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METHOD STATEMENT FOR THE DETERMINATION OF GLYCOLS BY GC-MS

INTRODUCTION

This method statement describes the procedures followed in the analysis of XAD/GFA sorbent tubes for glycols by GC/MS.

Note: This analysis is unaccredited.

PRINCIPLE

Samples are extracted with a suitable solvent after spiking with a deuterated internal standard employing ultra-sonic extraction. The resulting extract is transferred to a 2 ml vial and determined by GC-MS operating in scanning mode. Calibration is performed by internal standard technique. Deuterated internal standards will account for recovery corrections and potential volume losses from the extraction vessel.

PERFORMANCE CHARACTERISTICS

SUBSTANCES DETERMINED

- 2-Ethylhexanol
- Dipropylene glycol methyl ester (cis)
- Dipropylene glycol methyl ester (trans)
- Propylene glycol
- Hexylene glycol
- Ethylene glycol
- 1,3-Butane diol
- Butyl diglycol
- 3-Ethoxy-1,2-propane diol
- Diethylene glycol
- Glycerol

RANGE OF APPLICATION

- 10ug/tube to 100ug/tube

LIMIT OF DETECTION

- 10ug/tube

ANALYTICAL QUALITY CONTROL

Analytical quality control is maintained by a number of measures:

- Multi-point calibration with authentic standards (with defined minimum performance characteristics)



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- 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