



The bench test, a crucial tool in wastewater treatment, plays a pivotal role in ensuring the effective operation of wastewater systems. It is used to verify the chemicals required for contaminant removal, check chemical dosing, determine optimal pH ranges, and ascertain the amount of solids produced in



Once the solids have settled and there is clear Supernate, pull a sample from the clear line and test for the contaminants that were removed. If not enough was removed to meet the goals of the bench test, repeat the test with additional chemistry. If the coagulant used was not optimal to meet the goals, try a different one. If a solid floc does not form with the first flocculant, try a different charged flocculant.

- Metal precipitants, known as metal scavengers, are used when metal-bearing wastewater is chelated. These products can be DTC, Sulfide, Carbonate, or a combination of products. They all have a high pH and a bad smell.
- Chelation can come from cleaners and plating baths, among other processes. Common chelators in the metal finishing industry can be citric acid, EDTA, ammonia, or cyanide. (See attached List)
- Chelation ties up the metals in wastewater, making it hard to break complexes. This prevents the



Bench testing is not an exact science. Each test can produce different results because every wastewater sample is different. Using bench tests to help determine the best chemicals for the wastewater system, you can eliminate weeks of trial and error on a large scale. You will still need to adjust the wastewater system while the water flows to dial in chemical feeds, but bench testing gives you an idea of the starting point. When there is a change to the chemicals used in production, bench testing the new chemicals will indicate how the wastewater system will respond to the new additions. Having all wastewater operators know what a bench test is and how to conduct one will save countless hours of downtime when a system upset occurs. They can quickly determine the best course of treatment using bench testing and then scaling the results up to the system versus making blind adjustments to the system trying to get it running correctly.





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