Application note QUANTOFIX® Nitrate 250

April, 2025

Determination of nitrate in whey and whey powder

Overview	
Parameter	Nitrate
Test	QUANTOFIX® Nitrate 250 (REF 91366)
General	The determination of nitrate in dairy products is necessary for dairies in order to detect and, if necessary, remove undesirable nitrate levels. To obtain correct results with the test strip QUANTOFIX® Nitrate 250 test strip, we recommend adapted measuring methods for measurements in liquid and powder samples. With these adaptations, reliable measurement results for the nitrate content in dairy products can be obtained in good agreement with the reference method (xylenol method).

Sample preparation, performance and calculation of the result

Implementation	Liquid samples	Powder samples
	Adjust the sample to be analyzed to a dry matter content of approx. 6%.	Prepare a 6% aqueous solution with the sample to be analyzed.

Evaluation	Liquid samples	Powder samples
Visual evaluation	1. dip the test strip into the sample for 3 s. 2. shake off excess liquid. 3. wait for 60 s. 4. compare the test strip to the color scale. **Calculation**: Nitrate content [mg/L] = measured color scale value [mg/L] × 1.1	1. dip the test strip into the sample for 3 s. 2. shake off excess liquid. 3. wait for 60 s. 4. compare the test strip to the color scale.
On the QUANTOFIX® Relax (version 3)	1. select the NO_3 250 method. 2. dip the test strip into the sample for 3 s. 3. shake off excess liquid. 4. place the test strip on the test strip holder (with the reaction time of 60 s switched on). 5. read the test results once the reaction time has elapsed and recalculate. **Calculation**: Nitrate content [mg/L] = QUANTOFIX® Relax measurement result [mg/L] × 1.1	6. select the NO_3 250 method. 7. dip the test strip into the sample for 3 s. 8. shake off excess liquid. 9. place the test strip on the test strip holder (with the reaction time of 60 s switched on). 10. read the test results once the reaction time has elapsed.

Contact

If you have any further questions, please do not hesitate to contact us:

Technical support and customer service	tel.:	+49 24 21 969-333
	e-mail:	support@mn-net.com
Orders	e-mail:	sales@mn-net.com

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www.tuv.com
ID 0000056401

MACHEREY-NAGEL GmbH & Co. KG · Valencienner Str. 11 · 52355 Düren · Germany · www.mn-net.com
DE +49 24 21 969-0 info@mn-net.com
CH +41 62 388 55 00 sales-ch@mn-net.com
FR +33 388 68 22 68 sales-fr@mn-net.com
US +1 888 321 62 24 sales-us@mn-net.com

Results for doped whey samples determined using the QUANTOFIX® Relax:

Sample	Doped quantity [mg/L]	Quantity shown on the display [mg/L]	Corresponds to calculated quantity [mg/L]
1	50	45	50
2	50	51	56
3	5	5	6
4	7.5	6	7
5	8.8	10	11

Results for doped whey powder samples determined using the QUANTOFIX® Relax:

Sample	Doped quantity [mg/L]	Quantity shown on the display [mg/L]
1	0	<4
1	5.0	4
1	30	30
1	60	56
1	120	123
1	150	152
1	180	182
1	210	214
1	250	>250
2	0	<4
2	50	51
3	0	<4
3	50	47

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MACHEREY-NAGEL GmbH & Co. KG · Valencienner Str. 11 · 52355 Düren · Germany · www.mn-net.com
DE +49 24 21 969-0 info@mn-net.com
FR +33 388 68 22 68 sales-fr@mn-net.com
CH +41 62 388 55 00 sales-ch@mn-net.com
US +1 888 321 62 24 sales-us@mn-net.com