(PREVIEW)

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Indian Standard

WORKPLACE AIR — DETERMINATION OF ORGANONITROGEN COMPOUNDS IN AIR USING LIQUID CHROMATOGRAPHY AND MASS SPECTROMETRY

PART 2 AMINES AND AMINOISOCYANATES USING DIBUTYLAMINE AND ETHYL CHLOROFORMATE DERIVATIVES

1 Scope

This part of ISO 17734 gives general guidance for the sampling and analysis of airborne amines and aminoisocyanates in workplace air. It is strongly recommended that the determination of amines and aminoisocyanates is made together with the determination of isocyanates in air, using DBA as a reagent (ISO 17734-1).

The method can be used for simultaneous determinations of amines, 4,4'-methylenediphenyldiamine (4,4'-MDA), 2,4- and 2,6-toluenediamine (2,4-, 2,6-TDA) and 1,6-hexamethylenediamine (1,6-HDA), and compounds containing both isocyanate and amine groups, 4,4'-methylenediphenyl aminoisocyanate (4,4'-MAI), 2,4-, 4,2- and 2,6-toluene aminoisocyanate (2,4, 4,2, 2,6-TAI), 1,6-hexamethylene aminoisocyanate (1,6-HAI). The method is suitable for collecting amines and aminoisocyanates in both the gas and particle phases. The instrumental detection limit for the amines is about 50 fmol and for the aminoisocyanate, it is about 3 fmol. For a 15-l air sample, this corresponds to 0,4 ng $\cdot m^{-3}$ for TDA and 0,03 ng$\cdot m^{-3}$ for TAI.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 16200-1:2001, *Workplace air quality — Sampling and analysis of volatile organic compounds by solvent desorption/gas chromatography — Part 1: Pumped sampling method*

ISO 5725-2:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method* (including Technical Corrigendum 1:2002)