

Food, Pharma, Cosmetic Microwave Digestion of Rice

Summary

Whole rice grains are digested in an acid solution with a Berghof microwave digestion system

Method

Equipment

	Type	Manufacturer
	Speedwave Xpert DAP-60	Berghof Products + Instruments GmbH Berghof Products + Instruments GmbH

Reagents

	Acid	Volume
	HNO ₃ (65%)	10 mL
	H ₂ O ₂ (35%)	2.0 mL

Procedure

Weigh 600 mg of the sample into the digestion vessel. Add 10 mL of HNO₃ and 2.0 mL of H₂O₂. Shake the mixture carefully or stir with a clean Teflon or glass bar. Wait at least 30 min before closing the vessel. Heat in the microwave with the following program.

Temperature Program	Step	T [°C]	P [bar]	Ta [min]	Time [min]	Power [%]*
	1	160	30	10	15	70
	2	180	35	5	15	90
	3	50	25	1	10	0
	4					
	5					

Note: To avoid foaming and splashing wait until the vessels have cooled to room temperature (about 20 min). 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

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

*This application is outlined for 12 samples. Increase or decrease the power by 10% per sample, when using more or less sample. Minimum is 40% independent of the sample number.

