



# TARGET BROMINATION






# Target the fouling, not the environment.

## **Eliminate chlorine gas and its risks with Target Bromination from Buckman.**

Using gaseous chlorine in your biological control programs presents unnecessary risk to both the operator and the environment. And in high demand and high pH systems, it's a poor performer. That's why Buckman created Target Bromination featuring Bulab® 6040. Bromine is more stable than chlorine. And in most cooling water, process water and wastewater discharge systems, it's more effective at targeting microbiological fouling—with less impact on both worker health and the environment.



### How it works

Both chlorine and bromine must be converted to acid to control microorganisms. But in many cases bromine is more effective. Using sodium bromide and a safe, easy-to-handle source of chlorine, such as industrial sodium hypochlorite, Target Bromination permits the rapid production of hypobromous acid instead of the hypochlorous acid produced using chlorine gas.

### Benefits include:

- **Stability under alkaline conditions**
- **Efficacy against a wide variety of biofoulants**
- **Rapid reaction rate**
- **Reduced corrosivity to system metallurgy**
- **Reduced fouling potential**
- **Lower environmental impact**

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## Hit all your targets: financial, environmental, safety and production.

Target Bromination is more than just a better way to fight fouling. It helps you meet all of your operational goals. You can depend on our advanced bromine technology for all of these benefits.

### **More performance.**

Under typical pH and alkaline conditions and in systems with high oxygen demand containing ammonia and other nitrogen-containing compounds, bromine provides superior antimicrobial performance, even against slime-producing organisms. Target Bromination keeps heat exchangers cleaner for optimum heat transfer and lower operating costs.

### **Greater stability.**

Chlorine gas is prone to leakage in transport and handling, putting workers at risk. With Target Bromination you can replace chlorine gas with a more stable chlorine source such as industrial bleach. Buckman's sodium bromide solution is easy to handle and can be fed using plastic or stainless steel feed systems.

### **Better cost-efficiency.**

The fast-kill, long-lasting action of Target Bromination reduces the number of applications needed, improving the cost effectiveness of oxidizing biocide treatments.

### **Less corrosion.**

Target Bromination is less corrosive than chlorine programs, resulting in longer life for equipment, reverse osmosis membranes and ion exchange resins. As a result downtime is reduced and production is increased.

### **Easier on the environment.**

While chlorine can take days to totally degrade, presenting a toxic environmental liability, bromide takes just a few hours. And it decays to acceptable levels within one hour. Better yet, neither sodium bromide nor industrial bleach is reported under SARA Title III.

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## Bring a higher level of performance to your high-demand system.

Target Bromination is ideal in a wide range of applications, including:

### **Open Recirculating Cooling Towers**

Conversion from acid/chromate to alkaline/organic treatment programs often results in increased deposit problems, rapid biological growth, a faster rate of dissociation of chlorine, and a greater potential for wood delignification. Replacing gaseous chlorine with Target Bromination will minimize most of these problems.

### **Once-Through Cooling Water**

Target Bromination provides rapid kill efficiency and superior stability in waters with high oxidant demand, so frequency of treatment can be greatly reduced.

### **Waste Effluent Treatment**

Target Bromination provides superior biocidal properties in the presence of ammonia and other high pH conditions common to effluent waters treated with oxidizing biocides. The greater stability of hypobromous acid results in a lower total oxidant requirement.

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## Learn more.

Let Buckman tailor a Target Bromination program for you, one that helps you reach your targets for cost savings, operational efficiency and sustainability.

Contact your Buckman representative or visit **[buckman.com](http://buckman.com)** to find out more.



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Argentina +54 11 4701-6415; Australia +61 (2) 6923 5888; Belgium +32 9 257 92 11; Brasil +55 (19) 3864-5000; Canada +1 (877) 282-5626; Chile +56-2) 2944-1000; China +86-21) 6921-0188  
India +91) 44-2648 0220; Indonesia +62) 21-2988 8288; Korea +82) 31-416 8991; Mexico +52 (777) 329 3740; Singapore +65) 6891 9200; South Africa +27 (31) 736 8800; United States +1 (901) 278-0330

Global Headquarters at 1256 N. McLean Blvd., Memphis, TN 38108, USA

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