Detection of nitrite in cured meat with QUANTOFIX® Nitrate/Nitrite

**Background**

Many meat products like ham and smoked pork chop are cured. Curing is a process to preserve meat and sausages by addition of common salt. The meat develops a typical curing taste and becomes red in colour. This process is important to avoid a grey colouration and a growth of microorganisms. However, by the reaction of nitrite with amino acids, carcinogenic nitrosamines might be formed. Therefore, it is important to minimize the concentration of nitrite in meat. A constant control of the concentration of nitrite in meat is necessary to avoid risks. The German directive "zweite Verordnung zur Änderung der Zusatzstoff-Zulassungsverordnung und anderer lebensmittelrechtlicher Verordnungen" (concerns approval of additives in food) defines limit values for the permitted concentration of nitrite in food. For meat products a maximum quantity of 150mg/kg is prescribed. Sterilized meat products are not allowed to exceed the maximum quantity of 100mg/kg.

**Test procedure**

**Sample preparation:**
Take 5g meat of the sample and give it into a mortar. Mince the meat and add 8ml sodium acetate solution\(^1\) (13.6g sodium acetate in 100ml distilled water). Mix for 1 minute. Afterwards filter through a soft filter and press slightly to get some filtrate. Filter paper such as our Grade 1288\(^1\) is most suitable for the filtration.

**Testing:**
Dip the test strip into the filtrate for a few seconds. Remove the test strip and wait for 30 seconds. Compare the test field with the colour scale on the tube. A red-violet coloration indicates the presence of nitrite ions.

**Product data and ordering information:** QUANTOFIX® Nitrate/Nitrite

<table>
<thead>
<tr>
<th>Part No.</th>
<th>MN91313</th>
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<tbody>
<tr>
<td>Price</td>
<td>£24.50 (ex VAT) per 100 test strips</td>
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<tr>
<td>Colour reaction</td>
<td>white to red-violet</td>
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| Limit of sensitivity | 0-10-25-50-100-250-500 mg/l NO\(_3\)\(^-\)  
0-1-5-10-20-40-80 mg/l NO\(_2\)\(^-\) |

\(^1\) not provided with the test