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The next generation

BWA Water Additives is expanding on the first newly approved biocide. We spoke to CEO **Dr David Cartmell**

Having launched the first new biocidal product to be approved by the US EPA in ten years in Bellacide 350 back in 2007, BWA Water Additives now has high hopes for Bellacide 303, which was launched in 2011. Executive chairman and CEO Dr David Cartmell sees this as a natural extension of the earlier product even though the two are aimed at different markets.

"We focus on three main areas of polymers, scale and corrosion inhibitors and biocides, the latter being mainly targeted at water treatment in industrial and oil and gas applications," Cartmell says. "We have both oxidising and non-oxidising biocides and within that we look for sustainable, long-term additions to the portfolio."

Bellacide 303 is a broad spectrum, single-drum treatment that eliminates algae, fungi and bacteria. It claims quantifiable biodispersancy properties, eliminating biofilm with no need for manual agitation or additional biodispersants, as well as more effective synergies with halogen than such common biocides as isothiazolone and glutaraldehyde, and at lower cost.

Like two others in this range of industrial microbiocides, Bellacide 325 and Bellacide 329, Bellacide 303 is designed for open, recirculating and cooling applications in industrial water treatment. Bellacide 355 and Bellacide 350 are mainly used for broad spectrum biocidal control in oil and gas applications. The base chemistry of Bellacide 303 and Bellacide 350 - they are quaternary phosphates and the chemistry is unique to BWA, though few other details are disclosed - is essentially the same. Bellacide 303 is seen as a second generation of Bellacide 350.

"We developed Bellacide 303 essentially because Bellacide 350 has its particular sweet spot in oil and gas, particularly in shale gas where it prevents gas from going sour by controlling sulphate-reducing bacteria. It also performs well in cooling towers but we thought that there was a need for a second generation product specifically for industrial water treatment," Cartmell says.

Both are high performing, non-oxidising biocides. Traditionally there has been a trade-off here: oxidising biocides like chlorine and bromine-based formulations kill rapidly but are not very long-lasting in water, whereas non-oxidising biocides are more stable in water but are less active. BWA benchmarked them not against basic chlorine products but other non-oxidising products, "because it kills so effectively".

The other big selling point for Bellacide 303 in Cartmell's view is that it is active against *Legionella pneumophilla*, the bacterium that causes Legionnaires' disease. Generally associated with industrial cooling towers, Legionnaires' disease is a growing health concern on both sides of the Atlantic, as an outbreak in Edinburgh earlier this year showed.

Laboratory scientist at BWA

"We want to be seen as developing the highest performing products because that will give us longer-term growth. If you just bring out something similar to chlorine, the cost position won't enable you to invest in new technology. We want a Rolls-Royce kind of product that is at the top of its group. Bellacide 350 costs more per kilo than copper but on a cost-performance basis it is cheaper," says Cartmell.

Although the launch was 18 months ago, Bellacide 303 is really only at the start of what is typically a 12-18 year innovation cycle in a slow-moving, conservative and safety-conscious industry. It is not a drop-in product, so there are extensive tests before customers will use it commercially. Nonetheless, it was developed in response to needs they discussed with BWA, so BWA is confident of its long-term prospects.

All this, however, mainly applies to the US. The new Biocidal Products Regulation, Cartmell says, continues to hold back new product introduction into the water treatment industry in the EU. BWA has not yet been able to introduce Bellacide 350 or 303 into the EU because of the time it takes to get approval and the stringency of testing. It therefore regards the US/Rest of the World and the EU as different markets and believes that it may have to market broadly different ranges in each within five years.

BWA as a firm dates back to 2006, when it emerged from Chemtura. It is headed by Cartmell at the world head office and R&D headquarters in Manchester, UK, with the other main site and R&D laboratories in Atlanta (see also *SCM*, September 2010, pages 20-22, September 2011, pages 18-19).

The company develops - but does not manufacture - scale, corrosion and microbiocide products and services to the industrial water, desalination and oil and gas markets. It develops its own IP and processes, takes new products from the lab, then concludes royalty-free manufacturing licences with a network of producers who make the products for them, from 20 different locations world-wide.

During its six years of independence, BWA has passed through three owners: Close Brothers Private Equity to 2008, then Seera, the private equity arm of an investment bank based in Bahrain, and since June 2011 the Philadelphia-based investment firm Berwind.

A conglomerate holding, rather like Berkshire Hathaway, Berwind's model is not that of a private equity firm under-performing companies to turn them around and sell them on. Berwind is seeking to own its portfolio companies for the long-term, typically eight to 20 years. It seeks companies with a strong strategy and strong capabilities that will continue to drive growth in niche areas.

The company strategy was unaffected by the change of ownership. "One year on, Berwind has done everything they said they would," says Cartmell. "They keep to themselves as owners; they are interested in our overall performance but the strategic process is up to us and funds are made available to us for R&D."

BWA has averaged 20% year-on-year growth albeit from a low base. By 2008, it was turning over €100 million/year. Inevitably it suffered in 2009 as customers closed or mothballed certain plants and consequently bought less, but a strong recovery set in later that year and the company hit the 20% target then and again in 2010 and 2011.

The company had an average Q1 and a good Q2 in 2012. Overall it expects business to grow by about 10% this year, though 2H overall should prove to be more challenging than 1H. The downturn, Cartmell notes, has had some odd effects, even if water treatment as a sector is relatively recession-proof.

"People ultimately see the value in cost-performance. In tough times it can take longer to get the cheque signed off, so they are more likely to be doing double testing, but we do have the kind of customers who appreciate high performance products. You can't take many risks with biocides because it can spill out of control and lead to health and personnel issues, so if anything they cut back less."

Whilst it is too early to say what the third generation Bellacide product will be, Cartmell believes that it will probably be non-oxidising too. The horizon for new product development is typically three to seven years and BWA is not interested in developing 'me too' products. However, it is committed to industrial water treatment and has just taken on a new VP of marketing in Atlanta, Nozi Hamidi, who will take charge of the pipeline.

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