Food Quality Solutions for the Dairy Industry

Megazyme by NEOGEN

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Quality Control Analysis in the Dairy Industry

Importance of Quality Control Testing

Quality control testing in the dairy industry plays a key role in supporting product safety, nutritional integrity, and compliance with stringent regulatory standards. As global demand for quality control testing continues to surge, rigorous testing helps address quality concerns and fulfils the requirements established by agencies such as the FDA, EFSA, and FSSAI, especially in competitive export markets. With consumers increasingly prioritising transparency and actively seeking claims like organic, lactose-free, and fortified products, accurate testing is imperative. Technological advancements, regulatory pressures, and shifting consumer preferences are driving substantial growth in this sector, firmly reinforcing the safety, quality, and competitiveness of dairy products on a global scale.

WHY CHOOSE OUR MEGAZYME RANGE?

Accurate & Reliable Results

Experienced with over **30 years** of analytical method innovation

+

Excellent in-house technical support

+

Our Solutions

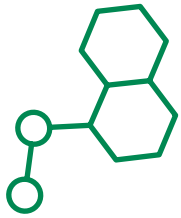
Neogen's® Megazyme® range is widely used in quality control analysis within the dairy industry across global markets. Our assay kits and reagents support manufacturers in maintaining consistent product quality and complying with relevant regulatory and labeling standards. We are committed to assisting dairy and infant formula producers by offering reliable tools for the accurate measurement of key components, including:

Lactose

Lactose in dairy samples, especially in 'low-lactose' or 'lactose-free' products.

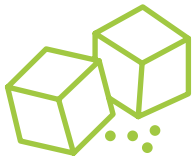
Ammonia

Ammonia and markers of protein degradation.



Sugars

Sugars and sugar alcohols including lactulose from UHT treatment.



Enzyme Activities

Residual enzyme activities leading to quality issues in finished products.

Nutritional Markers

Urea and other nutritional markers for dairy herds.

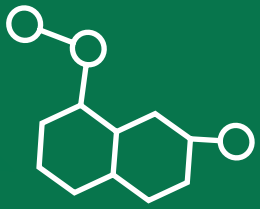
Organic Acids

Lactic acid and other organic acids from fermentation/ maturation.

Dietary Fiber

Components like fructooligo-saccharides (FOS) & polydextrose in infant formula and adult nutritional products.

High-purity enzymes and analytical standards included in each kit + **Validated methods** + **Extensive range of diagnostic products for a diverse range of analytical needs**



Solutions for Measuring Lactose

Our **Lactose/Galactose Assay Kit (K-LACGAR)** provides rapid* and accurate measurements of lactose and galactose in dairy products, foods, and beverages. This kit employs enzymatic reactions to enable accurate quantification, supporting quality control processes in the dairy industry. Designed to facilitate compliance with relevant regulatory standards and consistently deliver reliable analysis of both raw and processed dairy products. The lactose determination method using our K-LACGAR kit is validated by AOAC as method 2006.06.

Our **Lactose Assay Kit (K-LOLAC)** is specifically developed to accurately measure lactose levels in both regular products and those labeled as “low lactose” or “lactose-free.”

This economical enzymatic method delivers reliable results, supporting both lactose removal during production and routine quality control.

Validated as AOAC Method 2020.08, the K-LOLAC kit offers high precision and selectivity to support accurate labeling compliance.

K-LACGAR

- Format: **Non-Sequential**
- Number of Samples: **57**
- Suitable for Regular Dairy Samples: **Yes (15 min assay time*)**
- Reagent Stability: **2 Years****

K-LOLAC

- Format: **Sequential**
- Number of Samples: **65**
- Suitable for Regular Dairy Samples: **Yes (50 min assay time)**
- Suitable for Low-Lactose & Lactose-Free Samples: **Yes (90 min assay time*)**
- Reagent Stability: **2 Years****

Our Carrez Clarification kit **(K-CARREZ)** simplifies the preparation of liquid samples- such as dairy products for lactose testing by removing particulate matter and clarifying the sample. Carrez treatments are a well-established standard in the industry, and this kit integrates seamlessly with other Megazyme testing solutions, offering analysts a practical way to source essential analytical components from a single, trusted supplier.

** 2 years from the date of manufacture using the recommended storage conditions. Always follow the expiry date on the product.

Solutions for Measuring Other Dairy Analytes & Prebiotic Ingredients

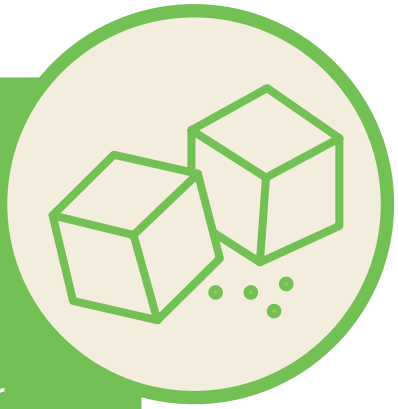
In addition to lactose, the dairy industry relies on the accurate measurement of several other key analytes. We offer a range of targeted kits and high-quality substrates designed to support precise analysis across these critical components.

