AkzoNobel mTA-Salt

Safe savings – the future of chlorine electrolysis

AkzoNobel
Tomorrow's Answers Today

Improved safety at lower cost – the future of chlorine electrolysis

Introducing AkzoNobel mTA-Salt – the latest innovation from our laboratories. It's Industrial Salt with an eco-efficient anti-caking agent that could save up to 5% of your chlorine production plant's total energy consumption.

Salt tends to cake when transported or stored without special additives. So back in the 1950s AkzoNobel developed ferrocyanide (also called YPS), a powerful anti-caking agent for salt that effectively prevented lumps forming and made it instantly ready for use in industry.

However, times change and technology evolves. Membrane electrolysis is the new standard in chlorine production – but ferrocyanide isn't removed during brine purification, putting salt with this anti-caking agent at a cost disadvantage. Ferrocyanide decomposes into 'free' iron and cyanide when it enters the membrane electrolysis cell; the latter partially transforms into highly-explosive nitrogen trichloride that needs to be destroyed. The membranes and electrodes can also suffer from iron deposits which affect the cells' performance – resulting in rising electricity costs as they use more energy in the struggle to work effectively.

We want to help our customers conserve resources. We believe in living up to our promise of delivering "Tomorrow's Answers Today". We searched for new solutions.

Setting a new standard
The result? After years of development and testing, our researchers gave us AkzoNobel mTA, a substitute for ferrocyanide that matches its performance while addressing the issue of increased energy consumption. It's the viable, nitrogen-free standard in anti-caking that, applied to our Industrial Salt, can help our customers save up to 5% of their current energy consumption during membrane electrolysis. It's a state-of-the-art liquid agent sprayed onto salt before transport to the customer.

Tested… approved… ready
AkzoNobel has used around one million tons of mTA-Salt each year in its own Chlor-Alkali plants since 2005. During this time more than five million tons of salt have benefited from our mTA formulation.
Now we think it's time for the next step – offering mTA-Salt to the rest of the Chlor-Alkali world.

Increased efficiency – minimal downtime
Extensive research and close monitoring in our own plants has confirmed the benefits of using AkzoNobel mTA-Salt:

- Cost savings, thanks to a reduction in power consumption of up to 5%: iron contamination is prevented through constant high cell performance
- Less maintenance, thanks to increased cell lifespan:
  - no iron contamination means less pinhole formation
  - fewer pinholes means less damage caused by caustic entering the anode compartment
  - less oxygen – that can reduce the anodes' life – develops as a by-product
- Less downtime, increased production: forced shutdowns to clean membranes and cells from iron precipitation is reduced to a minimum
- Enhanced product quality: brine acidification no longer a problem
- Cost savings through waste reduction: less chlorate in return brine – and therefore in the purge – could even eliminate the need for an additional conversion unit

Safer processes

- Enhanced safety with less cost: highly-explosive nitrogen derivatives in the feed brine are reduced

Better eco-efficiency
AkzoNobel mTA is an entirely biodegradable specialty chemical. It quickly decomposes in soil or water – it's a 'green' product. And because it helps to save energy, it increases the eco-efficiency of the whole chlorine production process.

AkzoNobel mTA-Salt is commercially available. For further information please contact our Marketing & Sales department.

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