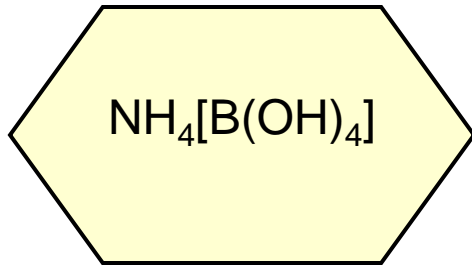


User interfaces

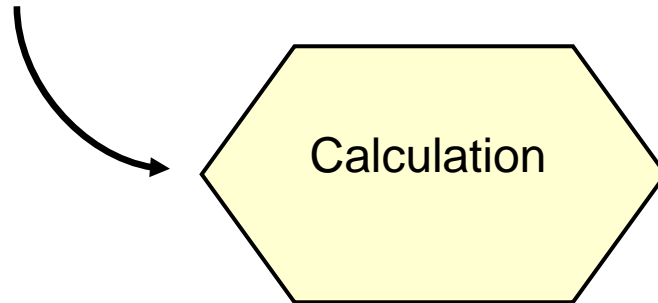


Titration

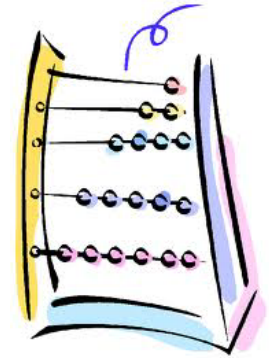


H_2SO_4 (or HCl)
titration solvent

**Determination of ammonia by titration
to $\text{pH}=4.6$
(pH -Elektrode or Sher-Indikator)**



Calculation



$$\% P = \frac{(\text{ml sample} - \text{ml blank}) \times 1.4008 \times N \times F \times 100}{\text{sample weight}}$$

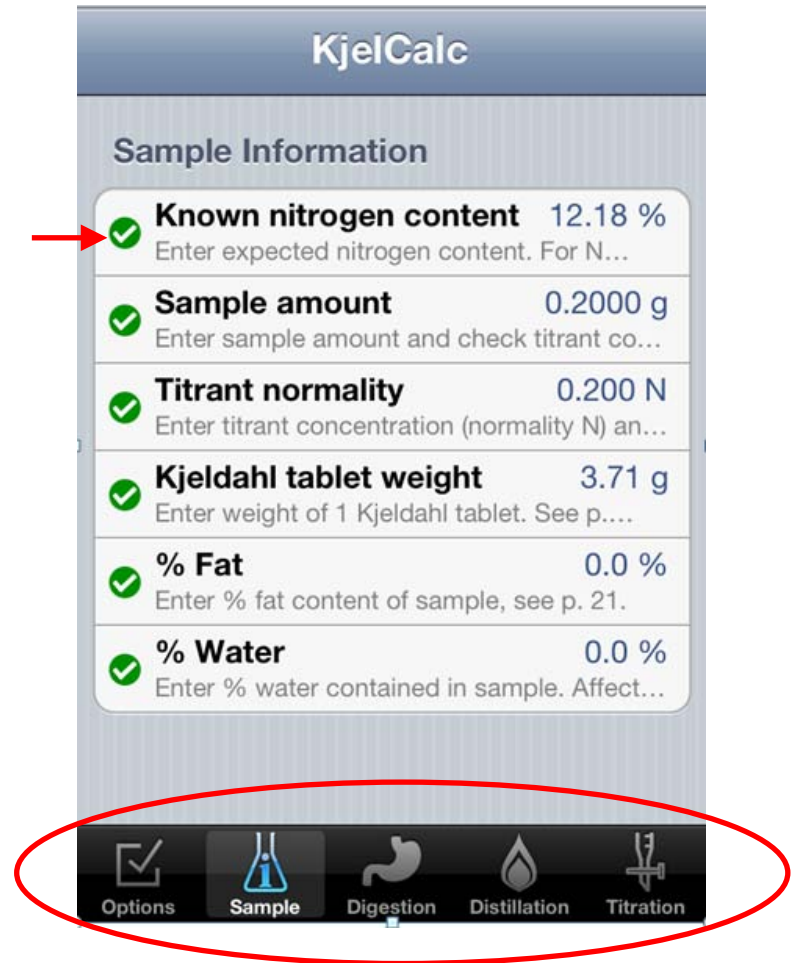
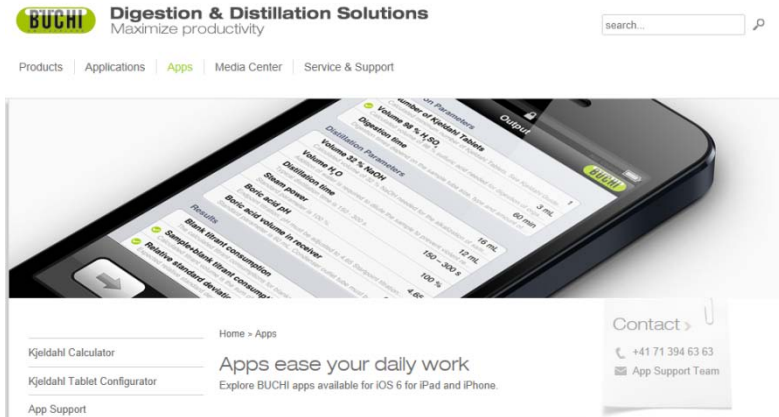
1.4008: 1 ml 0.1 N standard solution = 1.4008 mg N

