

Production of industrial grade high purity salt from sea water/subsoil and lake brines suitable for chlor-alkali manufacture

Application/Uses/Problem being Addressed:

For production of salt to be used as raw material in chlor alkali industries.

Salient Technical Features including Competing Features/Impact:

The process is an improvement over the existing process of producing salt of high purity from alum-treated brine. More particularly, the invention rectifies the ratio of Ca^{2+} to Mg^{2+} from a value <1 to a value in the range of 2-3 desired by chlor-alkali and soda ash industries.

Business Scope & Opportunity (in terms of scale, cost, market, etc.):

The technology is ready for technology

transfer and can be implemented on commercial scale. The product has high demand in chlor-alkali industrial sector.

Environmental Considerations, if any:
Eco-friendly.

Status of Licensing:

Technology transferred to-

- DCM Shriram Consolidated Ltd, New Delhi.
- Grasim Industries Ltd, Chemical Division, Birlagram, Nagda.
- DCW Ltd., Tuticorin, Tamil Nadu.

Status of Commercialization:

Commercialized.

Major Raw Materials Needed:

Sea/Subsoil brine, flocculating agents, mineral acid.

Major Plant Equipment and Machinery Required:

Material handling equipment such as pumps, belt conveyors, ridger, harvesters, loaders, crushers, tractors, trailers, washery, etc.

Technology Package:

- Collection of brine samples and their physical and chemical characterization.
- Characterization of soil samples and assessing its suitability for construction of salt works.

IPR Status & IPR Details
US 8021442B2, US 8282690B2



TRL Level & Scale of Development : TRL-7

- Assessment of percolation of brine through the soil based on the soil characteristics.
- Assessment of the quality and yield of salt likely to be produced in the area based on the initial brine density and chemical composition.
- Study of possibilities of inundation of the area during monsoon with an aim to assess the suitability of the land for construction of salt works.

Techno-Economics
To be worked out based on
proposed capacity

- Preparation of feasibility report based on the above mentioned study.
- Design and layout of solar salt works.
- Demonstration of solar salt production process.
- License fee and other financial details would be provided on specific request.



Figs. : Demonstration of the process in
(1) CSIR-CSMCRI experimental salt farm.
(2) Commercially operated solar salt works.
(3) In one of the marginal salt works in Gujarat.