



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

Application of Prodromos SSS Technology Hydro-Desulphurisation

Prodromos has developed a breakthrough process technology to convert Sodium Sulphate (Na_2SO_4) back to its acid and base components of NaOH and H_2SO_4 . This presents a substantial opportunity in the removal of sulphates from metal concentrates.

THE OPPORTUNITY

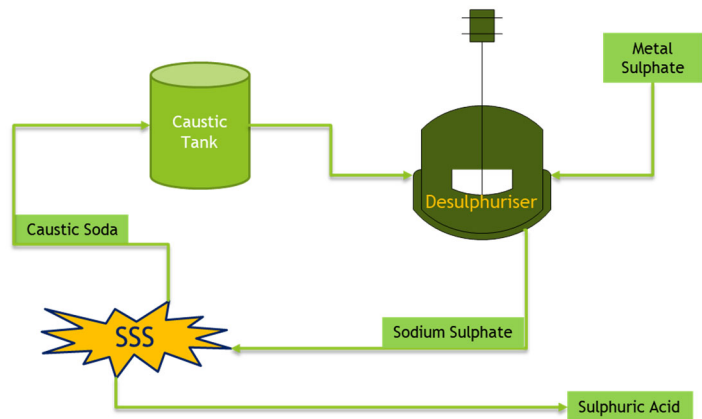
Sulphates in metal concentrates are normally removed using thermal processes, which are energy intensive and present air emissions challenges.

An emissions-friendly process is available whereby sulphates can be removed in the water phase using caustic soda (NaOH). The drawbacks of this process are the high cost of caustic and the sodium sulphate waste stream so produced.

By feeding the produced sodium sulphate to our sodium sulphate splitting (SSS) technology, one can produce all the required caustic for desulphurisation. This means no caustic has to be purchased anymore. At the same time, the production of waste is prevented.

To sweeten the deal, sulphuric acid is produced that can be sold into the market.

This allows for substantial savings in chemical purchases and a significant reduction in waste production.



SSS finds particular application in the hydrometallurgical route of lead acid battery recycling, perhaps the best example of the circular economy. By reproducing sodium hydroxide within the process, one has a circular economy within a larger circular economy.

TECHNOLOGY APPLICATIONS

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

KEY BENEFITS

1. **Environmental**
 - ⇒ Waste Reduction
 - ⇒ Reduced salt discharge/accumulation
2. **Improved Sustainability**
 - ⇒ Own Input Chemicals from Waste
 - ⇒ Circular Economy
 - ⇒ Reduced Reliance on Suppliers
3. **Improved Bottom Line**
 - ⇒ Reduced Waste Disposal Cost
 - ⇒ Reduced Input Chemical Cost



Redefining Reality, Providing Possibility
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