

Stabilise pH and boost alkalinity

A safe and cost effective alternative to the use of sodium hydroxide (caustic soda) or other chemicals for wastewater alkalinity and pH adjustment.

Has uncontrolled high pH adversely affected your treatment process?

Trouble with your water and its alkalinity?

Excess usage of chemical elements like lime and alum, and caustic soda leading to higher operations and maintenance cost?



ACTI-Mag has a higher neutralising value per kilo when compared with caustic whilst being significantly safer to handle than other traditional alkalis, making it a very safe and cost competitive option.



High neutralisation potential without high pH



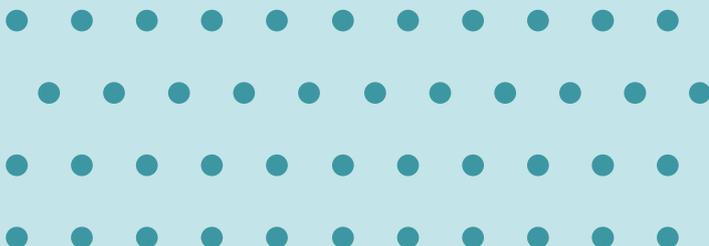
Reduced sludge generation making for easier disposal (lower overall costs)



Solve sodium discharge issues by substituting for caustic



Safer to handle than traditional neutralisation chemicals (Lime and Caustic)



THE ROLE OF ALKALINITY IN WASTEWATER TREATMENT

Alkalinity can be defined as the ability of a water to neutralize acid or to absorb hydrogen ions. In municipal and industrial wastewater, many factors contribute to alkalinity such as the type of dissolved inorganic and organic compounds present in the water, the amount of suspended organic matter in the water, the presence or absence of free hydroxyl alkalinity, the amount of bicarbonate in the water, or the bicarbonate to dissolved CO₂ ratio etc.

The bacteria which play an active role in wastewater treatment are most effective at a neutral to slightly alkaline pH (7 to 8). Maintaining the proper pH in the wastewater as it undergoes treatment is crucial to maintaining optimal conditions for the biological activity, which is why alkalinity is so important to the wastewater industry.



ACTI-MAG SUPPLIES MORE ALKALINITY THAN ALL CAUSTIC SODA.

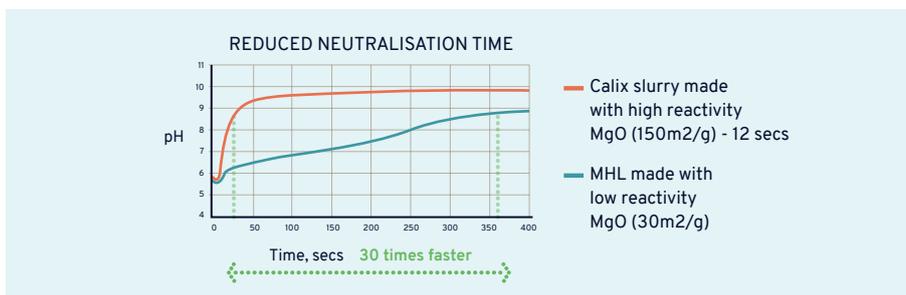
When an alkaline compound dissolves in water it produces hydroxide ions, OH⁻. These ions are responsible for the alkalinity of the solution.

Because Magnesium Hydroxide Mg(OH)₂ provides two hydroxides for alkalinity compared to one with NaOH caustic soda, the usage rate for Mg(OH)₂ is much less than that required for NaOH.

FASTER NEUTRALISATION LESS CHEMICAL CONSUMPTION

Neutralisation rate depends on how readily the solids dissolve to form an alkaline solution. ACTI-Mag is produced with Calix's own highly reactive Magnesium Oxide (MgO) produced using Calix Flash calcination process. This short contact heat treatment (less than 10 sec) rapidly converts the Magnesium carbonate ore (MgCO₃) to MgO by driving off CO₂. As the CO₂ is 'fizzled-off' from the fine ground mineral particles, it produces a highly porous mineral 'honeycomb' leaving a very high surface area. This allows for rapid hydration to MHL & the resultant high surface, reactive ACTI-Mag product is more readily released by dissolution to allow a significantly higher rate neutralisation than other low surface area, low reactivity MHL products.

ACTI-Mag lowers chemical consumption and ensures easier use, handling and storage, considerably reducing costs.



NOT ALL MAGNESIUM HYDROXIDE LIQUIDS ARE CREATED EQUAL

Lower cost-per-litre does not necessarily mean cheaper, it may mean lower solids concentration or low active ingredient availability due to low reactivity. The concentration of active ingredients in Magnesium Hydroxide Mg(OH)₂ impacts on the neutralisation time.

More solids (higher level of MHL per volume) = Lower required dose

At a 30% solids concentration, MHL can take more than twice the dose to achieve the same neutralisation capacity as the amount of ACTI-Mag, which would result in significantly higher annual consumption costs.

WHY CHOOSE CALIX

FASTER REACTIVITY = COST SAVINGS

New materials produced by Calix's technology are proving to have similar properties to highly active nano-materials, without the safety concerns and high cost, but with all the benefits. This means it has the high reactivity of nano-material, without the potential health and handling issues. To learn more about Calix's technology, visit our website.

FROM MINE TO CUSTOMER

Calix is able to offer better service, reliability and performance to its customers because it controls the entire production process from mining of raw materials, processing and production.

ACTI-Mag lowers chemical consumption and ensures easier use, handling and storage, thus considerably reducing costs.

ACTI-Mag also offers the following benefits:

- Phosphate removal
- Fats, oils and greases control
- Biogas management
- Odour control cleansing the sewer
- Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD) reduction

Read our other solution spec sheets or call us today to discuss the benefits of a whole-of-catchment approach.

Distribution partners

Calix has established a network of local distributors and partners who can deliver our solutions across the globe, to ensure you receive excellent customer service and support, wherever you are located.

To find a Calix office or partner near you, visit:

WWW.CALIX.GLOBAL

