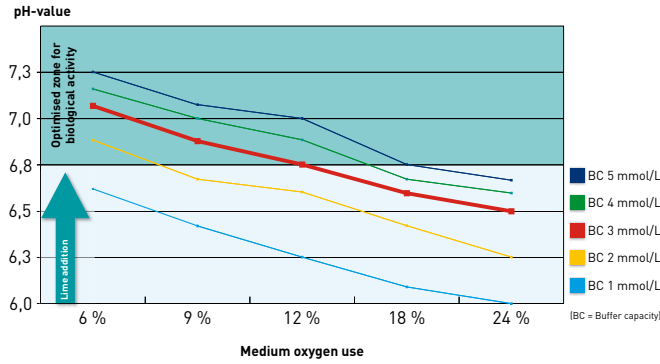
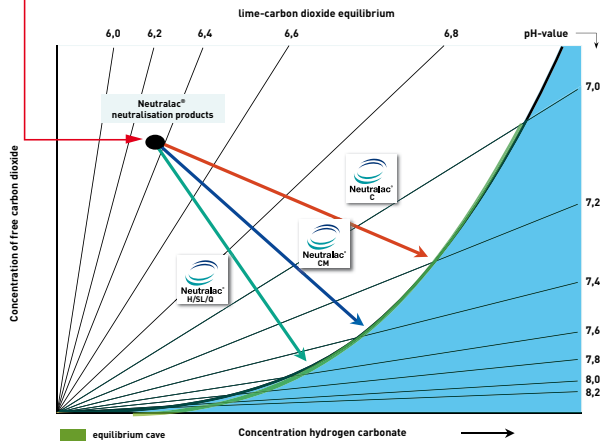
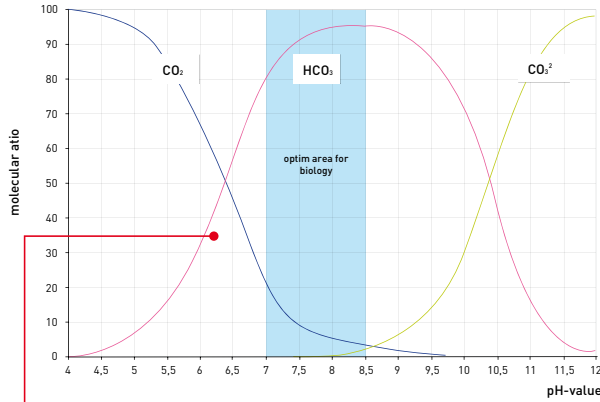




Wastewater in Equilibrium



Oxygen use for different pH values and buffer capacities [BC] in biological wastewater treatment

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To Ensure You Clear Solutions
**Calco-Carbonic Equilibrium in
 Biological Treatment Plants**



Calco-Carbonic Equilibrium in Biological Treatment Plants

Your Task

Since the introduction of nitrogen elimination at the end of the 1990s, problems have increasingly arisen concerning the sedimentation behaviour of sludges in biological wastewater treatment plants. Because of floating solids, effluents are frequently cloudy, making compliance with local water standards more difficult to satisfy. Usually this problem is also accompanied by a floating or bulking sludge formation during the cold seasons and with heavy rains.

Factors that are responsible for these undesirable effects include; the enrichment of carbon dioxide in the form of aggressive carbonic acid, and the acidification of the treatment process. However, it has been demonstrated that dosing lime and dolomite-based products, can counteract this acidification. The alignment of the calco-carbonic equilibrium in the wastewater has been found to be an efficient and cost effective remedy to this scenario.



Lhoist's Solution is Called Calci-action®

Specialised in Effluent Knowledge and Consulting

- an international network of experts
- a research and a development team dedicated exclusively to wastewater and effluent issues
- validated results that originate from both laboratory and client field tests

Neutralac® - Reagents

- have been specifically developed for the treatment of wastewater
- are available as dosable and highly reactive lime slurry
- are available in powder form, on both a calcium-based and dolomitic-lime basis
- are easy to store and dose

Services

- Analysis, wastewater plant auditing, production recommendation of sustainable neutralisation concepts- including technical implementation, logistics and monitoring
- Options of storage and dosing technology as well as local cooperation partners
- Customised process development and facility planning

Your Advantages

- A well-buffered biological treatment system that is in equilibrium can absorb more oxygen (= reduced energy costs)
- Floating sludge is prevented – Neutralac® binds surplus carbon dioxide, preventing flotation effects
- pH-value adjustment – Neutralac® produces optimised pH-values for the activated sludge process
- Organic content decomposition – the residual COD concentrations are reduced by up to 20%
- Nitrogen decomposition – the nitrification process is optimised
- Prevention of concrete aggressiveness – the reduction of free carbon dioxide prevents corrosion of concrete structures
- Bio-P-elimination – the biological phosphate elimination is enhanced
- Optimal sludge treatment – a compact flocculated structure improves turbid water decantation and stabilises the conditions for anaerobic decomposition. Sludges conditioned with lime can be dewatered more easily
- Good price-performance ratio – optimal results with low dosage