



nesi

SODIUM SULPHATE WASTE RECOVERY

USING THE NORSCAND® A15 COMMERCIAL ELECTROLYSER

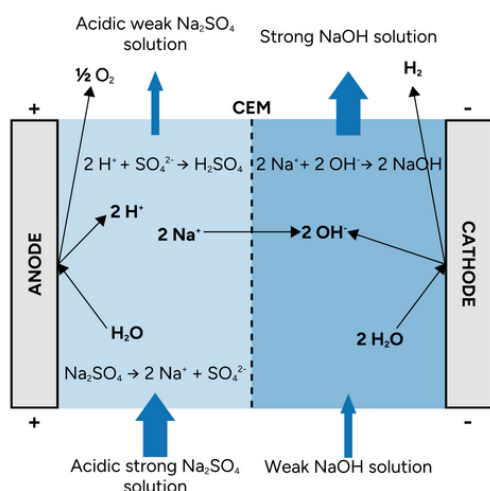


From industrial waste product to valuable product

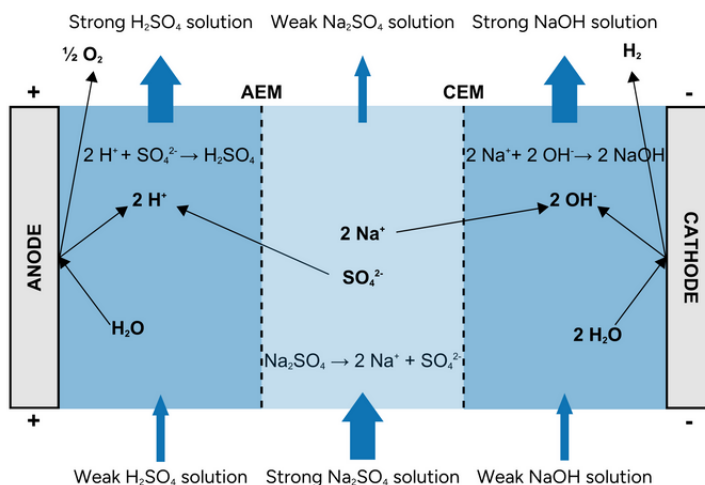
The NORSCAND® electrolyser converts a sodium sulphate solution into sodium hydroxide and sulphuric acid through an electrochemical process. Water is electrochemically reduced at the cathode and oxidized at the anode, producing hydroxide ions and protons, which then combine with the ions from the salt solution to form caustic and acid.

In the two-compartment design, a cation exchange membrane separates the anode and cathode chambers. This configuration is ideal for processes that can use a combined stream of sulphuric acid and sodium sulphate. If required, multiple downstream options are available to substantially separate the sodium from the acid.

For applications requiring higher purity acid, a three-compartment configuration can be applied. This is particularly suitable for industries that require high-purity reagents either for reuse or commercial sale.



2 compartment Na₂SO₄ Electrolysis Schematic



3 compartment Na₂SO₄ Electrolysis Schematic

Unlock circular economy potential

Sodium sulphate electrolysis with the NORSCAND® Platform

Just add electrons

Sodium sulphate is a prevalent waste byproduct across key industrial sectors, especially in the production of critical minerals and cathode active materials (CAM). Electrochemical conversion of sodium sulphate waste presents a elegant circular solution — regenerating sulphuric acid and sodium hydroxide for reuse or resale. This approach not only minimizes waste but also enhances resource efficiency and sustainability across the value chain.



The NESI Advantage

High Performance

- Lowered CAPEX and OPEX
- High purity product

Scalable

- Engineered turnkey systems
- Flexible single element design
- Modular electrolyzers

Reliable

- Proven industrial validation
- Simplified supply chains
- Comprehensive engineering support

Sustainable

- Reduced reagent consumption and transport
- Reduced/eliminated waste streams



WE ARE HERE TO HELP

Integrating NESI's technology to your advantage

With decades of experience in both electrochemistry and globally delivering industrial process plants, NESI has the ability to successfully deliver our salt splitting process as well as the knowledge to optimize it for your unique project and feedstocks. Our team of engineers and project delivery experts are available to help you explore the financial, environmental, and permitting benefits of using the NORSCAND® A15 electrolyser for your sodium sulphate recovery project.

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