MARS 6™
Method Note

Microwave Digestion of US EPA 3015a (Aqueous Sample)

Procedure

Transfer 45 mL of the sample into the digestion vessel. Add 5 mL of HNO3, or alternatively 4 mL of HNO_3 and 1 mL HCl. Gently swirl the mixture before closing the vessel.

Notes

The addition of Conc. HCl (0-4 mL) is appropriate for the stabilization of Ag, Ba and Sb, and high concentrations of Fe and Al in solution. The amount of HCl will vary depending on the matrix and the concentration of the analytes. The addition of HCl may, however, limit the techniques or increase the difficulties of analysis.

Recommended Equipment

MARS 6
MARS 6 iWave

Recommended Vessels

75 mL MARSXpress
EasyPrep Plus
MARSXpress Plus

Reagents

HNO_3
HCl (Optional)

Max Sample Weight

45 mL

Sample Type

Water

Control Type

Standard Control

Method Type

One Touch

Heating Program

Stage	Temp (°C)	*Ramp (mm:ss)	Hold (mm:ss)	Pressure (psi)	* Power (W)	Stirring
1	170	10:00	10:00	800	400-1800	Off

* Ramp times and power may vary depending on the type and number of vessels.

Results

This method is intended to be an acid leach, not a total digest. Hydrofluoric acid will be required to provide complete digestion of the sample matrix.

General Precaution

a) This procedure is a reference point for sample digestion using a CEM system and may need to be modified or changed to obtain the required results on your sample.
b) If using a vessel other than the recommended choice, adjust sample size and pressure limit to values appropriate for the vessel chosen.
c) The control / reference vessel must contain the largest and most reactive sample.
d) Manual venting of CEM vessels should be performed when wearing hand/eye/body protection and when the vessel contents are at or below room temperature to avoid the potential for chemical burns. Always point the vent hole away from the operator.
e) If programming as One Touch, the ramp time and power will be automatically determined based on the number and type of vessels detected.