

Neutralized Quats in Wastewater

Problem Statement: Quaternary Ammonium Compounds, typically known as "Quats", are used extensively as sanitizer/disinfectants (biocides) in industrial sanitation, especially food plants. They are strong cationic surface-active compounds and can bind with biological, organic and other negatively charged substances. They tend to be more effective than chlorine based disinfectants as they are more persistent, non-volatile, and non-oxidizing. Quats are inhibitory or toxic to downstream wastewater biological treatment systems (both anaerobic and aerobic processes) if misused or overused.

HINT: A successful treatment will be capable of neutralizing the Quats in the wastewater using rendering them less harmful and less toxic to the beneficial biological treatment system. Therefore, Quats can still be used in sanitation process without toxic impact to the biological treatment system. It is important that the neutralizer must not be more toxic than the Quats themselves.