

# Microwave Digestion of Brominated Flame Retardant

### **Procedure**

Weigh 50 mg of the sample into the digestion vessel. Insert stir bar into the vessel. Add  $4.5 \text{ mL H}_2\text{SO}_4$  and  $4.0 \text{ mL HNO}_3$  to the vessel, then add  $1.5 \text{ mL H}_2\text{O}_2$  dropwise. Gently swirl the mixture and wait approximately 15 minutes before closing the vessel.

#### **Notes**

This application can only be run in the iPrep vessel.

Stirring is required for complete dissolution of this sample type.

Recommended Equipment	Recommended Vessels	Reagents
MARS 6 iWave	iPrep	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> H <sub>2</sub> O <sub>2</sub>

Max Sample Weight	Sample Type	Control Type	Method Type
50 mg	Standard	Ramp to Temperature	Classic

Heating Program								
Stage	Temp (°C)	*Ramp (mm:ss)	Hold (mm:ss)	Pressure (psi)	* Power (W)	Stirring		
1	270	30:00	45:00	N/A	900-1800	Med		

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

## Results

Sample was clear and 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) 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.
- d) If programming as One Touch, the ramp time and power will be automatically determined based on the number and type of vessels detected.