



Ethanol

Case Study

EFX-2540

Safer, Cleaner, Faster: Upgrading CIP Performance with EFX 2540

In the ethanol industry, evaporator performance is vital for maintaining throughput and meeting production targets. Clean-In-Place (CIP) cleaning routines are often frequent and time-sensitive, but traditional chemistries like peroxide-based cleaners can be harsh, hazardous, and operationally limiting. A more efficient, safer alternative was needed to improve plant safety and reduce cleaning downtime.



Benefits



Reduced Chemical Usage



Increased Equipment Longevity



Increased Site Safety



Decreased Downtime

Background

A Central Iowa ethanol producer with around 90 MM gallons of annual output faced ongoing issues with evaporator fouling, cleaning inefficiencies, and worker safety during CIP. The existing peroxide-based chemistry, while somewhat effective, posed risks to operators and required higher chemical volumes to achieve acceptable cleaning performance. The operations team sought a partner who could deliver a safer, more concentrated alternative that would improve cleaning performance while minimizing handling risk and chemical waste. Team Apex was selected to deliver a turnkey improvement to their CIP program using EFX 2540.

Challenges

The evaporator system was experiencing mineral fouling that led to decreased throughput and limited the plant's ability to run at full capacity. Cleaning cycles required significant downtime and the previous products were not delivering sufficient results for the cost. The plant needed a more concentrated product that could reduce downtime and chemical use without compromising safety.

Solutions

Team Apex introduced EFX 2540—a concentrated, non-peroxide CIP chemistry designed for safe, effective use in evaporator systems. The product was implemented with monitoring of chelant levels during CIP and required no changes to the plant's equipment or existing cleaning protocol. With its safer handling profile and reduced chemical demand, the program offered an immediate operational upgrade.

Results

Following implementation, the plant reduced chemical usage by 50% compared to the competitor's product. Operators reported significantly easier handling and a noticeable improvement in system uptime and throughput. EFX 2540's non-violent reaction profile and simplified handling also contributed to a safer working environment.

- ✓ Reduced chemical usage by 50%
- ✓ Safer, easier handling compared to peroxide-based alternatives
- ✓ Improved system uptime and throughput
- ✓ Simplified monitoring with chelant level tracking

