



Systems

Phoenix BLACK AIRWAVE

Equipment

100 mL Porcelain Crucibles
Analytical Balance
Desiccator
Disposable Pipette
Gloves
H₂SO₄
Tongs

Sample Preparation

None.

Procedure

1. Program a "Ramping" Sulfated Ash method with calculation mode "Ash" in the Phoenix BLACK using parameters located in "Stages" section.
2. Weigh a crucible that has been preashed for at least 10 minutes at the set temperature and record weight.
3. Weigh ~30 grams of sample and record weight.
4. Place crucible in furnace at less than 100°C and start method.
5. After step two, prior to step 3, remove sample, allow to cool and wet ash with small amount of H₂SO₄.
6. Place crucible containing wetted sample back into furnace and continue method.
7. Remove crucible and allow to cool in dessicator.
7. Once cool, reweigh crucible containing ash and record weight.
8. Calculate percent ash:
(Weight of Ashed Sample With Crucible - Weight of Crucible) / Weight of Sample x 100

Parameters

Stage	Dwell Time (minutes)	Temperature (°C)	Sample Size (g)
1	10 (10 min ramp)	100	30
2	30 (15 min ramp)	275	-
3	5 (Hold On)	300	-
4	10 (80 min ramp)	425	-
5	90 (20 min ramp)	775	-

Notes

1. This procedure is for running 4 samples, of no more than 30 grams each.
2. Never place samples into the furnace above 100°C.
3. Open the furnace door slowly. If the sample is still flaming or not well carbonized extend the Stage 2 dwell time.
4. The Stage 1 Dwell Time may be reduced or eliminated depending on the amount of water in the sample.
5. Procedures not requiring a sulfated ash can eliminate hold stage in Stage 2.
6. Pump should remain on during any stage where acid is introduced.

*The above parameters are suggested starting points and may need to be modified to meet certain product specifications.