

Organic Indoor Air Pollutants

Occurrence – Measurement – Evaluation

Edited by
Tunga Salthammer



Weinheim · Chichester · New York · Toronto · Brisbane · Singapore

Contents

1. Measuring organic indoor pollutants

1.1	Application of solid sorbents for the sampling of volatile organic compounds in indoor air	3
	E. Uhde, Germany	
1.2	Sampling and analysis of aldehydes, phenols and diisocyanates	15
	M. Schulz and T. Salthammer, Germany	
1.3	Sampling and analysis of wood preservatives in test chambers	31
	O. Jann and O. Wilke, Germany	
1.4	Sampling and analysis of PCDDs/PCDFs, PAHs and PCBs	45
	M. Ball and T. Salthammer, Germany	
1.5	Application of diffusive samplers	57
	D. Crump, UK	
1.6	Real-time monitoring of organic compounds	73
	L.E. Ekberg, Sweden	
1.7	Assessment methods for bioaerosols	85
	P.S. Thorne, USA and D. Heederik, The Netherlands	
1.8	Standard test methods for the determination of VOCs and SVOCs in automobile interiors	105
	H. Bauhof and M. Wensing, Germany	
1.9	Nomenclature and occurrence of glycols and their derivatives in indoor air	117
	P. Stolz, N. Weis and J. Krooss, Germany	

2. Environmental test chambers and cells

2.1	Environmental test chambers	129
	M. Wensing, Germany	
2.2	The field and laboratory emission cell – FLEC	143
	H. Gustafsson, Sweden	

VIII *Contents*

- 2.3 Mathematical modeling of test chamber kinetics 153
S. Kephalopoulos, Italy

3. Release of organic compounds from indoor materials

- 3.1 Occurring of volatile organic compounds in indoor air 171
S.K. Brown, Australia
- 3.2 Emission from floor coverings 185
K. Saarela, Finland
- 3.3 Indoor air pollution by release of VOCs from wood-based furniture 203
T. Salthammer, Germany
- 3.4 Volatile organic ingredients of household and consumer products 219
T. Salthammer, Germany
- 3.5 Occurrence of biocides in the indoor environment 233
W. Butte, Germany
- 3.6 Secondary emission 251
L. Gunnarsen and U.D. Kjaer, Denmark
- 3.7 Release of MVOCs from microorganisms 259
J. Bjurman, Sweden
- 3.8 Indoor bioaerosols – sources and characteristics 275
P.S. Thorne, USA and D. Heederik, The Netherlands

4. Investigation concepts and quality guidelines for organic air pollutants

- 4.1 Indoor air quality guidelines 291
P. Pluschke, Germany
- 4.2 The TVOC concept 305
L. Mølhavé, Denmark