Make Money From Rice Husk Ash.

Converting Waste Agricultural Biomass into a Resource. Precipitated Silica from Rice Husk Ash Project

Rice husk, an agro waste material, contains about 20% ash which can be retrieved as amorphous, chemically reactive silica. This silica finds wide applications as filler, catalyst support, adsorbent and a source for synthesizing high performance silicon and its compounds. Various metal ions and unburned carbon influence the purity and color of the ash. Controlled burning of the husk after removing these ions can produce white silica of high purity. India produces around 25 million tons of rice husks (widely available waste).

78% of weight as rice, broken rice and bran, rest 22% of weight of paddy as husk. 75% of organic volatile matter and 25% of weight is converted as Rice Husk Ash (RHA) during firing process. Husk contains 17%-20% silica in complex form and RHA contains 85%-95% amorphous silica. RHA is a great environment threat causing damage to the land and the surrounding area in which it is dumped.

Precipitated silica can be prepared by treating rice husk with Sodium sulphate to produce Sodium silicate, which is then dissolved in water and reacted with Sulphuric acid to get Precipitated silica

catalyst support, adsorbent and a source for synthesizing high performRice husk is treated with Sodium sulphate to produce Sodium silicate. Sodium silicate obtained is diluted with water. The diluted Sodium silicate solution is brought to a certain temperature and Sulphuric acid of appropriate dilution is added in controlled condition. The resultant product is Precipitated silica, which is washed in a washing tank. The washed Precipitated silica is filtered, dried and pulverised to required mesh size.ance silicon and its compounds. Various metal ions and unburned carbon influence the purity and color of the ash. Controlled burning of the husk after removing these ions can produce white silica of high purity.

Precipitated Silica Production

Silica is not a new commodity in the plastics market. Its usage as extenders Rice husk is treated with Sodium sulphate to produce Sodium silicate. Sodium silicate obtained is diluted with water. The diluted Sodium silicate solution is brought to a certain temperature and Sulphuric acid of appropriate dilution is added in controlled condition. The resultant product is Precipitated silica, which is washed in a washing tank. The washed Precipitated silica is filtered, dried and pulverised to required mesh size. 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 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

Silica is the major constituent of the rice husk ash. So precipitated silica production will not only provide value addition but also solve the problem of large amount of ash disposal generated from gasification process. With such a large ash content & silica content in the ash it becomes economical to extract silica from the ash, which has wide market & also takes care of ash disposal.

Precipitated Silica (also called particulate silica) is composed of aggregates of ultimate particles of colloidal size that have not become linked in massive gel network during the preparation process. It is an amorphous form of silica; the word amorphous denotes a lack or crystal structure, as defined by x ray diffraction.

Early interest in amorphous silica was purely academic. The ash produced after the husks have been burned is high in silica. RHA can be used in a variety of application like: green concrete, high performance concrete, ceramic glaze, water proofing chemicals, roofing shingles, insulator, specialty paints, flame retardants, carrier for pesticides, insecticides & bio fertilizers etc.

Precipitated silica is also used as filler for paper & rubber, as a carrier & diluents for agricultural chemicals, as an anti-caking agent, to control viscosity & thickness and as a cleansing agent in toothpastes & in cosmetics. 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
- Gujarat Multi Gas Base Chemicals Private Limited,
- Mumbai Manswill Chemicals Private Limited
- Wellink Chemical Industrial Company Limited,
- Nanping Insilco Limited
- Famous Minerals and Chemicals Private Limited
- Gujarat Silicon Pvt. Ltd.

