) Use of control charts	44
Bibliography	45