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H2O INVESTS IN SAFE, EFFECTIVE TREATMENT FOR OILY WASTES.

Microbial Solutions, supported by H2O, is commercialising a biological treatment for metalworking fluids, which is low cost, safe and effective.

The technology, named Microcycle™, was developed by Professor Ian Thompson and Dr Christopher van der Gast at the NERC Centre for Ecology and Hydrology in Oxford to address the problem of disposal of metalworking fluids (MWFs) produced as waste products from the engineering industry.

Under EU regulations, MWFs cannot be disposed of to sewers, as their chemical oxygen demand (COD), a measure of pollution, is too high. Up to now, fluids have had to be transported to off-site storage facilities, which is expensive and environmentally undesirable.

In contrast, the Microcycle technology uses the natural ability of certain bacteria to break down the MWFs. This approach, known as bioremediation, can be carried out on the client's site. The large increases in the costs of disposal have been a significant burden to companies, and a method that can be used on site considerably reduces those costs. The bacteria operate in a bioreactor under sequence-batch conditions, breaking down spent metalworking fluids into harmless "grey water", which can then be safely discharged into the sewers. The technology is much more cost efficient than chemical treatment, produces no hazardous byproducts, and, in addition to the environmental advantages of the waste breakdown itself, carries other benefits such as reduction in transport. The technology also offers price stability to customers.

"New regulations over the past few years have driven up the costs involved in disposing of MWFs. Our technology provides an on-site solution that allows for their safe, cost-effective disposal, which saves both money and management effort," according to Professor Thompson.

The fluids disposal market is a large one, worth \$1bn in Europe alone. This biological technology is enabling Microbial Solutions to compete with established disposal companies throughout Europe. The early investment and assistance given by H2O has enabled rapid growth for the company.

David Kelly, Chief Executive of H2O, commented "This is the first deal H2O has done, and is very exciting. We are looking forward to adding significant value through assisting technology transfer of this high-quality intellectual technology".

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