

Treatability Trials

Arvia's treatability trials provide the first step towards a solution for tertiary water and wastewater issues. Our trials are designed to tackle challenges involving water analysis and characterisation and to give a greater understanding of the necessary treatment options. Using our advanced water analysis equipment and our on-site Nyex™ treatment systems, our expert process engineers work to determine the best solution for each treatment challenge, dependent on your targets and budget.

The purpose of a trial is to:

- Analyse for contaminants of concern in genuine water samples from the source of contamination
- Explore potential treatment process to remove contaminant to target level.
- Determine Nyex™ treatment capabilities and costings, including supporting technologies where needed

All treatability trials are conducted in-house or on-site at your facilities. Trials are project managed by an experienced process engineer, from initial consultation through to water treatment recommendation and solution.

Analytical Facilities

Arvia's state of the art facilities and analytical equipment provide a unique platform for rapid treatability, optimisation and analysis of water quality under one roof.

This allows key water quality parameters such as COD, TOC, and colour to be extensively evaluated, as well as detailed analysis of specific compounds and micropollutants.

As specialists in removal of micropollutants and target molecules to parts per trillion - ppt µg/L, we can detect and monitor pollutants to trace levels with our advanced analysis equipment. This enables us to support industrial applications whereby the client needs to either reuse or discharge their effluent without breaching discharge consents.



How it works

Our most popular trial is the advanced treatability trial whereby we do a full water analysis as per the standard trial but in addition, we also analyse the removal of a specific compound from the water. Here's what to expect.



A kick-off meeting to discuss your technical requirements and establish a method statement.



Conduct a sample analysis which includes TOC, COD, odour, colour, turbidity, pH and conductivity before, during and post-treatment.



Begin conducting trials on Nyex Rosalox™ and Nyex Ellenox™ gathering empirical technical data on specific compound removal. This informs the viability of a full-scale system whilst meeting prescribed COD/TOC compliance limits.



Mid-way update to discuss progress and optimisation objectives.



Secondary trials aimed at realising optimum system operating parameters.



Detailed technical report to include results, review of target achievement, energy consumption and recommendation.



Review meeting to debrief on results and recommendations and to agree next actions.

Following a successful treatability trial, a formal proposal will be offered for a solution to your tertiary water issue. As part of the Programme Trial, recommendations may also be included, where necessary, of ancillary technologies for pre or post - Nyex™ treatment as concluded by our expert engineering team.

Treatability Options

We offer three levels of treatability trials; a standard, advanced and bespoke. Whichever trial you have, you will receive a full report detailing expected removal rates and energy costs for the organic in question, along with our quote for your full scale system.



1 Standard

Our standard treatability trial offers a set of trials on the Nyex Rosalox™ or Nyex Ellenox™ using your water sample. We analyse and report on levels of TOC, COD, odour, colour, turbidity, pH and conductivity pre- and post-trial. This Standard trial can take place at our laboratories in the UK or at your site.

2 Advanced

The advanced trial offers everything available from the standard treatability trial but also enables us to analyse the removal of a specific compound using Nyex Rosalox™ or Nyex Ellenox™. It involves a higher level of analytical understanding and complex analysis and can only be performed at our state-of-the-art laboratories in the UK.

3 Programme

As well as the organics analysis, some clients require a bespoke service due to the nature of their water sample. This service includes the analysis offered in the advanced trial plus the use of pre and/or post-treatment technologies. For example, we may need to use filtration to remove TSS prior to the trial, or apply a pH adjustment prior to or after the trial. This bespoke trial is performed at our laboratories in the UK.

Benefits

- A greater understanding of your wastewater characterisation and tertiary wastewater management options.
- Confidence that the proposed treatment train, including the relevant recommended processes, will meet environmental, regulatory and reuse targets when integrated and prevent the risk of effluent breaches.
- Benefit from Arvia's unique and well-established treatment process and integration experience.
- Access to Arvia's network of business partners including commodity technology suppliers and OEM's.
- Receive a holistic review of your tertiary water and wastewater including identifying your treatment suitability, encompassing optimisation, design, footprint and price of a treatment process that is fully operational and right for you.

Client Testimonials

“ *The [treatability] trials of the Arvia system produced some excellent results on a difficult-to-treat raw water* ”

Scottish Water, Scotland, UK.

“ *We have developed a great partnership with Arvia Technology who have demonstrated commitment to our project throughout its lifespan... We are excited with what the future holds for our collaboration* ”

Ilshin, Seoul, South Korea.

arvia

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Get in touch to discuss your company's treatment challenges and arrange a treatability trial on your wastewater today.