

ISO 16000-3:2022-09 (E)

Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor and test chamber air - Active sampling method

Contents		Page
	Foreword.....	iv
	Introduction.....	v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	2
5	Limitations and interferences	2
	5.1 General.....	2
	5.2 Ozone interference.....	3
6	Safety measures	4
7	Apparatus	4
	7.1 Sampling.....	4
	7.2 Sample preparation.....	4
	7.3 Sample analysis.....	6
8	Reagents and materials	7
9	Preparation of reagents and cartridges	7
	9.1 Purification of 2,4-dinitrophenylhydrazine.....	7
	9.2 Preparation of DNPH formaldehyde derivative.....	8
	9.3 Preparation of DNPH formaldehyde standards.....	8
	9.4 Preparation of DNPH coated silica gel cartridges.....	9
	9.4.1 General.....	9
	9.4.2 DNPH coating solution.....	9
	9.4.3 Coating of silica gel cartridges.....	9
10	Procedure	10
	10.1 Sample collection.....	10
	10.2 Process blanks.....	12
	10.3 Sample analysis.....	12
	10.3.1 Sample preparation.....	12
	10.3.2 Sample desorption.....	12
	10.3.3 HPLC calibration.....	13
	10.3.4 HPLC analysis for formaldehyde.....	15
	10.3.5 HPLC analysis of other aldehydes and ketones.....	17
11	Calculations	19
12	Performance criteria and quality assurance	20
	12.1 General.....	20
	12.2 Standard operating procedures (SOPs).....	20
	12.3 HPLC system performance.....	21
	12.4 Sample loss.....	21
	12.5 Measurement plan.....	21
13	Precision and uncertainty	21
14	Test report	22
	Annex A (informative) Melting points of DNPH carbonyl derivatives	23
	Annex B (informative) Precision and uncertainty	24
	Bibliography	26