

DIN EN 482:2015-12 (E)

Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents (includes Amendment A1:2015)

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Classification	7
4.1	General	7
4.2	Screening measurements of time weighted average concentration	7
4.3	Screening measurements of variation of concentration in time and/or space	7
4.4	Measurements for comparison with (occupational exposure) limit values and periodic measurements	7
5	Performance requirements	7
5.1	General	7
5.2	Screening measurements of time weighted average concentration	8
5.3	Screening measurements of variation of concentration in time and/or space	8
5.4	Measurements for comparison with limit values and periodic measurements	8
5.4.1	Unambiguity	8
5.4.2	Selectivity	8
5.4.3	Averaging time	8
5.4.4	Measuring range	9
5.4.5	Expanded uncertainty	9
5.4.6	Chemical agents with low limit values	9
5.5	Composite procedures	9
5.6	Transport and storage	9
5.7	Environmental conditions	10
5.8	Description of measuring procedure	10
5.9	Dimension of result	10
5.10	Additional requirements	10
6	Test method	10
7	Validation report	11
Annex A (informative) Structure of a method description		12
Annex B (informative) Calculation of uncertainty of measurement		13
B.1	General	13
B.2	Uncertainty associated with sampled air volume or mass uptake	14
B.2.1	Pumped sampling	14
B.2.1.1	Sources of uncertainty	14
B.2.1.2	Flow rate measurement	14
B.2.1.3	Pump flow stability	15
B.2.1.4	Sampling time	16
B.2.2	Diffusive sampling	16

B.2.2.1	Sources of uncertainty	16
B.2.2.2	Uptake rate	16
B.2.2.3	Sampling time	16
B.3	Uncertainty associated with sampling efficiency	16
B.3.1	Pumped sampling methods for gases and vapours	16
B.3.2	Diffusive sampling methods for gases and vapours	17
B.3.3	Aerosol sampling methods	17
B.3.3.1	General	17
B.3.3.2	Closeness of matching with the required sampling convention(s)	17
B.3.3.3	Uncertainty components for aerosol samplers - Estimates for general use	17
B.3.3.4	Efficiency of the collection substrate	18
B.3.3.4.1	Filter materials	18
B.3.3.4.2	Foams	18
B.4	Uncertainty associated with sample storage and transportation	18
B.4.1	Sample storage	18
B.4.2	Transportation	18
B.4.2.1	Gas samples and vapour samples	18
B.4.2.2	Aerosol samples	18
B.5	Uncertainty associated with method recovery for gases and vapours	18
B.6	Uncertainty associated with analytical recovery for airborne particles and mixtures of airborne particles and vapour	19
B.7	Uncertainty associated with method variability for gases and vapours	19
B.8	Uncertainty associated with analytical variability for airborne particles and mixtures of airborne particles and vapour	19
B.9	General equation for combination of uncertainty components	20
	Bibliography	21