N: Normality of the titrant

F: Conversion factor N \Rightarrow Protein

- for most products 6.25
- dairy products 6.38
- nuts 5.4

KjelCalc app on www.buchi.com



Optimize your Kjeldahl application:

- amount of sample
- amount of H_2SO_4
- amount of catalyst
- conc. of titrant solution
- etc.

KjelCalc PC Software

KjelCalc

File Tools Help

BUCHI

Options

Analyte [?](#) Nitrogen

Boric acid concentration [?](#) 4 % H₃BO₃

Unit nitrogen content [?](#) %

Tube size [?](#) 300 mL

Recommendation: For most applications. Benefit: Allround sample tube. [more...](#)

Sample unit [?](#) g

Distillation type [?](#) Standard Kjeldahl

Catalyst type [?](#) Tablet

Digestion

Number of Kjeldahl Tablets [?](#) 3 Ok. Total weight of catalyst Tablets is 4,77 g. Optimal calculated weight based on powder is 4,35 g.

Volume 98 % H₂SO₄ [?](#) 10 mL Ok, but reduction of H₂SO₄ to 9 mL can be achieved, if 4,5 g of powder is used.

Digestion time [?](#) 60 – 120 min The digestion time can be reduced to 30 - 60 min, when H₂O₂ is added. [more...](#)

Distillation

Volume 32 % NaOH [?](#) 45 mL General rule: Use 4.5 mL NaOH per used mL H₂SO₄ (digestion).

Volume H₂O [?](#) 40 mL General rule: For KjelSampler use 2.5 mL per used mL H₂SO₄. For manual distillation use 4 mL per used mL H₂SO₄.

Distillation time [?](#) 150 – 300 s 150 s for KjelMaster (stand alone). 180 s for KjelMaster / KjelSampler. 240 s for other distillation units (stand alone).

Steam power [?](#) 100 %

Boric acid pH [?](#) 4,65

Boric acid volume in receiver [?](#) 60 mL

Sample

Expected nitrogen content [?](#) 18,66 %

Ok.

Sample amount [?](#) 0,2 g

Organic sample is 0,125 - 2 g.

Titrant normality [?](#) 0,2 N

Ok.

Kjeldahl Tablet weight [?](#) 1,59 g

Ok.

% Fat [?](#) 0 %

Ok.

% Water [?](#) 0 %

Ok.

Results

Blank titrant consumption [?](#) 0,281 mL The calculated and the measured blank values do not necessarily match exactly.

Sample-blank titrant consumption [?](#) 13,604 mL Ok.

Relative standard deviation [?](#) 0,23 % Ok.

Amount N [?](#) 37,32 mgN/sample Ok.

Sizes of Sample Tubes

