

Ammonia determination in hair dye

KjelMaster K-375 with KjelSampler K-376:

Ammonia determination in hair dye with direct distillation

1. Introduction

An easy and reliable method for the determination of nitrogen and ammonia in hair dye is described in this application note. The distillation and boric acid (2 %) titration are performed with the KjelMaster K-375 with KjelSampler K-376.

2. Experiment

Sample:

Liquid coloration: Colorations-Shampoo, Preference 7.3 Floride Goldblonde from L'Oréal
Cream coloration: Creme colorante nutritive, No 40 cacao brown, Nutrisse Creme from Garnier

Equipment:

KjelMaster K-375 and KjelSampler K-376
Devarda splash protector in case of foaming

Procedure:

The sample is prepared and distilled. After the distillation the samples are titrated.

Table 1. Parameter and Settings for K-375.

Parameters	Setting
Reaction time	5 s
Distillation time	240 s
Titration type	Boric acid
Sensor type	Potentiometric



3. Results

The Results of the determination of nitrogen and ammonia contents in hair dye are shown in Table 2.

Table 2. Results of the determination of nitrogen and ammonia contents in hair dye (n=4).

Sample	Ø Nitrogen content [%]	RSD [%] Nitrogen	Ø Ammonia content [%]	RSD [%] Ammonia
Liquid Coloration	1.79	0.65	2.18	0.65
Cream Coloration	1.83	0.66	2.22	0.66

4. Conclusion

Two important characteristics of the latest version of the fully automatic Kjeldahl sampler system, KjelMaster K-375 and KjelSampler K-376, are the short process time as well as reduced personnel time. The time needed for sample analysis is significantly reduced and therefore the throughput increased. For further information please download the full application note from the website.

5. References

Application Note No. 117/2013: Ammonia determination in hair dye
Application Note K-370_K-371-008 V1.0 2008 Determination of ammonia in hair dye
Standard method LFGB §64 L84.11 (EG)
Standard method Commission Directive 83/514/EEC
Operation Manual of Kjeldahl sampler system K-375/K376