

## pH Correctors

### Description

Certain natural waters are alkaline, so that the pH must be lowered, while others are acidic, so that the pH needs to be increased.



### Sodium Hydroxide

This is the most valuable pH correction additive if the pH must be raised, which is the case with most waters. In the interest of operational safety at waterworks, Osorno discourages the often-seen use of 50% sodium hydroxide because of the danger that it poses to operators; Osorno keeps the concentration of sodium hydroxide at 20% and recommends the use of 20 litre delcans. Sodium hydroxide is available in different varieties, but always with the equivalent of 20% hydroxide content:

Type "Mn" for enhanced manganese removal;

Type "As" for arsenic removal in conjunction with our treatment concept for water containing arsenic;

Type "K" for raising the pH by simultaneously raising the potassium content when the raw water already contains too much sodium, or has an imbalance between sodium and potassium content.

Sodium hydroxide is also available in a combination with a flocculant as Osorno's BaseFloc™.



### Hydrochloric Acid

Some natural waters are alkaline, so that the pH must be lowered. In the interest of operational safety at waterworks, Osorno keeps the concentration of hydrochloric acid at 9% because concentrated hydrochloric acid has 32 – 24%, and its fumes are a health risk and cause substantial corrosion in plants. Hydrochloric acid is also available in a combination with a flocculant as Osorno's HiFloc™.

Occasionally, one can hear the recommendation to use sulfuric acid or citric acid when water pH needs to be lowered. Sulfuric acid, especially when concentrated, poses a substantial threat to operational safety, and citric acid, as an organic compound, increases the danger of elevated levels of chlorinated compounds in finished water, if chlorination is chosen as a disinfection method. Hydrochloric acid is the obvious alternative.

# Water Additives



## Application

- pH adjustment for iron and manganese removal,
- pH adjustment for arsenic removal,
- pH adjustment after coagulation process,
- pH correction for efficient chlorination,
- pH adjustment for formation of chloramines.

## Application Facts

- Frequently used flocculants such as alum, aluminium sulphate, and polyaluminiumchloride lower the pH of the water - slightly in naturally hard water, significantly in naturally soft water. This lowered pH is often sufficient to keep unnecessarily high concentrations of aluminium in the finished water. Usually, this is not detected, because hardly anybody monitors the aluminium concentration of potable water.
- The dosage of hypochlorite ("liquid chlorine") for disinfection increases the pH of finished water slightly in naturally hard water, significantly in naturally soft water.
- The lower the pH of finished water, the more carbon dioxide is dissolved in the water, i.e. the higher the corrosion. Water that does not contain free carbon dioxide has a pH 8.2. As the pH gets to 8.0 or higher, water gets a "soapy" taste. If the pH drops below 7.6, the removal of iron and manganese becomes difficult.



## Dosage rate

Dosage of pH corrector depends on the application;  
Dosage of pH corrector is be calculated from pH titration test.

***Deliver water sample to our lab and we will analyse it for pH correction.***

## Product information

pH correction additives are sold in the 20 l delacsns and 208 l drums.  
Sodium hydroxide has 20% concentration and hydrochloric acid has 9% concetration.  
If required, the concentration of pH corrector can be customized.  
Wear protective equipment and clothing prior to application.  
Please read MSDS and user manual prior to product use.

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