Project at a Glance

Capacity:	4500 MT/Annum
Plant & Machinery:	Rs. 28 Lakhs
Cost of Project:	Rs. 129 Lakhs
Rate of Return:	46%
Break Even Point:	38%

Tags

Precipitated Silica Manufacturing Process, Precipitated Silica Process, Process of Precipitated Silicate Plant, Manufacturing of Precipitated Silica from Rice Husk, Precipitated Silica from Rice Husk, Precipitated Silica Manufacturing in India, Process of Precipitated Silica from Rice Husk, Extraction of Ultrapure Silicon from Rice Husk Ash, Rice Husk Ash, Make silica from rice husk in India, process plant of Rice Husk, Large scale silicon production from Rice Husk, Production of Precipitated Silica in India, Profitable Manufacturing Businesses in India in Rice Husk, Precipitated Silica Market Research Report, Production process of Precipitated Silica, Precipitated Silica Market, RHA, Precipitated Silica Manufacturing Plant Project Report, Project Report on Precipitated Silica Manufacturing Process, Processing Plant of Precipitated Silica, How to produce Precipitated Silica, Best Business to Start in Precipitated Silica Manufacturing Process, Production Line of Precipitated Silica, Best Business to Start in Precipitated Silica Manufacturing Process, Precipitated Silica Manufacturing Plant Project Report, How to Manufacture Rice Husk based Products, Precipitated Silica Industry,

Tags

Preparation of Precipitated Silica form Rice Husk, Use of Rice Husk Ash in Precipitated Silica, Make Money from Waste, Production Process for Precipitated Silica form Rice Husk, Low Cost Small Business Ideas for India, Best Small Business Ideas in India to Start Business, 100% Risk Free Business, Profitable Small Business Ideas with Small Investment, Best Home Based Business Ideas, Best Part Time Business Ideas to Start New Business, Best Ideas for Low Budget Business and More Profits, Top Best Small Business Ideas for Women in 2017, Most Profitable Business Ideas with Low Investment, Easy Simple Best Unique Low Cost Small Investment, Start up Business Ideas, Secret to Making Money by Starting Small Business, Small Business Ideas with Small Capital, Top Best Small Business Ideas for Beginners 2017, Small Business But Big Profit in India, Best Low Cost Business Ideas, Small Business Ideas that are Easy to Start, How to Start Business in India, Top Small Business Ideas in India for Starting Your Own Business, Top Easy Small Business Ideas in India, Small Investment Big Returns, Top Best Small Business Ideas in India, Business Ideas With Low Investment, How to Get Rich

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See more:

https://goo.gl/HvdyyY

https://goo.gl/jznBJV

https://goo.gl/EtdwpN

Our Detailed Project Report Contains

➢ Introduction

- Project Introduction
- Project Objective and Strategy
- Concise History of the Product
- Properties
- BIS (Bureau of Indian Standards) Provision & Specification
- Uses & Applications

➢ Market Study and Assessment

- Current Indian Market Scenario
- Present Market Demand and Supply
- Estimated Future Market Demand and Forecast
- Statistics of Import & Export
- Names & Addresses of Existing Units (Present Players)
- Market Opportunity

➢ Raw Material

- List of Raw Materials
- Properties of Raw Materials
- Prescribed Quality of Raw Materials
- List of Suppliers and Manufacturers

➢ Personnel (Manpower) Requirements

- Requirement of Staff & Labor (Skilled and Unskilled) Managerial, Technical, Office Staff and Marketing Personnel

➢ Plant and Machinery

- List of Plant & Machinery
- Miscellaneous Items
- Appliances & Equipments
- Laboratory Equipments & Accessories
- Electrification
- Electric Load & Water
- Maintenance Cost
- Sources of Plant & Machinery (Suppliers and Manufacturers)

➢ Manufacturing Process and Formulations

- Detailed Process of Manufacture with Formulation
- Packaging Required
- Process Flow Sheet Diagram

➢ Infrastructure and Utilities

- Project Location
- Requirement of Land Area
- Rates of the Land
- Built Up Area
- Construction Schedule
- Plant Layout and Requirement of Utilities

Along with project financials, as under:

- Assumptions for Profitability workings
- Plant Economics
- Production Schedule
- Land & Building

Factory Land & Building

Site Development Expenses

- Plant & Machinery

Indigenous Machineries
Other Machineries (Miscellaneous, Instruments, Laboratory Equipments and Accessories etc.)

