



CALFLO* HTF Helps Chemical Manufacturer Reduce Production Costs And Address Sensitive Environmental Concerns



Warwick International Sees a Bright Future After Selecting a Low-toxicity, High Performance Heat Transfer Fluid

Operating a chemical manufacturing plant next to the sensitive habitat of the Dee Estuary in North Wales, United Kingdom means that Warwick International must take every precaution possible to protect the surrounding environment, including its selection of heat transfer fluids. However, they must still ensure that these fluids meet demanding operational requirements. There is no room for compromise in either case.

Warwick is the leading supplier of tetra acetyl ethylene diamine (TAED), the bleach-activating crystals that allow oxygen-based bleaches to work effectively at reduced washing temperatures. These crystals are found in many of the leading brands of domestic washing powders and dishwashing tablets. Warwick's production facility, currently in its 25th year of operation, is located in Mostyn, and employs a staff of approximately 250.

Until recently, Warwick had been using a batch production system to manufacture TAED. However in 2000, with demand for TAED rising due to the increasing popularity of dishwashers, and with washing temperatures and times decreasing for environmental reasons, Warwick decided to review their production methods.

Warwick made the decision to switch from batch to continuous production. Making this change allowed them to reduce the quantity of reactive materials



that were held in the process at any time, leading to a substantially safer plant design.

This was a pro-active step: Warwick had not experienced the potential problems in practice. It also allowed them to improve consistency in the product, thereby reducing manufacturing costs.

“A conventional mineral oil had been used years ago in our batch system, and resulted in significant problems with coking and odour,” said Les Waymont, Process Engineering Manager at Warwick. “When we switched to a continuous production model, we had a list of requirements we needed to satisfy when we selected the new heat transfer fluid.”

The qualities Warwick looked for in the heat transfer fluid that would be used in its Babcock Wanson heaters included the fluid's ability to perform at high temperatures with no thermal degradation, limited environmental impact, good heat transfer and flow properties, a high flashpoint, long-life capabilities and low maintenance costs.

“Upon reviewing various heat transfer fluids,” explains Waymont, “we determined that CALFLO* HTF was the most capable at meeting our list of requirements.”

Petro-Canada's CALFLO HTF is a premium quality heat transfer fluid designed specifically for use in systems operating at temperatures up to 326°C (620°F). It is designed for use in larger systems where long, continuous operation at elevated temperatures is required.



CALFLO HTF is formulated with Petro-Canada's 99.9%, crystal clear base fluids, produced using a patented HT purity process. These fluids are free of impurities that can hinder the performance of conventional mineral oils and free of aromatic compounds that can be hazardous to work place health and safety. CALFLO HTF provides high thermal efficiency, high temperature stability needed to resist fluid breakdown and the formation of high-fouling coke.



"We're pleased with how CALFLO HTF has performed in our main system," said Waymont. "In fact, we have extended our original plant and use CALFLO HTF in a smaller system running at a lower maximum temperature of 80°C (176°F). So far, running the fluid at a higher viscosity has not been a problem. This means we can use the same fluid in both plants and there is no risk of the wrong fluid being used in either situation. This is a bonus for us."

If you would like to know more, please contact us at:

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