

IMPROVE YOUR FERMS WITH ALTERNATIVE pH CLEANING

Advanced Trimeta™ pHFreedom and Trimeta™ Shield
improve fermentation batch quality

Today's plants require more consistent, predictable cleaning

The Ecolab Fermentation CIP Program uses a
cutting-edge cleaner and final rinse combination

- Improves cleaning effectiveness and helps restore equipment efficiency
- Provides potential to improve yield by controlling process infections by reducing glycerol and process organics
- Maintains ethanol and DDGS quality while achieving operational goals
- Backed by Ecolab start-up support and ongoing service and training

TOTAL ETHANOL PLANT ASSURANCE

Solutions that span
your operations

- Fermenter
- Centrifuge
- Evaporation System
- Utility & Water Process
- Process & Wastewater Treatment



2020 INNOVATION
AWARD WINNER

Trimeta pHFreedom won Household & Commercial Products
Association's Game Changer and Sustainability categories

Your plant faces tremendous pressures

OPERATIONAL EFFICIENCY

- Rising Raw Material Costs
- Utility Management
- Water, Energy, Waste Reduction

YIELD OPTIMIZATION

- Controlling Infections
- Maximizing By-product Opportunity
- Raw Material Quality



SAFETY

- Employee Safety
- Animal Safety for By-products
- Plant Processes

REGULATORY COMPLIANCE

- Consumer/Customer Preferences
- FSMA Compliance

You're constantly
challenged to:

- ✓ **REDUCE** fermenter infections & antibiotic usage
- ✓ **PRODUCE FEWER** negative fermentation by-products
- ✓ **LIMIT** chemical use & **ENHANCE** sustainability

TRIMETA efficiently maximizes output and quality

FERM BATCH QUALITY

- Can significantly lower the process levels of organics
- Optimizes ethanol yield by limiting glycerol in fermenters
- Reduces sodium use, thereby improving yeast health
- Components have been third-party evaluated and determined GRAS for animal feed*

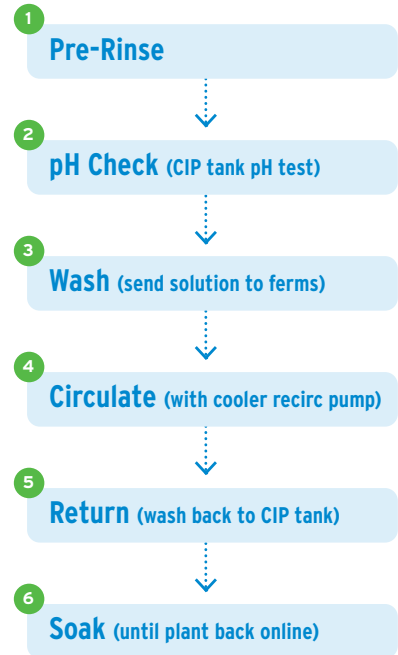
PROCESS CONSISTENCY

- Helps process equipment run longer prior to fouling
- Cuts down on unintended foam-overs
- Minimizes potential of shutdown due to high pH swings
- Quickly penetrates, suspends and rinses soils

OPERATIONAL SAVINGS

- Lowers water heating cost (runs at lower temperature)
- Reduces waste and energy used to evaporate CIP waste
- Decreases use of neutralization acid

The Trimeta alternative pH CIP process



*Contact an Ecolab representative for additional usage guidance.

Ecolab makes it easy to implement improvements

We'll help you:

- Make modest changes to your front-end CIP process to assess **effectiveness**
- Eliminate caustic cleaning in your main CIP tank for **more efficiency and safety**
- Understand your options for converting to compatible, **stainless steel piping**



WORLD CLASS SERVICE

Your personal Ecolab representative

WORLD CLASS EXPERTISE

Your team of Ecolab research & technical experts

Let us demonstrate the Ecolab difference

Contact your **ECOLAB REPRESENTATIVE** for more information or call **1 800 392 3392**

Learn More at ecolab.com
Trimeta™ Alternative pH Clean In Place Program for Ethanol Producers