

A 25 a - Ash Content

GEA Niro Method No. A 25 a

Revised:

1. Principle

Samples are ignited in a heating furnace at 525°C for approx. 16 hours.

2. Scope

The method is to be used for milk powders.

3. Apparatus

1. Carbolite heating furnace max. 1100°C or equivalent.
2. Analytical balance, capable of weighing to 0.1 mg.
3. Porcelain crucibles.

4. Procedure

1. Ignite a porcelain crucible.
2. Cool the crucible till room temperature and weigh.
3. Weigh out 1-5 g of sample, and transfer to the pre-ignited crucible.
4. Heat up the sample carefully with a bunsen burner until all is calcined. Avoid that the product catches fire as some of the material may burn off.
5. Put the sample into the heating furnace overnight at 525°C, or until it is carbon-free.
6. Cool in desiccator and weigh. Do not put too many crucibles in one desiccator as it will prolong the cooling time.
7. All measurements are to be made in duplicate.

5. Result

$$\% \text{ ash} = \frac{a-b}{c-b} \times 100$$

a = weight of crucible + dry sample

b = weight of crucible

c = weight of sample and crucible

Two determinations must not differ more than 5 % relative.

Specify temperature and time with each result.

6. Remarks

1. If the sample is still black after approx. 16 hours, a few drops of nitric acid can be added after cooling. After another 2-3 hours in the heating furnace, the sample should be C-free.

7. Reference

1. Official methods of analysis of the Association of Official Analytical Chemists, Washington, DC 20044, 1970.
2. Own experience.