



The Chemistry of Making Paper is Complex.

How do You Manage the Unmanageable?



The Challenge:

Unpredictable process chemistry variables

The chemistry of making paper is subject to a broad set of variables that can quickly become unmanageable. Byproducts from uncontrolled, unpredictable microbial growth can suppress pH, dissolve calcium, increase conductivity, produce odors and gasses, or degrade starch and fiber.

Many of these issues are due to external factors outside your control. Much recycling has shifted from retail to residential, for example, which means the material's quality has changed. More and more regulations limit water use, which can set the stage

for fermentation reactions and microbial growth. And customer demands for stronger products require the use of more additives in your process or spending more money on higher-quality fiber.

These variables are closely interrelated, so you can't treat each symptom at the point it manifests. You may relieve your immediate problem, but these solutions can't address process variability in the long run. That means you'll have to continually contend with more dissolved calcium, higher conductivity, and less efficient functional chemistries. And if, after all that, you still have to downgrade paper, your margins could all but evaporate.

Buckman MCA can have a positive impact here. ▶ ▶ ▶

Low pH affects sizing chemistry by at least 10%. And microbial activity **increases conductivity by roughly 30%**, which affects how cationic materials function.

► ► ► With Buckman you can maintain correct dosing at all times, at every point in the process

The Solution: **Dose with precise amounts—whenever and wherever you need it**

You already know that monochloramine is an effective slime and odor control treatment. But how you apply it is critical. Most MCA vendors use batch dosing—feeding the biocide in spurts, alternating between high doses and none at all. These intermittent batch doses introduce high concentrations that can be incompatible with other functional chemistries and low concentrations that allow pH values to decrease in the stock prep area, leading to dissolved calcium and increased conductivity.

When you work with Buckman, you will dose MCA continuously to maintain a steady flow at the appropriate level to effectively manage pH, dissolved calcium, COD, and conductivity—while also reducing corrosion and scale buildup. Using a continuous dosing approach that applies MCA flexibly to each dosing line, you can maintain the correct dosing at all times, at every point in the process. If you need to shut down, perhaps for a maintenance outage as an example, you can maintain higher inventories without risking fiber degradation.

All this means you'll not just control slime and odor, but you'll also **gain stock flexibility, reduce your use of fresh water, improve start-ups, and optimize your functional chemistries.**



The Solution:

Use less process chemistry

If MCA breaks down in your system, it can lose its biocidal effectiveness, and you have to use supplemental chemistry and organics. That costs money and can create incompatibilities with your additives.

When you work with Buckman, you'll use a more stable MCA with no other chloramine types, such as dichloramine, which are highly oxidative and less process compatible. You can use less chemistry and limit supplemental biocides to avoid swings and upsets in the system. You'll reduce the potential for corrosion and improve both the stability and cost-effectiveness of the entire process.

You can use less chemistry
and limit supplemental biocides



Dose MCA intelligently

Successful process chemistries rely on many factors, including some that are beyond your control. With Buckman, you'll...



Dose a more stable MCA more intelligently and precisely using continuous dosing technology



Optimize your functional chemistries to reduce corrosion and scale buildup



Use less of the expensive process chemistry that can have unpredictable downstream effects

All this means you'll use MCA not just to control slime and odor—but also to **maintain stability throughout the process.**

BuckmanTM
Chemistry, connected.

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