



XzioX in Paper and Pulp Application

XzioX - Advanced Chlorine dioxide can be used in the "elemental chlorine free (ECF)" bleaching of pulp. The chlorine dioxide will oxidise lignin and result in bleaching of the pulp. Unlike chlorine bleaching XzioX chlorine dioxide will not produce environmentally damaging trihalomethanes and other halogenated organic compounds, virtually eliminating by-product emissions. Chlorine dioxide can do this whilst still retaining pulp efficiency and paper quality

Chlorine Dioxide has been used in the paper industry since the 1940's and it remains the most widely used biocide for this application. Production of paper uses vast amounts of water and in order to remain efficient this water must be reclaimed. However, paper is also an organic compound and as such can be utilised by micro-organisms as a food source and breeding ground. It is therefore important to treat this reclaimed water, which can be as much as 30% of the stock pulp, to ensure this water remains usable.

On the other hand minimising costs without compromising production quality or quantity is the most important factor. Reclaiming "white-water" is one of the best ways to do it. Roughly 30% of pulp stock ends up as white-water. A modern pulp and paper plant can use vast amounts of fresh water to produce one tonne of paper. It is imperative that plants recycle as much white-water as possible. Many paper plants are forced to find water from a variety of sources - reclamation, rivers, streams.....etc. This creates a high demand for microbial control and sanitation.

XzioX – Advanced Chlorine Dioxide solution provides a fast and effective solution. XzioX is an advanced delivery system generating a chlorine dioxide solution with purity greater than 99.99 percent. The active biocidal substance is Chlorine Dioxide (ClO₂) which is 10 times more powerful than chlorine and chlorine type disinfectants. A powerful algaecide, bactericide and fungicide, XzioX is able to reduce and eliminate those harmful micro-organisms impacting to effecting water quality. Chlorine dioxide has been called the "ideal biocide". It has a far greater efficacy than traditional products such as chlorine

XzioX – Advanced Chlorine Dioxide is an excellent biocide choice. It is highly effective, even in high organic loadings, it is unaffected by pH and it will penetrate biofilm thus removing micro-organisms protection. Implementation of cleaner production processes and pollution prevention measures will yield both economic and environmental benefits.

Our latest technology offers continuous, effective and straightforward production of chlorine dioxide, which can be delivered to a multitude of locations within the pulp and paper production process. This is the most efficient and cost effective treatment available.



Using the XzioX for Pulp and Paper application has the following advantages:

- XzioX is highly effective even at low concentrations
- No environmentally by-products are produced
- XzioX does not react with cellulose fibres
- XzioX is effective against a wide range of micro-organisms including bacteria, fungi and protozoa
- Anaerobic bacteria such as Sulphite reducing bacteria SRBs are killed and XzioX will control odour
- XzioX does not survive the drying process and so no odour or taint is imparted onto the finished product
- XzioX is unaffected by pH
- There is no build up of bacterial resistance
- It will retain an effective residual concentration under operating conditions.
- It is effective against aerobic and anaerobic residual bacteria with no potential for immunity development via mutation.
- It will penetrate the slime and biofilm layers eliminating the nutrient source for pathogens to colonise.
- Offers a highly effective treatment for handling Sulphite Reducing Bacteria (S.R.B's), including odour destruction.

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