



Step 1 of 2

**Procedure**

Add 0.5 g of the sample into the digestion vessel. Add 5 mL of HCl, 5 mL of HF, and 2 mL of deionized H<sub>2</sub>O. Gently swirl the mixture and wait approximately 15 minutes before closing the vessel.

Add HF slowly, and allow vessels to stand in the fume hood until the initial reaction subsides.

**Notes**

This procedure uses hydrofluoric acid. If it is necessary to complex the residual hydrofluoric acid or redissolve insoluble fluorides formed, an additional complexation step with boric acid should be used. This procedure can be found in the One Touch Method note entitled "Boric Acid HF Neutralization".

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**

EasyPrep  
EasyPrep Plus

**Reagents**

HCl  
HF  
DI H<sub>2</sub>O

**Max Sample Weight**

0.5 g

**Sample Type**

Organic

**Control Type**

Ramp to Temperature

**Method Type**

One Touch

**Heating Program**

Stage	Temp (°C)	*Ramp (mm:ss)	Hold (mm:ss)	Pressure (psi)	* Power (W)	Stirring
1	200	15:00	15:00	800	900-1800	Off

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



Step 2 of 2

**Procedure**

Allow vessels to cool. Open and add 5 mL of HNO<sub>3</sub>. Wait approximately 15 minutes before closing the vessel.

**Notes**

**Reagents**

HNO<sub>3</sub>

**Sample Type**

Organic

**Control Type**

Ramp to Temperature

**Method Type**

One Touch

**Heating Program**

Stage	Temp (°C)	*Ramp (mm:ss)	Hold (mm:ss)	Pressure (psi)	* Power (W)	Stirring
1	200	15:00	10:00	800	900-1800	Off

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

**Results**

Sample was clear, colorless, and particle free upon dilution to 50 mL.

**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.