

## Nitrogen & protein determination in wet pet food

*KjelDigester K-449, KjelMaster K-375 with KjelSampler K-376:*

*Accelerated Nitrogen and Protein Determination in wet Pet food with Kjeldahl Tablets and Hydrogen Peroxide*

### 1. Introduction

An easy and reliable method for the determination of total nitrogen and protein in wet pet food using hydrogen peroxide, according to ISO 5983-2 and AOAC 976.05, is introduced below.

### 2. Experiment

#### Sample:

Cat food with a labelled protein content of 10 g/100g  
 Dog food with a labelled protein content of 10 g/100g

#### Equipment:

KjelDigester K-449 (the parameters used are also valid for K-446)  
 Scrubber K-415 TripleScrub<sup>ECO</sup>.  
 KjelMaster K-375 with KjelSampler K-376

#### Procedure:

The Samples are digested and afterwards distilled and titrated. The combination of the accelerated digestion method, using the Kjeldahl Tablet Titanium in combination with hydrogen peroxide, and the KjelMaster system K-375 / K-376 increases the sample throughput.

Table 1. Parameters and Settings for K-375 / K-376.

Parameters	Settings
Reaction time	5 s
Distillation time	180 s
Titration type	Boric acid
Sensor type	Potentiometric



### 3. Results

Results of the determination of nitrogen and protein contents in different pet foods are shown in Table 2.

Table 2. Results of the determination of nitrogen and protein contents in different pet food (n=5).

Sample	Ø Nitrogen content	RSD [%] Nitrogen	Ø Protein content	RSD [%] Protein
Cat food	1.55	1.1	9.7	7.5
Dog food	1.20	0.8	1.1	0.6

### 4. Conclusion

The determination of nitrogen and protein in wet pet food using the KjelDigester K-449 and Kjeldahl sampler system K-375 / K-376 provides reliable and reproducible results. These results correspond well to the labelled values of the different pet food with low relative standard deviations (RSD) and a short digestion time of 60 min. For further information please download the full application note from the website.

### 5. References

Application Note No. 120/2013: Nitrogen & protein determination in wet pet food  
 ISO 5983-2 Animal feeding stuffs –Determination of nitrogen content and calculation of crude protein  
 AOAC 976.05 Protein (Crude) in Animal Feed and Pet Food  
 KjelCalc App  
 Operation Manual of KjelDigester K-446 / K-449  
 Operation Manual of Scrubber K-415  
 Operation Manual of KjelMaster system K-375 / K-376