# METHOD STATEMENT

**Determinand:**
Epichlorohydrin (not UKAS accredited)

**Matrix:**
Potable water

**Principle of Method:**
Epichlorohydrin is extracted from aqueous solution by liquid/liquid extraction using dichloromethane on Gerstel MPS Sampler. The compound is quantified by gas chromatography with mass spectrometry detection (GCMS). The mass spectrometer is operated in electron impact mode with specific ion monitoring.

**Sampling and Sample Preparation:**
Analysis is performed on the samples as received. Samples should be received in McCartney Vials. They must be taken without any significant headspace (when vial is inverted, air bubble no more than 6mm diameter).
Samples should be stored at 3 ± 2°C and extracted within stability.
Samples are stable for 7 days (ISSN 1938-6478) from sampling.

**Interferences:**
Any co-extracted substance with a corresponding GC retention time, and with the same ions as those being monitored, may interfere.

**Performance of Method:**
Range of Application: 0.1 – 10 µg/l
Normal Reporting Level: 0.1 µg/l

LOD, Precision and Bias

| | | Low Standard | | High Standard | |
|---|---|---|---|---|---|
| Compound | LOD (µg/L) | Bias | RSD | Bias | RSD |
| Epichlorohydrin | 0.00988 | -0.11% | 9.66% | 2.56% | 4.80% |

Spike Recoveries from Matrix Waters

| | De-chlorinated tap water | |
|---|---|---|
| Compound | Recovery | RSD |
| Epichlorohydrin | 103.56% | 4.71% |

**References:**

Evaluation of preservation and holding time for pesticides, SOCs and VOCs. Proceedings of the Water Environment Federation January 2007. ISSN 1938-6478.

EPA Method 5021A : Volatile Organic Compounds in Various Sample Matrices Using Equilibrium Headspace Analysis.