# Environment, Geology
# Determination of Rock

**Summary** Rocks are digested in a Berghof stainless steel high pressure digestion system.

## Method

### Equipment

| | Type | Manufacturer |
|---|---|---|
| | DAB-3 | Berghof Products + Instruments GmbH |
| | Vessel volume 250 mL | Berghof Products + Instruments GmbH |

| Reagents | Acid | | Volume |
|---|---|---|---|
| | $HNO_3$ | (65%) | 5.0 mL |
| | HCl | (37%) | 5.0 mL |
| | HF | (40%) | 5.0 mL |

### Procedure*

Weigh 1.0 g of the sample into the digestion vessel. Add 5.0 mL of $HNO_3$, 5.0 mL of HCl, and 5.0 mL of HF. Allow the mixture to react for a period of at least 5 minutes. Close the vessel and heat with the following program.

| Temperature Program | Step | T [°C] | Time [min]** |
|---|---|---|---|
| | 1 | 220 | 120 |

**Note:** To avoid foaming and splashing wait until the vessels have cooled to room temperature. Carefully open the digestion vessel in a fume hood wearing hand, eye and body protection since a large amount of gas will be produced during the digestion process.

### Results

Clear solution

We recommend to complex the excess of HF present with crystalline or saturated $H_3BO_3$ solution to avoid any damage of the glassware used for the analysis.

**Note:** This application serves only as a guide line and may need to be optimized for your sample.

*For other high pressure digestion vessels the maximum sample mass and volume of the acid mixture required can easily be calculated from the proportion of the inner vessel volumes.

**This time includes the heating-up period