OPSIS®
LIQUIDLINE®

Solutions for Dairy

Wet Chemistry Analyses for Producers of milk, milk products, cheese, yoghurt and butter

Total/Crude Protein

OPSIS LiquidLINE has solutions for determination of Kjeldahl (TKN) protein following standard methods.
The samples are digested with sulphuric acid to convert nitrogen into ammonium sulphate. The samples are further distilled by steam distillation followed by titration.
Examples: Protein in liquid cow's (whole, partially skimmed or skimmed milk), goat's and sheep's whole milk; hard, semi-hard and processed cheese; butter; dried milk and dried milk products.

Our Solution

- The KjelROC Digestor Advanced motor lift makes the digestion efficient and save valuable operator time.
- KjelROC Analyzer with integrated Titration offers titration with low relative standard deviation saves time and costs.

Standards

ISO 8968-1, -2, -3, -4 and -5
IDF 20-2, -3, -5
AOAC 991.20, -22, -23, -24
AOAC 930.29,
AOAC 920.109, AOAC 920.123

Application Notes

LA1000 Application Guide Kjeldahl
LA1009 Determ. of total nitrogen in milk
Further Notes on request

Non-Protein Nitrogen and Pure Protein

The non-protein nitrogen in milk is composed of urea and other low molecular weight nitrogen containing compounds such as creatine and creatinine. The first step is to precipitate the NPN using trichloroacetic acid. After filtration the residue is analysed in accordance with the Kjeldahl method.
Pure protein can be calculated as the difference between Total Protein minus non-protein Nitrogen.
OPSIS LiquidLINE has solutions for determination of Non-protein Nitrogen using Kjeldahl instruments.

Our Solution

- The KjelROC Digestor Advanced motor lift makes the digestion efficient.
- KjelROC Analyzer with integrated Titration offers titration with low relative standard deviation saves time and costs.

Standards

AOAC 991.21
ISO8968-4
IDF20-4

Application Notes

LA1000 Application Guide Kjeldahl
Further Notes on request

Casein

Caseins are accounting for nearly 80 % of proteins in cow's milk. The sample is prepared using an acetic acid solution. The filtrate is then analysed in accordance with the Kjeldahl method.
OPSIS LiquidLINE has solutions for determination of Casein using Kjeldahl Instruments.

Our Solution

- The KjelROC Digestor Advanced motor lift makes the digestion efficient.
- KjelROC Analyzer with integrated Titration offers titration with low relative standard deviation saves time and costs.

Standards

ISO 17997
IDF 29-1
AOAC 927.03
AOAC 998.05-07

Application Notes

LA1000 Application Guide Kjeldahl
Further Notes on request

Fat

Determinations of fat in milk are mostly done with manual methods such as Röse-Gottlieb and Mojonnier. However, fat determination of cheese and other dairy products can be done using hot solvent extractions.
OPSIS LiquidLINE provides instruments to help when determing total Fat using hot solvent extractions.
The sample is hydrolysed and thereafter extracted in hot solvents. Calculation of total fat content follows after the extract has been dried to a constant weight.
Examples: Fat in cheese, butter, yoghurt, margarine and milk powder

Our Solution

- The SoxROC extraction unit with batch handling and full automation facilitates the extraction.
- The instrument provides significant time savings versus cold extraction and a recovery of over 90% of used solvents

Standards

AOAC 905.02, AOAC 933.05
AOAC 938.06, AOAC 989.05

Application Notes

LA1002, Appl. Guide Solvent Extraction
Further Notes on request

OPSIS LiquidLINE - Innovative Wet Chemistry

OPSIS AB. founded in 1985 in Sweden, took the concept of measuring gases with light and developed it into a commercially viable product. In 2013. we took another step and moved our innovative technology into Wet Chemistry and Liquids. We can offer:

– An Application Laboratory Ready to Assist

– Customised Training and Support from Sweden

– The Latest in Maintenance

– A Complete Portfolio

OPSIS AB, Box 244
SE-244 02 Furulund Sweden
Telephone +46 46 72 25 00
Telefax +46 46 72 25 01
E-mail info@opsis.se
www.liquidline.se

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