CHEMTEX
INTERNATIONAL CHEMTEX CORPORATION

Technical Topics

Bromine Safety

TT-029-0798

Bromine biocides are highly effective at controlling the growth of all types of micro-organisms. As such, they are widely used as biocides in open recirculating cooling tower systems. Bromine provides the best results when fed through a properly designed feeder mounted on the make-up water line or in a by-pass loop off a recirculating line. If correct procedures are followed, bromine biocides are safe to use. If, however, proper bromine feed procedures are not followed, damage to equipment and property, as well as severe bodily injury can occur.

Feeder Design

A properly designed bromine feeder should have the following features:

- A bottom-in top-out water flow pattern
- A pressure relief valve
- A flow meter/indicator on the discharge line
- Be rated for service up to 150 psig per ASME code

The feeder should be located in an area with adequate ventilation. Feeders with a bottom-in bottom-out water flow pattern should not be used.

Chemical Feed Procedures

- The temperature of inlet water should not exceed 130^{o} F (54^{o}C)
- The level of bromine should not be higher than the level of the outlet piping
- When the feeder is filled, the entire bed of bromine should be completely flooded with water
- Do not allow rust, dirt or other foreign matter to enter the feeder
- Feed ONLY bromine in the feeder. NEVER allow any other chemical in the feeder.

Personal Protective Equipment

When handling bromine products, operators should wear NIOSH approved dust mask, butyl rubber or vinyl gloves, Tyvec or equivalent coveralls, and chemical safety goggles.