

## SW846-3052

(Soil and Sediment Total Digestion)

Sample Category: Environmental & Regulatory

### Sample Requirements

Sample Weight: 0.5g

Reagents: 10mL Conc. HNO<sub>3</sub>, 3 mL conc. HF

Vessels: 35mL glass, quartz, and Teflon™ lined

### Microwave Heating Program

Control Style: Ramp To Temperature

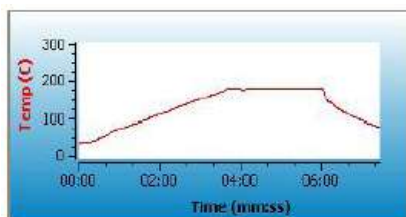
Pressure Mode: Organic

### Recommended Equipment



Discover SP-D

Stage	Temp (°C)	Ramp Time	Hold Time	Pressure (psi)	Power (W)	Stirring
1	180	5:30	9:30	400	300	Med



### Notes:

1. If using a vial other than the recommended choice, adjust sample size and pressure limit to values appropriate for the vessel chosen.
2. The addition of concentrated HCl is optional for EPA Method 3052. It 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.
3. The addition of deionized water may improve solubility of minerals and prevent temperature spikes due to exothermic reactions.
4. The time to reach 180 degrees may be increased to 10 minutes provided that 180 degrees is subsequently maintained for 9.5 minutes.

### Safety Precautions for Working with Samples Requiring HF

1. The instrument must be placed in a hood and the SP-D HF Scrubber must be installed.
2. Sample mass must be ≤ 0.3 grams for organic samples and ≤ 0.5 grams for inorganic samples.
3. The volume of HF required for total digestion may vary depending upon the sample matrix. Do not exceed 3 mL of total HF volume in the 35 mL Teflon lined vials.

4. It is recommended that Personal Protective Equipment (PPE) for handling HF include chemical splash goggles with a safety shield, lab coat with chemical splash apron, and heavy weight nitrile or rubber gloves

General Precautions:

This procedure is a reference for sample digestion using a CEM System and may need to be modified or changed to obtain the required results on your sample