

## Nitrite Reducing Bacteria Test

The Nitrite Reducing Bacteria (NRB) test is designed to assess the contamination of water samples with nitrite reducing bacteria. The test contains a pale orange medium which reacts to metabolism by NRB's to produce a semi-quantitative result within 5 days. The NRB test is used to monitor the levels of NRB in water systems with specific relevance to systems which use nitrite as a corrosion inhibitor. NRB's are able to metabolise nitrite into ammonia and nitrogen gas which are aggressive corrosive agents, as well as this the corrosion inhibition of nitrite is lost.

### SAMPLING

Pipette 2ml of the sample into the tube and immediately replace cap and place upright in incubation.

### INCUBATION

Incubate at 35°C for up to 5 Days, check daily to determine the level of contamination.

### DISPOSAL

Used tests should be incinerated or autoclaved. Alternatively, open and immerse in a 10% bleach solution for 24 hours.

### CLASSIFICATION OF RESULTS

Results are to be determined by the colour change seen on day 1 through to 5. No colour change or bubble formation can be interpreted as no contamination. A partial colour change (top of the medium is red, bottom still pale orange) and moderate bubble formation suggests a moderate contamination. Where a full colour change is seen accompanied by ample bubble formation, heavy NRB formation is assumed. Strong acidic or alkaline samples can cause an instant colour change, in this event contamination can be confirmed by bubble formation alone.

After incubation at 30°C

| No Cfu/ml         | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 |
|-------------------|-------|-------|-------|-------|-------|
| 10 <sup>9</sup>   | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ |
| 10 <sup>8</sup>   | ✓✓    | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ |
| 10 <sup>7</sup>   | ✓     | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ |
| 10 <sup>6</sup>   | ✓     | ✓✓✓   | ✓✓✓✓✓ | ✓✓✓✓✓ | ✓✓✓✓✓ |
| 10 <sup>3-5</sup> | O     | ✓     | ✓✓✓   | ✓✓✓✓✓ | ✓✓✓✓✓ |
| 10-100            | O     | O     | ✓✓✓   | ✓✓✓✓✓ | ✓✓✓✓✓ |

#### Key

|   |       |
|---|-------|
| Full colour change and many gas bubbles | ✓✓✓✓✓ |
| 75% colour change and many gas bubbles  | ✓✓✓✓  |
| 50% colour change and few bubbles       | ✓✓✓   |
| 25% colour change and few bubbles       | ✓✓    |
| 0-25% colour change and few bubbles     | ✓     |
| No colour change and no bubbles         | O     |

Storage: Tests have a shelf life of 9 months  
When kept in a cool dry environment.  
Preferably between 10-15°C

Please note - It is difficult to assess the absolute number and nature of contamination and corrosion using a single test. The validity of the sample and the sample point can affect the test results obtained. We accept no liability on any action taken as a consequence of information gained through the use of these tests. All accompanying information provided is in good faith and based on the experience of the manufacturers in the water treatment industry.

