

Application note

Determination of Nitrite in Whey and Whey Powder

Overview	
Parameter	Nitrite
Test	QUANTOFIX® Nitrite 25 (REF 91367)
General Information	The determination of nitrite in dairy products is necessary for dairies in order to detect and, if necessary, remove undesirable nitrite levels. In order to obtain correct results with the QUANTOFIX® Nitrite 25 test strip, we recommend adapted measuring methods for measurements in liquid and powder samples.



Sample Preparation, Procedure, and Calculation of Results

Procedure	Liquid samples	Powder samples
	Adjust the sample to be tested to a dry matter content of approx. 6%.	Prepare a 30% aqueous solution with the sample to be analyzed.
Evaluation	Liquid samples	Powder samples
Visual Evaluation	<ol style="list-style-type: none"> Dip the test strip into the diluted sample for 1 seconds. Shake off excess liquid. Wait for 60 seconds. Compare the test strip with the color scale. <p>Calculation: Nitrite concentration [mg/L] = visually read measurement result [mg/L] × 1,1</p>	<ol style="list-style-type: none"> Dip the test strip into the diluted sample for 1 seconds. Shake off excess liquid. Wait for 60 seconds. Compare the test strip with the color scale. <p>Calculation: Nitrite concentration [mg/L] = visually read measurement result [mg/L] × 1,3</p>
On the QUANTOFIX® Relax (Version 3)	<ol style="list-style-type: none"> Select method NO₂ 25. Dip the test strip into the diluted sample for 1 seconds. Shake off excess liquid Place the test strip on the strip holder (with an activated reaction time of 60 s). Read and calculate the measurement result. <p>Calculation: Nitrite concentration [mg/L] = visually read measurement result [mg/L] × 1,1</p>	<ol style="list-style-type: none"> Select method NO₂ 25. Dip the test strip into the diluted sample for 1 seconds. Shake off excess liquid Place the test strip on the strip holder (with an activated reaction time of 60 s). Read and calculate the measurement result. <p>Calculation: Nitrite concentration [mg/L] = visually read measurement result [mg/L] × 1,3</p>

Contact

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

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Measurement results determined on the QUANTOFIX® Relax for spiked whey samples:

Sample	Spiked Amount (Sample) [mg/L]	Measured Amount (Diluted Sample) [mg/L]	Calculated Amount (Sample) [mg/L]	Recovery rate [%]
1	0,5	0,6	0,7	132
1	2	1,8	2,0	105
1	5	3,6	3,9	78
1	10	9,0	9,9	99
1	15	12,5	13,8	92
1	20	16,9	18,6	93
2	0,5	0,6	0,7	134
2	2	1,9	2,1	105
2	5	4,8	5,3	106
2	10	10,0	11,0	110
2	15	14,9	16,4	109
2	20	21,7	23,8	119

Measurement results determined on the QUANTOFIX® Relax for spiked whey powder samples:

Sample	Spiked Amount (Sample) [mg/L]	Measured Amount (Diluted Sample) [mg/L]	Calculated Amount (Sample) [mg/L]	Recovery rate [%]
1	0,5	0,6	0,7	145
1	2	1,6	2,0	102
1	5	3,6	4,6	92
1	10	6,4	8,3	83
1	15	9,4	12,3	82
1	20	13,4	17,4	87
2	0,5	0,5	0,7	139
2	2	1,8	2,4	119
2	5	3,6	4,6	93
2	10	9,0	11,7	117
2	15	12,5	16,3	108
2	20	16,9	21,9	110