METHOD STATEMENT

Determinand:
Mecoprop (MCPP)

Matrix:
Ground Waters, surface waters, sewage effluents and tip (landfill) leachates.

Principle of Method:
Mecoprop is extracted from aqueous solution using a mixture of iso-octane and ethyl acetate and is reacted with BSTFA:TMCS (99:1) to form trimethylsilyl (TMS) derivative. The derivative id 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:
Samples should be stored between 5 ± 3°C.
Samples are stable for 14 days (in-house data) from sampling.

Interferences:
Any substance or substances yielding a TMS derivative, with a corresponding GC retention time and with the same ions as those being monitored will interfere.

Performance of Method:
Range of Method: 0.04µg/l – 20.0µg/l without dilution.

Determinand	LOD µg/l	MRL µg/l	Low Std		High Std	
			%RSD	%Bias	%RSD	%Bias
Mecoprop	0.0344	0.04	2.30	-4.70	2.35	-6.33

Determinand	Ground Water		Surface Water		Landfill Leachate		Sewage Effluent	
	%RSD	%Rec.	%RSD	%Rec.	%RSD	%Rec.	%RSD	%Rec.
Mecoprop	2.13	94.17	2.65	93.05	3.11	93.85	2.17	93.45

Uncertainty of Measurement

The reported uncertainty is an expanded uncertainty calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.

Determinand	Uncertainty of Measurement %
Mecoprop	19.03

References:
Methods for the Examination of Waters and Associated Materials - Chlorophenoxy Acidic Herbicides, Trichlorobenzoic Acid, Chlorophenols, Triazines and Glyphosate in Water 1985 - HMSO Books ISBN 0 11 7518167.