

Dairy products

Fat content determination

During their handling and processing, milk and dairy products are subjected to stringent analytical controls to guarantee their composition and quality.

One of the determining parameters is fat content. The reference methods and other methods often used to determine fat content in milk and cheese samples are detailed below.

PanReac AppliChem has the reagents required for these methods.



Milk

	Gravimetric method (Röse-Gottlieb)	Volumetric method (Gerber)
Scope	Raw cow milk, raw sheep milk, raw goat milk, reduced fat milk, skimmed milk, processed liquid milk and chemically preserved milk.	Whole milk and partially skimmed milk
Principle	An ammoniacal ethanolic solution of a test portion is extracted with diethyl ether and petroleum ether. The solvents are removed by distillation or evaporation. The mass of the substances extracted is determined by weighing.	After dissolving the proteins by adding sulfuric acid, the fat in the product is separated by centrifuging it in a butyrometer. The separation is enhanced by the addition of isoamyl alcohol.

Gravimetric method (Röse-Gottlieb)		
Product code	Product name	Pack sizes
121129.1611	Ammonia 25% (as NH ₃) (Reag. USP, Ph. Eur.) for analysis	1000 mL
121129.1214		5 L
132770.0311	Diethyl Ether stabilized with ~6 ppm of BHT (Reag. Ph. Eur.) for analysis, ACS, ISO	1000 mL
132770.1612		2.5 L
132770.0314		5 L
131085.1211	Ethanol 96% v/v (Reag. USP, Ph. Eur.) for analysis, ACS	1000 mL
131085.1611		1000 mL
131085.1212		2.5 L
131085.1612		2.5 L
131085.1214		5 L
131315.1611	Petroleum Ether 40-60°C for analysis, ACS, ISO	1000 mL
131315.1612		2.5 L
131315.1714		5 L
131315.0314		5 L

Volumetric method (Gerber)		
Product code	Product name	Pack sizes
121079.1211	Isoamyl Alcohol according to Gerber for analysis	1000 mL
121079.1212		2.5 L
121079.0716		25 L
121010.1211	Sulfuric Acid 90-91% according to Gerber for analysis	1000 mL
121010.1611		1000 mL
121010.1212		2.5 L
121010.1612		2.5 L
121010.1214		5 L



Cheese

	Gravimetric method (Schmid-Bondzynski-Ratzlaff)	Volumetric method (Van Gulik)
Scope	All types of cheese and processed cheese.	Cheese
Principle	A portion is digested for analysis with hydrochloric acid and then ethanol is added. The ammoniacal ethanolic solution is extracted with diethyl ether and petroleum ether, and the solvents are eliminated by distillation or evaporation. The mass of the substances extracted is determined.	After dissolving the proteins by adding sulfuric acid, the fat in the product is separated by centrifuging it in a Van Gulik butyrometer. The separation is enhanced by the addition of isoamyl alcohol.

Gravimetric method (Schmid-Bondzynski-Ratzlaff)		
Product code	Product name	Pack sizes
132770.0311	Diethyl Ether stabilized with ~6 ppm of BHT (Reag. Ph. Eur.) for analysis, ACS, ISO	1000 mL
132770.1612		2.5 L
132770.0314		5 L
131085.1211	Ethanol 96% v/v (Reag. USP, Ph. Eur.) for analysis, ACS	1000 mL
131085.1611		1000 mL
131085.1212		2.5 L
131085.1612		2.5 L
131085.1214		5 L
131020.1211	Hydrochloric Acid 37% (Reag. USP) for analysis, ACS, ISO	1000 mL
131020.1611		1000 mL
131020.1212		2.5 L
131020.1612		2.5 L
131020.1214		5 L
133378.1211	Hydrochloric Acid 25% for analysis, ISO	1000 mL
133378.1611		1000 mL
133378.1214		5 L
131315.1611	Petroleum Ether 40-60°C for analysis, ACS, ISO	1000 mL
131315.1612		2.5 L
131315.0314		5 L
131315.1714		5 L

Volumetric method (Van Gulik)		
Product code	Product name	Pack sizes
125715.1611	Amyl Alcohol according to NF V 04-210 for analysis	1000 mL
173253.1611	Sulfuric Acid 62% (d=1,522) according to Van Gulik for analysis	1000 mL

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