

Investment Opportunities in Precipitated Silica from Rice Husk Ash Project

Description:

Precipitated Silica Production

Silica is not a new commodity in the plastics market. Its usage as extenders and reinforcing fillers, as pozzolanic material and as glass microspheres for specific engineering applications are well known in the market. Because of its high silica and lignin content, rice husk is tough, woody and abrasive in nature with low nutritive properties and resistance to weathering. With growing environmental concern, open burning has been outlawed in many major rice-producing countries. 18% of the rice husk can be retrieved as ash after the gasification process. Silica content in ash is almost 90% and the rate of recovery of precipitated silica is 90-95% from the rice husk ash if the conversion efficiency is more than 70%. Rice hull ash (RHA) contains over 60% of silica which can be an economically viable raw material for the production of silica based products.

Silica generation is a separate independent process not dependent on electricity generation, although the input ash is dependent on gasification process. Provision will be taken in the design so that external ash is used also as input thus increase silica production.

Liquid sodium silicate is processed with acid and filtered. The filter separates a diluted sodium sulfate (Glauber's salt solution) and the wet silica product. The salt solution can be evaporated or fed to a reverse osmosis and solid salt is produced as a valuable by-product. The wet filter cake is finally washed and fed to the drying unit. With special dryers a precipitated silica product with about 8% water content is produced. The precipitated amorphous silica powder is screened and stored in storage silos. For distribution of silica products packaging in bags of various sizes is executed in the packing unit.

Uses of Precipitated Silica

- Rubber industry – as a reinforcing agent
- Cosmetics
- Tooth pastes – as a cleansing agent
- Food industry – as an anti-caking agent.
- Paints – as a filler

The distinguishing feature of the growth of precipitated silica industry in India is that it has classifiably flourished in the small scale sector. Readily available new materials low capital investment & high rates of return offer a distinct advantage to the small scale manufacturers to venture into this field. There is a very good scope in this sector.

Few Indian Major Players are as under:

Gujrat Multi Gas Base Chemicals Private Limited

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Mumbai Manswill Chemicals Private Limited

Wellink Chemical Industrial Company Limited,

Nanping Insilco Limited

Famous Minerals and Chemicals Private Limited

Gujarat Silicon Pvt. Ltd.

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