



Starch Decomposition with Subsequent Polarimetric Content Determination

This method is suitable for the determination of starch and high molecular weight starch degradation products in food or feedstuffs in compliance with the EC Commission Directive 86/174/EEC and Council Directive 96/25/EC. Please note that this method requires chemical sample preparation.



The glue that feeds the world

Starch is the most important carbohydrate in human nutrition. As a polysaccharide of plant origin it functions as a glucose store in the roots or seeds of plants. Plants that are high in starch content and important in human nutrition are grains of cereals, maize or rice, as well as potatoes and cassava. Besides its indispensable function in world nourishment, starch is essential in the building as well as the paper sector due to its properties as an adhesive. Furthermore, in the pharmaceutical sector starch is applied as a vehicle for therapeutic agents.

Quality control in those products often requires determination of starch content. For accurate testing using polarimetry the starch has to be chemically broken down first into its glucose monomers. This chemical decomposition requires laboratory equipment before optical rotation can be determined by using Anton Paar's MCP polarimeter.

MCP - the all-round talent in various industries

Anton Paar's MCP 200, 300 or 500 comes with a Peltier temperature control as a standard, works with a resolution of up to $\pm 0.0001^\circ$ and has an accuracy of up to $\pm 0.002^\circ$ optical rotation (or even better when using the MCP 500). In starch, optical rotation varies slightly with respect to the species of origin. Nevertheless, due to its overall high specific rotation of more than $+180.0$ starch can be analyzed in the MCP with very precise accuracy, allowing highly sensitive concentration measurements in the milligram range.

The more precise the starch content of a representative sample is analyzed, the more precise the absolute starch content of the analyzed batch is calculated. This is essential in various sectors, as starch determines the quality properties - and therefore the value - of many products.

Good to know

The wide application range of starch allows the placement of Anton Paar's modular circular polarimeters (MCP) in various industries.

Other Anton Paar instruments relevant for the application

The compatibility of the MCPs with other instruments from the Anton Paar family will come in handy with customers, who determine various parameters from the same samples.



Do you have any questions?

Contact Anton Paar directly:

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