Tata Chemicals (India): SureSense **CH-A-Tata Chemicals-UK 1.1 20012001**

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The probe was installed on the fermenter using an adjustable process fitting. The SureSense detects foam immediately when it forms and makes contact with the probe. Upon detecting this signal, the control unit starts a dosing pump to add antifoam to the fermenter. As soon as the foam subsides and probe no longer detects contact with it, the controller deactivates the antifoam pump.

Biological or biotech processes are used to produce a very wide range of industrial and consumer products. This includes such diverse products as filamentous bacteria and Nocardia, enzymes, yeast, biofuel, polymers, amino acids and proteins. These are all produced a bioreactor with a controlled environment which includes agitating a liquid and adding gas. A problem associated with this is that it frequently produces foam, which can actually destroy the process if it gets out of control.
The best approach to managing foam in a bioreactor is to measure it using a foam sensor fitted in the headplate, programmed to add just enough defoamer when it is required. The Hycontrol foam sensors were originally designed for this and are suitable for all kinds of biotech processes. There are a wide range of available fittings to suit all makes of vessels. Hycontrol foam sensors are hygienic, steam sterilisable and suitable for CIP. The

sensors are designed with fouling immunity to prevent false alarms and overdosing.

Tata Chemicals in India is well-known in the field of industrial chemicals as well as branded agriculture and consumer products. They have also pioneered nutraceuticalsor healthy and tasty modern food.
Tata was faced with extreme foam formation in a fermenter, containing a mixture of sugar solution, biomass and cultures. The excess foaming resulted in high costs and reduced process efficiency, due to a large volume of foam occupying a major portion of the fermenter. This, in turn, increased the chances of foam entering the pipelines and damaging pumps, leading to increased downtime. Despite adding high volumes of an expensive antifoaming agent manually to restrict the formation of foam, process yields remained low
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The SureSense system at Tata has been working successfully for some time now, resulting in an impressive reduction of both antifoam use and process downtime. It has reduced product wastage and increased batch size, resulting in a good quality return on the initial investment.

BENEFITS OF FOAM CONTROL
Minimise expenditure on antifoam chemicals
Improve process yields and efficiency
Reduce manufacturing downtime
Prevent overspills and improve health and safety
Stop pollution and associated clean-up costs
Avoid damage to pumps and other process equipment