

# Nitrite Reducing Bacteria Test

The Nitrite Reducing Bacteria (NRB) Tube 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 Tube 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 2 ml of the sample into the tube and immediately replace cap and place upright in incubation. For testing corrosion pits swab them with a sterile swab, pierce the gel with the swab and place into incubation. Contamination is defined by blackening around the swab.

## 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

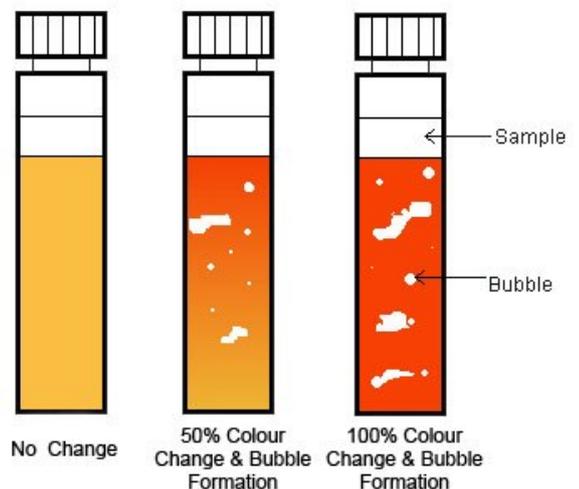
Results are to be determined by the colour change seen on day 1 through to 5. No colour change or bubble formation can be interpreted as no contamination. A partial colour change (top of the medium is red, bottom still pale orange) and moderate bubble formation suggests a moderate contamination. Where 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 determined by bubble formation alone.

## INTERPRETATION OF RESULTS

As noted the recommended incubation time for this test is up to 5 days. Indication of the level of contamination can best be obtained by daily checking of the incubated tubes. On a daily basis assess the percent (%) Colour Change & Bubble formation in each incubated tube. Record the percent change and the associated no. of days incubated. The degree of contamination is assessed by how much change has occurred and the rate at which it occurred (i.e. No. of days).

<u>1 Day Incubation</u>		<u>2 Days Incubation</u>	
Colour/Bubbling	Contamination	Colour/Bubbling	Contamination
0	None	0	None
50%	Moderate	50%	Moderate
100%	Heavy	100%	Moderate/Heavy

<u>3 Days Incubation</u>		<u>4 to 5 Days Incubation</u>	
Colour/Bubbling	Contamination	Colour/Bubbling	Contamination
0	None	0	None
50%	Low	50%	NRB Present
100%	Moderate/Heavy	100%	NRB Present



## Storage

Tests have a shelf life of 9 months when kept in a cool dry environment between 10 to 15°C

## Disclaimer

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. DTK water therefore accepts no liability on any action taken as a consequence of information gained through the use of DTK Water SRB Tube Tests. All accompanying information provided is in good faith and based on the experience of DTK water in the water treatment industry.