

## METHOD STATEMENT

### Determinand:

Solvents

(Dichloromethane, Butan-2-one (MEK), Ethyl acetate, 4 Methyl-2-pentanone (MIBK), Acetone, Acetonitrile, Butan-1-ol, Butan-2-ol, Propan-1-ol, Propan-2-ol (IPA), Ethanol, Isobutanol & Methanol)

### Matrix:

Raw, potable, groundwaters, effluents, wastewaters and leachates.

### Principle of Method:

The sample is placed in a septum vial and allowed to equilibrate with its headspace vapour at 80°C. A sample of the vapour is injected using an automatic headspace sampler into a capillary column gas chromatograph fitted with a flame ionisation detector.

### Sampling and Sample Preparation:

The samples are stored in the cold room at  $5 \pm 3^\circ\text{C}$  awaiting analysis, which should take place as soon as possible.

There should be minimal or no headspace present in the sample bottles.

### Interferences:

Any compound extractable into the headspace, which has a similar GC retention time and elicits a detector response, will interfere.

### Performance of Method:

| Determinand              | CAS Number | Range of Application mg/l |
|--------------------------|------------|---------------------------|
| Dichloromethane          | 75-09-2    | 0.5 – 10                  |
| Butan-2-one (MEK)        | 78-93-3    | 0.5 – 25                  |
| Ethyl Acetate            | 141-78-6   | 0.5 – 25                  |
| 4-Methylpentanone (MIBK) | 108-10-1   | 0.5 – 25                  |
| Acetone                  | 67-64-1    | 1 – 50                    |
| Acetonitrile             | 75-05-8    | 1 – 50                    |
| Butan-1-ol               | 71-36-3    | 1 – 50                    |
| Butan-2-ol               | 78-92-2    | 1 – 50                    |
| Propan-1-ol              | 71-23-8    | 1 – 50                    |
| Propan-2-ol (IPA)        | 68-63-0    | 1 – 50                    |
| Ethanol                  | 64-17-5    | 5 – 250                   |
| Isobutanol               | 78-83-1    | 1 – 50                    |
| Methanol                 | 67-56-1    | 5 – 250                   |

### References:

In-house developed method based on: - Determination of very low concentrations of hydrocarbons and halogenated hydrocarbons in water 1984-5. Methods for the Examination of Waters and Associated Materials, HMSO ISBN 0 11 752004 7.

