



Case Study: SUEZ

Efficient struvite removal, minimising plant downtime for rapid results

How ABS' Struvite Remover transforms removal of struvite in AD and waste treatment plants

Overview

Struvite, a phosphate mineral deposit of ammonium and magnesium, poses a persistent challenge for Anaerobic Digestion (AD) plants and wastewater treatment facilities, causing pipeline blockages, operational inefficiencies, increased downtime, and financial strains.

Traditional methods for struvite removal involving harsh chemicals such as hydrochloric acid (HCl) and formic acid are not only dangerous but also time-consuming and in most cases, inefficient. Chemical cleaning can take between 6 and 24 hours, while mechanical cleaning can be even less efficient, taking a few hours to achieve patchy deposit removal or days to remove more substantial build-ups.

This results in significant plant downtimes, leading to production losses, increased maintenance costs, and potential infrastructure corrosion which in time will require replacing.

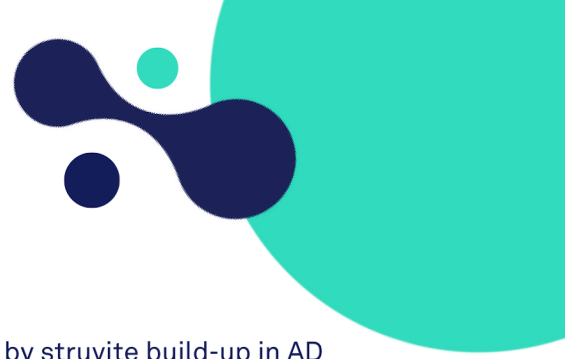
Advanced Bacterial Sciences (ABS), a science-led biotech organisation, has developed a revolutionary solution for this problem, ABS' Struvite Remover, which is designed to remove struvite build-up in less than four hours.

Location

South East England



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Introducing a safer and more cost-effective solution

ABS' Struvite Remover was developed in response to the challenges posed by struvite build-up in AD plants, aligned with our commitment to creating sustainable and cost-effective alternatives to modern waste and wastewater challenges.

Struvite Remover successfully removed 100% of struvite build-up in pipework during lab trials and was proven to be even more robust during extensive field trials where it achieved a 100% success rate. Formulated using only compounds produced from microbial fermentation with Generally Regarded as Safe Status (GRAS), this product has changed how AD plants manage struvite removal.

ABS' solution involves connecting our pipework and a specialised high-powered pump to the AD site's pipework, creating a closed loop system through which the Struvite Remover is pumped around for up to four hours.

The result is the complete removal of struvite build-up in four hours or less, as opposed to days, revolutionising the process and drastically reducing costs. Furthermore, the waste produced during this process can be safely fed back into the digesters, eliminating the need to coordinate disposal using a third-party.

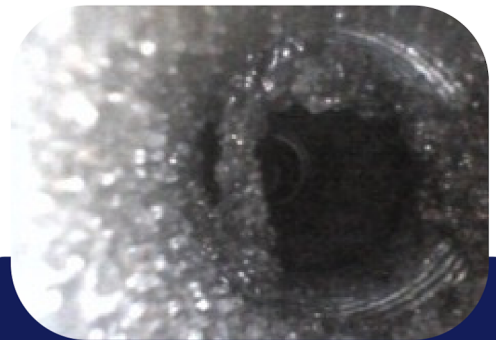
SUEZ: Struvite Remover in action

SUEZ Recycling and Recovery UK, a leading environmental services provider, chose the SBR feed system at a trial location to deal with struvite build-up in their AD and wastewater treatment infrastructure. In line with its triple bottom line approach, SUEZ sought a solution looking for opportunities to improve safety through reducing manual intervention, enhancing sustainability by reducing waste and creating value by reducing plant downtime.

During its initial use, all struvite build-up in the treated pipework was completely removed within two hours, a substantial improvement of more than 66% compared to traditional methods. This not only increased productivity but also improved the efficiency of equipment and operations.

After using Struvite Remover for the first time and experiencing the benefits of the product, SUEZ purchased additional products for the rest of the pipework and equipment on site.

Various other AD plant operators across the UK have joined SUEZ in using our sustainable Struvite Remover.



Before Struvite Remover

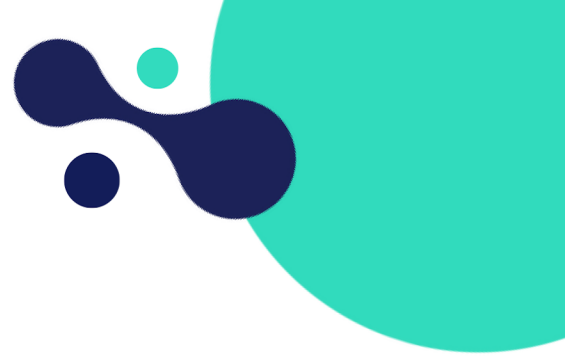
Heavy struvite build-up restricting flow



2 hours after Struvite Remover

All struvite gone, enabling unrestricted flow

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The benefits



Cost-Effective

Traditional methods often involve the use of harsh chemicals like HCl and formic acid, and manual rodding and hosing methods which pose a risk to infrastructure integrity. Struvite Remover preserves infrastructure integrity and minimises plant downtime, leading to increased operational efficiency and cost savings.



Safe to use

Struvite Remover requires less manual intervention than current methods, reducing the risk of accidents and injuries, and making it a safer option for workers.



Environmentally friendly

By allowing waste from the removal process to be reintroduced into the AD plant, Struvite Remover creates a circular process, allowing the waste stream to be transformed into a feedstock rather than disposed of as hazardous waste.



Sustainable solution

Struvite Remover supports sustainability and aligns with the commitment to environmentally friendly waste and wastewater treatment practices. ABS's Struvite Remover has been made using only compounds produced by microbial fermentation which has been classified as Generally Regarded as Safe (GRAS), following years of research and development.

About ABS

ABS is a fast-growing, science-led biotech organisation creating innovative microbial solutions for human and planetary benefit. We use nature's solution to consume waste, blockages, spills or pollutants. Our products set new standards in sustainability criteria, helping companies to save costs, eliminate inconvenient operational closures, avoid regulatory infringement, and reduce health risks and carbon emissions.

With a strong commitment to safety, efficiency, and environmental stewardship, ABS continually develop innovative sustainable solutions and services tailored to the unique challenges encountered by AD operators and waste treatment plants.

Solutions by nature, for nature.

Ready to experience a revolutionary solution that maximises efficiency, minimises downtime, and supports sustainable practices in struvite removal?

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