Instran®

March 2021

ONLINE ANALYZER INSTRAN TO CONTROL CYANURIC ACID

Ercros

Ercros is an industrial group diversified into three areas of activity:

- Chlorine Derivatives Division
- Intermediate Chemicals Division
- Pharmaceuticals Division

It has 10 production centres and 4 R&D centres: Almussafes, Aranjuez, Tortosa and Sabiñánigo.

In Europe Ercros leads sales of trichloroisocyanuric acid (TCCA) and in Spain it leads sales of caustic soda and caustic potash, sodium hypochlorite, sodium chlorate, formaldehyde, pentaerythritol and moulding powders, and is the second player in the PVC, and glues and resins market.

Specifically, the Sabiñánigo factory focuses its activity on chlorine derivatives. The products marketed are: chlorine (Cl_2), caustic soda and caustic potash (NaOH, KOH), potassium carbonate (K_2CO_3), sodium chlorate ($NaClO_3$), sodium chlorite ($NaClO_2$), hydrochloric acid (HCl), sodium hypochlorite (NaClO), ammonia (NH3), hydrogen peroxide (H_2O_2) and trichloroisocyanuric acid (TCCA).

Trichloroisocyanuric acid (TCCA) is a product widely used in swimming pool water treatment. It is an effective oxidant when in contact with water. It is also very useful in the disinfection, treatment and maintenance of swimming pool water and in the formulation of detergents, bleaches and cleaning products.

In the manufacture of this compound, **cyanuric acid, chlorine and caustic soda** are used as raw materials.

As a by-product of this process, a **NaCl brine** is generated which can be used as a raw material in other manufacturing processes at the Sabiñánigo plant, specifically in the electrolysis of chlorine-soda and sodium chlorate. This brine undergoes a purification treatment before it can be used as a raw material, in particular it is necessary to eliminate the remains of chlorine (dechlorination) and cyanuric acid (filtration + adsorption using towers of coal activated), as these can be harmful in electrolysis.

Therefore, it is important to ensure that the concentration of cyanuric acid in this brine is below a certain value at all times.

The availability of an online cyanuric acid analyser allows the maximum utilisation of the NaCl brine in other plants, with the resulting cost savings in production.

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The **Instran analysis method for cyanuric acid** is based on measuring the turbidity formed by the precipitation of an insoluble complex formed by adding a reagent to the solution containing cyanuric acid. The absorbance generated by the turbidity provided by the insoluble compound is linear with the concentration of cyanuric acid.

This analyser was installed in the Sabiñánigo factory on 1 December 2020, in the TCCA plant, at the exit of the final mother liquor treatment to the electrolysis plants.

It is of interest that the brine has less than 10 mg/l of cyanuric acid and the detection limit is around 5 mg/l, so it is valid for the application explained.

At 28th of June of 2022, the analyser has been in operation for almost 18 months (since December 2020) without any incident or failure and with total reliability.

For more specific information about the analyzer, please contact:
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