Too Much Chlorine Dioxide?

There can be unintended consequences.
The Challenge: **ClO$_2$ Overuse**

When it’s time to make decisions about your pulp mill’s output, it’s common practice to favor brightness over any other objective. It’s a reasonable stance to take. After all, no one wants to spend time, money and effort reworking or disposing of pulp that doesn’t meet customer expectations. But the common remedy of overfeeding comes at a cost—one that far exceeds the price of the chemical itself.

Every additional pound of chlorine dioxide used means that much more energy is spent cooling and heating water. It produces more AOX in the discharge of your effluent. It means more hazardous rail cars to unload. It also increases the chances that chlorine residuals become too high in the bleach plant, increasing your safety exposure.

Additionally, ClO$_2$ is not perfectly selective. While it’s oxidizing the chromophores, it’s also oxidizing—and thus damaging—the wood fibers themselves. This lowers viscosity and depletes the fiber’s strength. So when ClO$_2$ is the only tool you have for achieving brightness, you’ll be forced into compromises that hurt your business.

Approximately 83% of respondents said they felt it was “important or extremely important” that companies design their products to be more environmentally friendly.¹
You want every pound of chlorine dioxide to move the brightness needle as much as possible. By using Buckman’s Vybrant® technology, you’ll be well equipped to make this happen.

Using Vybrant before the addition of ClO$_2$ allows you to remove bulk chromophoric groups off the surface of the fiber. This in turn reduces the work that must be done by the ClO$_2$, allowing you to use less of the chemical. Plus, you’ll remove many of the materials on the outside of the fiber that aren’t chromophores but would interact with—and needlessly consume—ClO$_2$. This opens up reactive sites at the fiber surface, allowing more of the chemical to penetrate and do its job.

Finally, after the bleaching process is completed, you can utilize Vybrant again to remove any remaining chromophores. You’ll achieve a higher level of brightness as a result—without purchasing any additional equipment or infrastructure.

 Vybrant technology offers greater selectivity than chlorine dioxide.
Reduce Your Dependence on $\text{ClO}_2$

Same brightness, less $\text{ClO}_2$. When you use Buckman’s Vybrant® technology, it’s possible.

With Buckman, you’ll reduce your $\text{ClO}_2$ spending by up to 20 percent—without making any additional capital investments.

What’s more, you’ll also be able to:

- Use less water to cool and heat, reducing energy costs and your carbon footprint
- Cut back your AOX discharge, so you can get ahead of emerging regulations
- Increase safety by limiting the amount of hazardous chemicals handled by your people

Interested in learning more? Then visit us online to get started.