



PRODROMOS
T e c h n o l o g i e s

Prodromos Sodium Sulphate Splitting Technology

Sodium Sulphate (Na_2SO_4) has become an abundant by-product in many industries, especially where caustic soda and sulphuric acid is used. Prodromos has developed a breakthrough process technology to convert the sulphate salt back to its acid and base components of NaOH and H_2SO_4 .

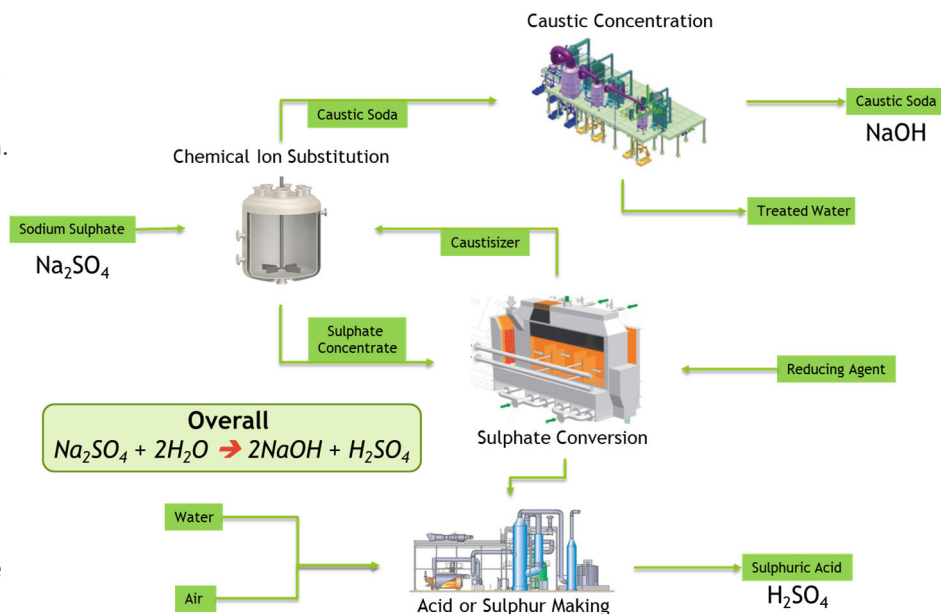
GENERIC PROCESS

The concentrated sodium sulphate solution is contacted with a causticizing agent, converting the sodium sulphate solution to a sodium hydroxide solution. The sulphates are converted to a solid sulphate concentrate.

The generated caustic stream can be concentrated to a higher concentration by distilling off excess water, if necessary. It can be reused in the upstream process or sold into the market.

The solid sulphate concentrate is separated from the caustic solution. After drying, it is thermally contacted with a reducing agent to again form the causticizing agent, which is contacted with incoming sodium sulphate.

In the thermal process the sulphates are converted to gaseous sulphur dioxide. This sulphur dioxide is in turn converted to sulphuric acid. This sulphuric acid can be marketed or reused upstream.



TECHNOLOGY APPLICATIONS

1. Spent Caustic Treatment
2. Paper & Pulp—Kraft Mills
3. Mine Water (AMD) Treatment
4. Demineralisation Wastewater
5. Textile Industry—Rayon Manufacturing
6. Hydro-Desulphurisation
7. Flue Gas Desulphurisation

KEY BENEFITS

1. **Environmental**
 - ⇒ Waste Reduction
 - ⇒ Reduced Carbon Footprint
2. **Improved Sustainability**
 - ⇒ Own Input Chemicals from Waste
 - ⇒ Towards Circular Economy
 - ⇒ Reduced Reliance on Suppliers
3. **Improved Bottom Line**
 - ⇒ Reduced Waste Disposal Cost
 - ⇒ Reduced Input Chemical Cost
 - ⇒ Additional Marketable Product



Redefining Reality, Providing Possibility
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