NCIMB

Oilfield Microbiology Media

NCIMB offers a range of microbiological test kits containing the most common growth media required for use in the energy industry. We can supply the majority of kits from stock but also manufacture bespoke formulations to order e.g. for high salinity fields.

More than 70 years' experience

NCIMB houses the UK's major reference culture collection for environmental bacteria and has more than 70 years' experience in the production of culture media required to grow a diverse range of different microorganisms - from those found in freshwater environments to those found in marine and high salinity environments, including oil and gas facilities. We have worked closely with the energy industry for many years, tailoring our services to meet their requirements.

Quality standards

We operate a well-established quality management system certified to ISO 9001:2015. Our culture media undergoes strict quality testing before being released for use. Positive control organisms are carefully selected from our collection (the National Collection of Industrial, Food and Marine Bacteria). These may be pure cultures or mixed cultures enriched from representative locations. Each batch is also tested to ensure sterility and this approach ensures that you can be confident that our media will support the growth of the target organisms. Our consultant microbiologists have extensive experience of oilfield microbiology and can provide expert advice when required.

Our range of oilfield microbiological growth media

Over the years we have developed proprietary formulations for enumerating bacteria in oilfield systems, based on our extensive experience of culturing these organisms. We also offer formulations recommended by NACE (now AMPP)[1].

Our standard range includes media for enumeration of sulphate-reducing bacteria and thermophilic sulphate-reducing bacteria (SRB and tSRB), general heterotrophic bacteria (GHB), acid-producers and nitrite-reducing bacteria (NRB).

For enumeration of viable SRB we routinely use a modified Postgate B broth (one of the growth media recommended by NACE in TMO194-2014. This is based on the work of the world-renowned expert in dissimilatory sulphate-reducing bacteria, Professor J. R. Postgate FRS[2]). Alternative suppliers may use different oilfield growth media formulations, notably those based upon the now withdrawn American Petroleum Industry practice, API RP 38, or in-house proprietary media formulations. We have found in quality trials that our formulations work well, and may give better results depending on the environment under test.

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NCIMB's oilfield media range

Media for	Media name	Referenced in NACE TMO194-2014?	Supplied from stock?
Sulphate-reducing bacteria (SRB)	Modified Postgate B (MPB)	Yes	Yes - seawater and freshwater salinities
General heterotrophic bacterial (GHB)	Phenol Red Dextrose broth (PRD)	Yes	Yes - seawater and freshwater salinities
Acid-producing general heterotrophic bacteria (APB or APGHB)	Phenol Red Dextrose broth (PRD)	Yes	Yes - seawater and freshwater salinities
Nitrite-reducing bacteria	NRB	No	Yes - freshwater salinity
Nitrogen-utilising bacteria	Denitrifying medium (DNB)	Yes	No - *made to order*
Hydrocarbon-degrading bacteria	Bushnell-Haas	No	No - *made to order*
Thiosulphate-reducing bacteria (TRB)	TRB	No	No - *made to order*

Notes:

- SRB media have a 12-month shelf life, and GHB/NRB have an 18-month shelf life at ambient room temperature.
- In addition to our standard freshwater and seawater formulations, we can also produce bespoke formulations to ensure the salinity of the media matches the environment (e.g. produced water, brines).
- Media can be supplied with diluents (freshwater, seawater, maximum recovery diluent (MRD)). Standard volumes are supplied as 9 ml in stoppered vials but can also be supplied to customer specifications.
- Other sampling sundries such as needles and syringes, sterile wipes and gloves are also available and can be supplied along with the media.

[1] *Field Monitoring of Bacterial Growth in Oil and Gas Systems, NACE Standard TM0194-2014.*

[2] *J.R Postgate, 1984. ed. The sulphate-reducing bacteria (2nd edition), Cambridge University Press, Cambridge.*

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