METHOD STATEMENT

Determinand:
vinyl chloride (chloroethene)

Matrix:
Sample Type: potable and raw waters

Principle of Method:
The water sample is placed in a septum vial and allowed to equilibrate with its headspace vapour at 60°C. A sample of the vapour is injected using an automatic headspace sampler into a capillary column gas chromatograph (GC), the volatile organic compounds are separated and then identified and quantified with mass spectrometric detection (MSD) in selected ion monitoring (SIM) mode.

Interferences:
Any compound, which passes through the extraction procedure, and has similar Gas Chromatographic and mass spectrometric properties to the analyte will cause interference. No bottles of reference materials are to be opened, and no stock, intermediate or spiking solution preparation is to be carried out in the VOC Laboratory, Wakefield Room 8.

Performance of Method:
Range of Application:
LOD to 5.000 µg/l

Limit of Detection:
0.056 µg/l

Recoveries of Compounds:
90.67%

Uncertainty of measurement:
± 21.57%

References:
Vinyl Chloride in Drinking Water, World Health Organisation, WHO/SDE/WSH/03.04/119
Air Quality Guidelines, Second Edition, Chapter 5.16, Vinyl Chloride, World Health Organisation Regional Office for Europe, Copenhagen, Denmark, 2000.
Vinyl Chloride, Public Health Statement, Agency for Toxic Substances and Disease Registry (ASTSDR), Division of Toxicology and Environmental Medicine, July 2006.
Vinyl Chloride - ToxFAQs, Agency for Toxic Substances and Disease Registry (ASTSDR), Division of Toxicology and Human Health Sciences, July 2006.
NA-TM-1102 v03 VOC/BTEX/F1/VH by HS-GCMS-FID, National Test Method, ALS Environmental (Canada).