Lactic Acid

Measuring lactic acid in dairy and fermented products is vital for monitoring lactic acid bacteria (LAB) fermentation and spoilage.

Our Megazyme **D/L-Lactic Acid Assay Kit (K-DLATE)** uses an enzymatic method to accurately measure both D- and L-lactic acid in various samples, making it ideal for quality control in the food, beverage, and dairy industries. For specific quantification of L-lactic acid, the **L-Lactic Acid Assay Kit (K-LATE)** is available.

Both kits support precise analysis of lactic acid in products like yoghurt and other fermented foods.



Sugars

Measuring sugars in dairy and infant formula products is crucial for compliance with nutritional and regulatory standards. It helps ensure accurate assessment of sugars like lactose, galactose, glucose, lactulose, and sucrose, which supports product formulation and labeling claims. Our Megazyme range includes a **comprehensive selection of sugar assay kits that use enzymatic methods to deliver accurate and reliable sugar quantification.**

Urea & Ammonia

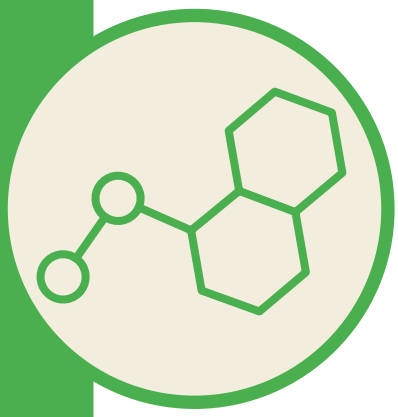
The measurement of urea and ammonia levels is an important aspect of monitoring the quality and safety parameters of milk and dairy products. These tests help identify feed-related issues and protein degradation, helping ensure compliance with applicable quality and safety standards.

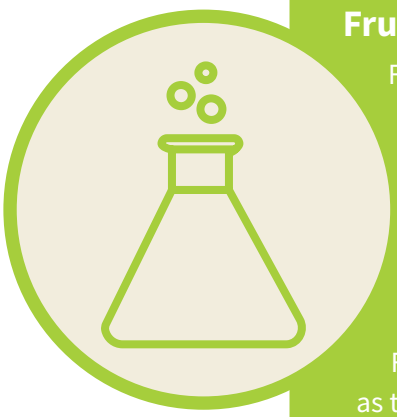
Our Megazyme **Urea/Ammonia Assay Kit (K-URAMR)** accurately measures these levels in various samples, making it crucial for quality control in the dairy industry. It helps manufacturers monitor nutritional quality, detect contamination, and assess feed quality, maintaining consistency in products.

Polydextrose

Polydextrose is a synthetic polymer used as a low-calorie bulking agent in dairy and infant formula. Testing for polydextrose helps confirm its concentration in products, supporting its intended use as a soluble fiber and contributing to accurate nutritional formulation.

Our Megazyme range offers **high-purity enzymes (E-AMGDF, E-FRMXLQ, E-EXOIAN, E-ISAMY, or E-ISAMYFO)** for analysing polydextrose using AOAC 2000.11 and the Chinese Standard GB 5009.245-2016. Our enzymes are designed to support regulatory compliance, product consistency, and accurate measurement of polydextrose levels.





Fructan and Fructooligosaccharide

Fructan and Fructooligosaccharide (FOS) are increasingly used in infant formula as prebiotic ingredients.

Our Megazyme **Fructan Assay Kit (K-FRUC)** is the only commercially available product designed specifically to measure fructan content across a wide range of sample types, including dairy, plant extracts, animal feed, and food products. It aligns with recognized standards for fructan and FOS analysis, including AOAC Methods 999.03 and 2016.14, as well as the Chinese Standard GB 5009.255-2016.

Key Products

Available for the measurement of key milk analytes

Analytes	Official Methods	Target Analytes	Reference Code	Item Number
Lactose	AOAC 2020.08	Lactose	K-LOLAC	700004314
	AOAC 2006.06	Lactose/ Galactose	K-LACGAR	700004307
Organic Acids	AOAC 970.22	Lactic Acid	K-LATE K-DLATE	700004310 700004276
	-	Citric Acid	K-CITR	700004274
Fructan & FOS	AOAC 2016.14 AOAC 999.03	Fructan	K-FRUC	700004285
	AOAC 997.08	Amyloglucosidase Fructanase	E-AMGFR E-FRMXLQ	700004186 700004215
	GB Standard 5009.255-2016	Sucrase Fructanase	E-SUCR E-FRMXLQ, E-FRMXPD	700004241 700004215 700004216
Polydextrose	AOAC 2000.11	Amyloglucosidase	E-AMGDF	700004196
	GB Standard 5009.245-2016	Fructanase Isoamylase	E-EXOIAN E-ISAMY E-ISAMYFO	700004211 700004222 700004223
Ammonia & Urea	-	Urea Ammonia	K-URAMR	700004353
		Ammonia	K-AMIARLQ	700007403
Sugars	-	Glucose	K-GLUC K-GLULQR	700004297 700007404
		Maltose	K-MASUG	700004318
		Sucrose Fructose Glucose	K-SUFRG	700004342
		Fructose Glucose	K-FRUGL	700004287
		Lactulose	K-LACTUL	700004308

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