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(54) Title: PROCESS AND SYSTEM FOR PRODUCING SODIUM CHLORIDE BRINE

(57) Abstract: The invention provides a process and system for producing sodium chloride brine suitable for use in a sodium hydroxide production plant having a chlor-alkali membrane cell, said process comprising (a) nanofiltering feed water containing dissolved sodium chloride to produce a permeate and a retentate, wherein the retentate comprises at least 85% of any divalent ions from the feed water; and (b) purifying the permeate to produce the sodium chloride brine suitable for use in a sodium hydroxide production plant having a chlor-alkali membrane cell, wherein step (b) comprises electrodialyzing the permeate to produce a concentrate having a greater concentration of total dissolved salts and a smaller proportion of divalent ions than the permeate and a diluent comprising water and divalent ions separated from the permeate. The invention also provides a process and system for producing sodium hydroxide, and a process for the commercial production of soda ash.



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