

	Mode opératoire	Réf : MO_SAME_MineEnglish_V3_2020 date : 21/12/20 page 1/2
	Mineralization using the HotBlock	

1. Object and application domain

Mineralization samples (MineEnglish) with Hotblock for atomic analysis.

2. Diffusion list : BPMP, others

3. Health and Safety

Wear labcoat, gloves and glasses (nitric acid concentrated manipulation). All steps under the fume hood.

4. Method principle

It is an acidic hydrolysis (mix of nitric acid and H_2O_2) at high temperature (85°C) in a hotblock (maximum 96 samples).

5. Required material

Precision balance (room 236 MeMo lab), TPE tubes for the Hotblock (supplied by SAME).

6. Chemical and Biological Reagent

Nitric acid 65% (acid cabinet Memo room 237) and hydrogen peroxide (H_2O_2 at 4°C Memo's fridge room 238), supplied by SAME.

7. Method complexity

Hazardous products manipulation: nitric acid and H_2O_2 , hotblock.

8. Procedure

Vegetal material : between 5mg (seeds) and 20mg (roots, leaves) of dried material.
For an optimal mineralization, gently reduce the tissues into a powder (mortar & pestle, manually or with a grinder, avoid metal beads or tools...).

Weight TPE tubes with their caps.

Weight the dried samples in the TPE tubes.

I Préparation : *All steps under the fume hood, the day before the acidic digestion.*

Add 750µl of Nitric Acid 65%, gently homogenize.

Add 250µl of H_2O_2 30%.

Gently homogenize.

Degas OVERNIGHT at room temperature, under the fume hood.

Wait until degas is complete between 8 to 16 hours, no more visible bubbles when the tubes are gently homogenized.

The caps can be disposed on the tubes but not screwed and degas overnight.

	Rédacteur	Vérificateur	Approbateur
Nom :	Sandrine Chay	Stéphane Mari	
Fonction :	Responsable Opérationnelle	Responsable Scientifique	
Visa :			

	Mode opératoire	Réf : MO_SAME_MineEnglish_V3_2020 date : 21/12/20 page 2/2
	Mineralization using the HotBlock	

II The next day, Close the device :

Screw the cap to close the tube, not too tight ; the cap must be unscrewed a quarter of a turn.

III Starting-up :

1. Transfer tubes on the rack in the Hotblock.
2. Switch the hotblock on (button on the right side of the machine).
The temperature appears on the left side of the machine.
Be carefull : the tubes must be in the hotblock when the ramp is starting. It takes about 35 minutes to reach 85°C (SoAK) which last **24 hours**.

IV End of the Run : *The Hotblock is programmed to last 24h, if mineralization is complete after 8h (depend on sample type) switch the hotblock of.*

1. Remove **gently** the rack with tubes from the block, put them under the fume hood.
2. Once cool, screw the caps.
3. Tap the tubes to fall down the drops in the cap. If necessary, vortex or shake vigorously.
4. **If the liquids are transparent** (can be yellowish), the samples are completely digested (no particles remaining). Samples must be diluted with 4 ml MilliQ H₂O.
5. **if particles remaining : start again the RUN.**
6. Weight the tubes containing mineralized samples and caps : measure final volume (5 g ⇔ 5ml).
7. For MP-AES Analysis, transfer samples in the in the convenient tubes for the autosampler (Agilent PPP tubes supplied by SAME).

The samples can be stored in the cold chamber.

	Rédacteur	Vérificateur	Approbateur
Nom :	Sandrine Chay	Stéphane Mari	
Fonction :	Responsable Opérationnelle	Responsable Scientifique	
Visa :			