

# ISO 17734-2:2013-12 (E)

## Determination of organonitrogen compounds in air using liquid chromatography and mass spectrometry - Part 2: Amines and aminoisocyanates using dibutylamine and ethyl chloroformate derivatives

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Principle .....</b>	<b>1</b>
<b>4</b>	<b>Reagents and materials .....</b>	<b>2</b>
<b>5</b>	<b>Standard solutions .....</b>	<b>3</b>
5.1	Reference compounds .....	3
5.2	Amine and deuterium-labelled amine derivatives .....	3
5.3	Aminoisocyanate derivatives .....	4
5.4	Thermal decomposition products of polyurethane (PUR) .....	4
5.5	Stability of the amine and aminoisocyanate derivatives .....	4
<b>6</b>	<b>Apparatus .....</b>	<b>5</b>
<b>7</b>	<b>Air sampling .....</b>	<b>7</b>
7.1	Pre-sampling laboratory preparation .....	7
7.2	Pre-sampling field preparations .....	7
7.3	Collection of air samples .....	7
7.4	Blanks .....	8
7.5	Raw material .....	8
7.6	Shipment of samples .....	8
<b>8</b>	<b>Laboratory sample preparation .....</b>	<b>9</b>
8.1	Sample sequence .....	9
8.2	Work-up procedure .....	10
<b>9</b>	<b>Instrumental settings .....</b>	<b>10</b>
9.1	HPLC program (LC-MS) .....	10
9.2	HPLC program [LC-chemiluminescent nitrogen detector (LC-CLND)] .....	10
9.3	Mass spectrometer .....	10
<b>10</b>	<b>Data handling .....</b>	<b>11</b>
10.1	Identification .....	11
10.2	Calibration curves .....	11
10.3	Quantification .....	11
<b>11</b>	<b>Determination of performance characteristics .....</b>	<b>11</b>
11.1	General .....	11
11.2	Relevant uncertainty contributions and criteria .....	12
11.3	Assessment of performance characteristics (following the detailed approach in Reference [12]) .....	12

<b>Annex A (informative) Performance characteristics .....</b>	<b>20</b>
<b>Annex B (informative) Examples .....</b>	<b>22</b>
<b>Bibliography .....</b>	<b>27</b>