

6 February 2009

MICROBIAL SOLUTIONS COMPLETES SUCCESSFUL TRIAL OF ENVIRONMENTAL TOXIN-EATING TECHNOLOGY

Microbial Solutions completes Successful Trial of Environmental toxin-eating Technology

Microbial Solutions Ltd, one of the spin-out companies from H2O Venture Partners, is an Oxfordshire company developing award-winning innovative technologies to assess and dispose of toxic metal working fluids used in the engineering industry. It has recently completed a successful trial of a commercial scale bio-reactor with BAE Systems. The industry-leading nature of Microbial Solutions' technology, and the success of the collaboration with BAE, has been recognised by the presentation of a BAE Systems Chairman's Award in the innovation category.

Microbial Solutions has developed an innovative, ecologically friendly bacterial treatment, known as Microcycle™ Technology, which turns toxic exhausted metal working fluids into grey water that is safe to dispose of in the sewerage system.

Metal working fluids are vital in any industry that requires precision cutting of metal. They are essentially cooling lubricants, sprayed in the machining process to ensure a clean cut, and which contain a number of toxic and dangerous chemicals and compounds that must be rendered less harmful before used fluids can be disposed.

Microcycle™ Technology involves the use of a bio-reactor, a large cylinder containing a plastic matrix into which the metal working fluids are poured. A specifically selected consortium of bacteria is introduced into the bio-reactor. These bacteria affix to the matrix and consume the toxins and chemicals, reducing the pollution load of the fluids by up to 98%. The grey water produced has a pollution load below the currently required standards for sewer disposal. Additional benefits are that the toxic components are converted to harmless gas and there is no residual oily waste to dispose of.

Microcycle™ Technology replaces costly and energy-intensive disposal processes, such as vacuum evaporation and ultra filtration which also produce toxic oily waste residue that is transported to landfill for disposal, where its anaerobic degradation produces methane, a significant greenhouse gas.

As part of a commitment to backing innovation and new technology, BAE Systems, the global defence and aerospace systems manufacturer, commissioned a trial bioreactor from Microbial Solutions for its facility at Brough in East Yorkshire. This 5-tonne reactor, 3.5m high by 1.5m in diameter, has been in operation since early 2008 and has proved highly successful. BAE Systems and Microbial Solutions are now in discussions to extend the plant to a total capacity of 25 tonnes, which will be capable of processing around 0.5 million litres of waste metal working fluid per year, and are exploring options for taking the technology to other BAE Systems sites.

Professor Will Pope, Chief Executive Officer of Microbial Solutions, said: "We're very pleased that the trial with BAE Systems has proved the potential of Microcycle™ Technology. It has been a pleasure to work with such a forward-thinking company that can see the benefits of our systems. Reducing the need for landfill, and avoiding other more energy-intensive processes, Microcycle™ Technology is environmentally sound and can cut costs. Working with BAE Systems, we've shown that it works on an industrial scale. Winning a Chairman's Award is a great bonus and recognition of the hard work of the entire team."

Industrial companies face pressure from regulators to reduce the pollution and toxicity of waste fluids as well as the amount of waste sent to landfill and climate change gas emissions. Microcycle™ Technology can help them meet their targets while generating significant cost savings as disposal costs rise - in Europe alone, they are estimated at around €1bn per annum.

Pope said: "Following on from the successful pilot with BAE Systems we are working towards a commercial launch of Microcycle™ Technology later in 2009."

Andy Southwick, BAE Systems Estates Team Leader at Brough, said: "It's been exciting to be part of such a successful project and the Chairman's Award is recognition of how well everything has gone. We are examining how best to progress and co-operate further with Microbial Solutions. This will involve increasing the number of reactors we have at the Brough site and introducing the technology to other BAE Systems facilities."

Peter Fish, BAE Systems Estates Manager, said: "Microbial Solutions' reactor solves a number of problems at once: it can save costs and also helps us meet our environmental obligations. We have a site of special scientific interest near our Brough plant, and we have to be very careful when transporting, treating, or disposing of waste. Being able to remove the toxins from metal working fluids so effectively is a huge benefit. We're very pleased the trial has worked so well and look forward to continuing our excellent working relationship with the Microbial Solutions team."

Microbial Solutions is a spin-out company from the Centre for Ecology and Hydrology, a research centre owned by the Natural Environment Research Council.

For further information, please call Paul Coleman or David Kelly on: +44 (0)1865 251000 or email Info@h2ovp.com