

# Mars 6TM Method Note

## Microwave Digestion of Circuit Board (Cryo - Ground)

#### **Procedure**

Weigh 0.5 g of the sample into the digestion vessel. Add 3 mL of HNO<sub>3</sub> and 9 mL of HCl. Gently swirl the mixture and wait approximately 15 minutes before closing the vessel.

#### **Notes**

HCl should be added slowly and carefully to the sample. Allow any initial reaction to subside before sealing vessel.

This method is considered a leach and may not provide a total digestion.

Recommended Equipment	Recommended Vessels	Reagents
MARS 6	EasyPrep	HCI
MARS 6 iWave	EasyPrep Plus	$HNO_3$
	MARSXpress	
	MARSXpress Plus	

Max Sample Weight	Sample Type	Control Type	Method Type
0.5 g	Organic	Ramp to Temperature	One Touch

Heating Progra	am					
Stage	Temp (°C)	*Ramp (mm:ss)	Hold (mm:ss)	Pressure (psi)	* Power (W)	Stirring
1	200	15:00	15:00	800	900-1050	Off

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

### Results

Sample was clear, with particles 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.