- Other Fixed Assets

Furniture & Fixtures
Pre-operative and Preliminary Expenses
Technical Knowhow
Provision of Contingencies

- **Working Capital Requirement Per Month**

Raw Material
Packing Material
Lab & ETP Chemical Cost
Consumable Store

- **Overheads Required Per Month and Per Annum**

Utilities & Overheads (Power, Water and Fuel Expenses etc.)

Royalty and Other Charges
Selling and Distribution Expenses

- Salary and Wages
- Turnover per Annum
- Share Capital

Equity Capital

Preference Share Capital

- **Annexure 1 :: Cost of Project and Means of Finance**

- **Annexure 2 :: Profitability and Net Cash Accruals**

Revenue/Income/Realisation
Expenses/Cost of Products/Services/Items
Gross Profit
Financial Charges
Total Cost of Sales
Net Profit After Taxes
Net Cash Accruals

- **Annexure 3 :: Assessment of Working Capital requirements**

Current Assets
Gross Working. Capital
Current Liabilities
Net Working Capital
Working Note for Calculation of Work-in-process

- **Annexure 4 :: Sources and Disposition of Funds**

- **Annexure 5 :: Projected Balance Sheets**

ROI (Average of Fixed Assets)
RONW (Average of Share Capital)
ROI (Average of Total Assets)

- **Annexure 6 :: Profitability ratios**

D.S.C.R
Earnings Per Share (EPS)
Debt Equity Ratio

- **Annexure 7 :: Break-Even Analysis**

Variable Cost & Expenses

Semi-Var./Semi-Fixed Exp.

Profit Volume Ratio (PVR)

Fixed Expenses / Cost

B.E.P

- **Annexure 8 to 11 :: Sensitivity Analysis- Price/Volume**

Resultant N.P.B.T

Resultant D.S.C.R

Resultant PV Ratio

Resultant DER

Resultant ROI

Resultant BEP

- **Annexure 12 :: Shareholding Pattern and Stake Status**

Equity Capital

Preference Share Capital

- **Annexure 13 :: Quantitative Details-Output/Sales/Stocks**

Determined Capacity P.A of Products/Services

Achievable Efficiency/Yield % of Products/Services/Items

Net Usable Load/Capacity of Products/Services/Items

Expected Sales/ Revenue/ Income of Products/ Services/ Items

- Annexure 14 :: Product wise domestic Sales Realisation
- Annexure 15 :: Total Raw Material Cost
- Annexure 16 :: Raw Material Cost per unit
- Annexure 17 :: Total Lab & ETP Chemical Cost
- Annexure 18 :: Consumables, Store etc.,
- Annexure 19 :: Packing Material Cost
- Annexure 20 :: Packing Material Cost Per Unit

- Annexure 21 :: Employees Expenses
- Annexure 22 :: Fuel Expenses
- Annexure 23 :: Power/Electricity Expenses
- Annexure 24 :: Royalty & Other Charges
- Annexure 25 :: Repairs & Maintenance Exp.
- Annexure 26 :: Other Mfg. Expenses
- Annexure 27 :: Administration Expenses
- Annexure 28 :: Selling Expenses

- Annexure 29 :: Depreciation Charges – as per Books (Total)
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- Annexure 35 :: Projected Pay-Back Period And IRR

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- **Raw Material & Manpower Availability**
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- Thorough analysis of the project
- Economic feasibility study of the Project
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- Report Compilation

Contact Us

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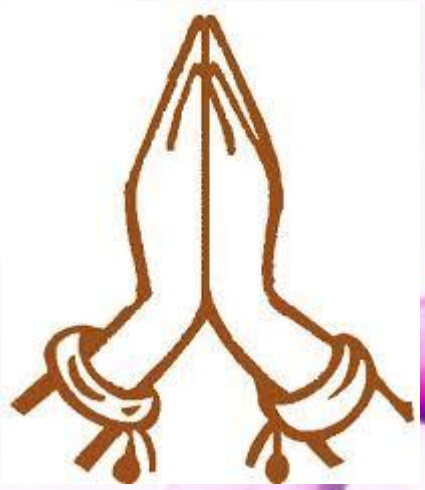

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