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## **Bayer CropScience UK goes for Freezium**

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### *Our Customer*

Bayer CropScience is a key global provider of crop solutions, products and services, including insecticides, herbicides, fungicides, non-agricultural applications, plant biotechnology and conventional seeds. Formed from a merger of Bayer Crop Protection and Aventis CropScience in 2002, Bayer CropScience benefits strongly from the experience of its predecessors, even though it is still a young company. Bayer CropScience is one of the strategic business areas of the Bayer Group. Employing around 800 people across sites in the UK, Bayer CropScience Limited is a centre for marketing, manufacturing, production and supply of high-quality crop solutions with its commercial headquarters at Hauxton, near Cambridge, and further locations in Norwich, Widnes and Waltham Cross



### *Corrosion problems with Calcium Chloride brine*

Bayer CropScience Limited produce crop protection products for agricultural applications and a heat transfer fluid is needed to cool vent gases from the chemical reactions produced in the manufacturing processes. At the Widnes site, about 23km east from Liverpool, there are two production plants, each having its own dedicated calcium chloride brine chiller unit. The chilled brine is pumped around the process plant, through various heat exchangers, predominantly cooling process vents. Both plants use the brine at different temperatures,  $-5^{\circ}\text{C}$  and  $-30^{\circ}\text{C}$  respectively. The calcium chloride is supplied in flake form and has to be pre-mixed before it is used in either system. Calcium chloride brine is



also corrosive and any spills or leaks soon become unsightly as pipework etc. is rusted.

### ***The search for a better solution***

Richard Stoddart, Maintenance Manager at the Widnes site, comments: *“At this years maintenance shutdowns it was decided to empty and clean both systems because of suspected calcium chloride fouling in the heat exchangers and pipe work. Rather than use calcium chloride brine again, alternative cooling mediums were assessed. Various glycol formulations were looked at but the operating temperatures were restricted because of viscosity problems at the lower temperatures. Freezium was suggested by our chiller service company. The specifications for Freezium were assessed and they fitted our requirements.”*

The decision was taken to use Freezium as an alternative to calcium chloride brine.

### ***First impressions***

In July 2004, Artec supplied Bayer CropScience with Freezium. And despite the short time gone by, Richard Stoddart already gives some feedback : *“To date, Freezium has performed much better than anticipated. It is a cleaner and environmentalaly friendly alternative to calcium chloride brine...”*

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