METHOD STATEMENT

Determinand:

Taste and odour compounds

Compounds	CAS Number
2-Isopropyl-3-Methoxypyrazine	25773-40-4
3-Chloroanisole	2845-89-8
4-Chloroanisole	623-12-1
2-Chloroanisole	766-51-8
2-Isobutyl 3-Methoxypyrazine	24683-00-9
2-Bromophenol	95-56-7
2,4,6-Trichloroanisole	87-40-1
2,6-Dibromophenol	608-33-3
2,4-Dibromophenol	615-58-7
2,3,4-Trichloroanisole	54135-80-7
2,4,6-Tribromoanisole	607-99-8
2,4,6-Tribromophenol	118-79-6

Matrix:

Sample Type: Waters abstracted for potable supply and potable waters

Principle of Method:

Approximately 200ml of sample is extracted with approximately 20ml of hexane. The solvent layer is collected into a test tube and internal standard added. Extract is then concentrated to approximately 0.3ml and is transferred to a 2.0ml auto sampler vial containing an insert. The sample extract is then derivatised using N-Methyl-N-(trimethylsilyl)trifluoroacetamide (MSTFA) to convert the phenolic compounds to their corresponding trimethylsilyl (TMS) derivatives. The sample extract vial is capped ready for analysis.

Interferences:

Any compound, which passes through the extraction procedure and that co-elutes with any of the analytes and produces a significant response to the relevant ions being monitored.

Performance of Method:

Range of Application:

The operational range for each Taste and Odour compound is from the limit of detection to 50ng/l. Samples producing results outside this range should be diluted as necessary to bring them within this range.

Limit of Detection:

Compound	Limit of Detection ng/l
2-Isopropyl-3-methoxypyrazine	1
3-Chloroanisole	1
4-Chloroanisole	1
2-Chloroanisole	1
2-Isobutyl-3-methoxypyrazine	1
2-Bromophenol	4
2,4,6-Trichloroanisole	1
2,6-Dibromophenol	1
2,3,4-Trichloroanisole	2
2,4-Dibromophenol	2
2,4,6-Tribromoanisole	2

Compound	Limit of Detection ng/l
2,4,6-Tribromophenol	2

Recoveries of Compounds

Compound	% Recovery
2-Isopropyl-3-methoxypyrazine	99.2%
3-Chloroanisole	100.1%
4-Chloroanisole	99.8%
2-Chloroanisole	99.7%
2-Isobutyl-3-methoxypyrazine	101.2%
2-Bromophenol	103.7%
2,4,6-Trichloroanisole	102.7%
2,6-Dibromophenol	100.4%
2,3,4-Trichloroanisole	98.5%
2,4-Dibromophenol	99.8%
2,4,6-Tribromoanisole	96.8%
2,4,6-Tribromophenol	102.7%

Uncertainty of measurement

Compound	Uncertainty %
2-Isopropyl-3-methoxypyrazine	± 10.7%
3-Chloroanisole	± 10.2%
4-Chloroanisole	± 10.6%
2-Chloroanisole	± 10.1%
2-Isobutyl-3-methoxypyrazine	± 12.2%
2-Bromophenol	± 15.2%
2,4,6-Trichloroanisole	± 15.2%
2,6-Dibromophenol	± 17.9%
2,3,4-Trichloroanisole	± 18.6%
2,4-Dibromophenol	± 10.5%
2,4,6-Tribromoanisole	± 17.9%
2,4,6-Tribromophenol	± 23.0%

References:

In house Method