POWDERED BORAX
WHAT IS BORAX?

- Naturally occurring compound found globally

- Multiple uses including:
  - Detergents
  - pH buffer
  - Water softening

- Most common form is Powdered
  - Borax pentahydrate (5 mol) – most common
  - Borax decahydrate (10 mol)
<table>
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<th>Hazard</th>
<th>Details</th>
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| Inhalation Hazard | ▪ #1 safety hazard  
▪ Primary reason for REACH law in Europe |
| Lift Hazard     | ▪ Lifting 35 - 55 lb. bags from floor to hopper  
▪ Back injuries & complaints  
▪ Back Injury ($70K / incident) |
| Cut Hazard      | ▪ Bags are opened with knives or cutting tools  
▪ Do all workers wear gloves?  
▪ Laceration ($40K / incident) |
| Slip Hazard     | ▪ Borax dust on floor, as bad or worse than starch |
POWDERED BORAX
MANUFACTURING ISSUES

- Prone to clumping in bags or chutes
- Batch consistency problems

- Powder Borax accounts for approx.
  - 70% of auto starch kitchen faults (augers & chutes)
  - 25% of starch kitchen maintenance costs
WHAT IF YOU COULD...
PROCESS IMPROVEMENT

**Current State**
- Eliminate a multi faceted safety concern?
- Decrease starch kitchen system faults?
- Decrease kitchen maintenance costs?
- Stabilize starch viscosity & gel temps?

**Future State**
- Increased starch efficiency?
- Reduced overall formula costs?
- Reduced slinging at the double backer?
- Reduced Safety/LTA concerns?
AQUENCE® HALO
REDUCES STARCH SLING; LOWERS COST

Before – Powder Borax Formula

After – HALO Formula

Starch goes where it is supposed to go...on the flute tip, and not on the machine, floor, and flute valleys!

- Lowers starch consumption
- Reduced clean up time

- Reduced waste
- More consistent starch formula
AQUENCE® HALO
EASY CONVERSION: DOSING TANK METHOD

- System utilizes powder borax hopper load cells
- Electronics integrate with powder borax signal in kitchen
- Can be installed on any mixer
AQUENCE® HALO
EASY CONVERSION: ADDITIVE PUMP/MIXER PROGRAMMING

- Additive Pump
  - Use additive slot in program
  - Proven to be very accurate

- Mixer Programming
  - Internet connection capability ideal
  - Work with mixer OEM to reprogram for liquid borax
**AQUENCE® HALO**

**SUMMARY**

- Safer
- Quiet
- Less downtime
- Efficient
- Clean machining
- Reduced starch application
THANK YOU

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