Application field: Organic Fertilizer

Summary

This method provides for the acid digestion of organic fertilizer by using LabTech digiblock digester.

Equipment

LabTech digiblock digester EHD36/EHD36S and digestion tube (PTFE)

Reagent

1. HNO_3: ρ=1.42g/mL，65%～68%，AR
2. HF: ρ=1.49g/mL，70%～72%，AR
3. $HClO_4$: ρ=1.68g/mL，70%～72%，AR

Procedure

1. Add 0.5g sample, 8ml HNO3, 2ml HClO4 and 2ml HF to PTFE digestion tube, soak the sample overnight.
2. Insert the digestion tube into the cavity of digiblock digester.
3. Set the temp. of digester to 100℃ and hold 30 min at 100C.
4. Set the temp. of digester to 130℃ and hold 30 min at 100C.
5. Add 5ml HNO3, 3ml HF and 3ml HClO4 to digestion tube, set the temp. of digester to 150℃ and hold 120min.
6. Add 5ml HNO3, 3ml HF and 2ml HClO4 to digestion tube, hold 120min at temperature of 150℃.
7. Set the temp. of digester at 190℃ and hold around 60 min. Evaporate acids. Continuously heating till the solution is approx. 1~2ml.
8. Constant volume by adding ultrapure water to the sample tube to 50ml for further analysis.

Notes

There might be little white granular suspension, keep it stand for a while and get the supernatant for analysis.

Pay attention that don't dry the samples during acid evaporation.

Appropriate digestion time and acid proportion are both important for good digestion result due to the component are various in different samples.

LabTech digiblock digester can precisely control the digestion temperature and provide high sample-to-sample uniformity. It’s a kind of easy and simple way to digest multiple samples.