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METHOD STATEMENT BTEX / VOC TARGETS ON CARBON GC / MS

INTRODUCTION

The performance of this method is validated in accordance with internationally recognised procedures.

This procedure describes the determination of volatile organic compounds (VOC) on charcoal by solvent desorption - gas chromatography mass spectrometry (GC / MS).

PRINCIPLE

A series of calibration standards are analysed by this method and the data is used for reference and calibration.

Deuterated internal standards are added to all samples, spikes and blanks prior to analysis. In instances where a compound is not present in the calibration material, a tentative identification and result is produced based upon a comparison of the mass spectra obtained with those found in the NIST mass spectral databases. Such tentative results are subject to confirmation by the analyst.

The test sample is extracted using carbon disulphide and the extract analysed by gas chromatography mass spectrometry (GC / MS).

PERFORMANCE CHARACTERISTICS

SUBSTANCES DETERMINED

A range of volatile organic compounds, ranging in boiling points from circa -10 °C to 200 °C. Standard target suites include chlorinated solvents, 'BTEX' and other priority pollutants.

RANGE OF APPLICATION

- 50 - 2000 ug (compound dependent)

LIMIT OF DETECTION

- 1 - 10 ug / tube typical (compound dependent)

ACCREDITATION

Analytes covered by the scope of our UKAS accreditation are documented on our Schedule of Accreditation. Analytes not listed are not covered by the scope of our accreditation at this time.

A current copy of the schedule is freely available from the UKAS website:http://www.ukas.org/testing/lab_detail.asp?lab_id=2708&location_id=&vMenuOption=3



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ANALYTICAL QUALITY CONTROL

Analytical quality control is maintained by a number of measures:

- Multi-point calibration with authentic standards (with defined minimum performance characteristics).
- Analysis of control samples within each analytical batch, such as independent standards, matrix spikes or reference materials.
- Analysis of reagent / method blanks within each analytical batch.
- Ongoing quality assured by the use of control charts in conjunction with warning and action limits for the QC sample data.
- Participation in external proficiency testing and inter laboratory schemes such as HSE WASP where applicable.

REFERENCES

- MDHS 88: Volatile organic compounds in air using diffusive samplers and solvent desorption.
- MDHS 96: Volatile organic compounds in air using pumped solid sorbent tubes and solvent desorption.