

**Production of Sulphuric Acid,
Chlorosulphonic Acid,
23% Oleum.**

**Business and Investment
Opportunities in Chemical
Industry**

[NPCS/5054/23341]

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Introduction

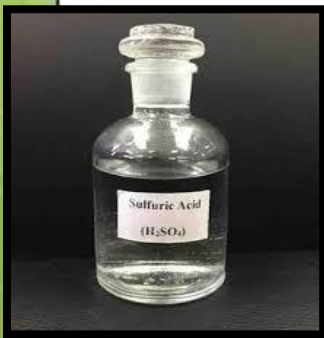
Sulphuric acid also known as 'oil of vitriol' having molecular formula H_2SO_4 is a highly strong corrosive mineral acid. Sulphuric acid is pungent-ethereal, colorless to slightly yellow viscous liquid soluble in water at all concentrations. During production, sulphuric acid takes dyed dark brown color to intimate people of its strong hazard effects. Sulphuric acid shows different properties with different material depending on the concentration. Having strong acidic nature, sulphuric acid can harm materials such as metals, living tissues even stones at strong concentration. Sulphuric acid at high concentration can cause serious damage to eye as it burns the cornea of the eye causing permanent blindness if splashed into the eye.

Sulfuric acid is a diprotic acid that exhibits different variety of properties depending upon its concentration. Sulphuric acid has the biggest output of any chemical in the world. Sulphuric acid is majorly used in the manufacture of chemicals to make sulfate salts, pigments, dyes, nitric acid, sulfate salts, and others. It also serves as the electrolyte in the lead acid storage battery.

Sulfuric dioxide is a strong airborne pollutant and a declared carcinogen. Known to cause severe respiratory disorders in humans, the usage of sulfuric acid has consistently decreased in the past decade owing to stringent government regulations and the future of the market for the same isn't very encouraging.

Uses:

Sulphuric acid is widely used in the production of phosphate fertilizers. Sulphuric acid is a complex market that involves the chemistry of product supply and demand. There is variation in pricing of Sulphuric acid between regions depending upon the regulations and concentrations. There are four stages in the manufacturing of sulphuric acid that includes extraction of sulphur, conversion of Sulphur into sulphur dioxide, then converting sulphur dioxide to sulphur trioxide, and final conversion of sulphur trioxide to sulphuric acid.



Sulphuric acid is used to wash impurities out of gasoline and other refinery products in petroleum refining. Sulphuric acid is also used as catalyst and dehydrating agent in petrochemical process and organic chemical manufacturing. The global sulphuric acid market is segmented on the basis of manufacturing process, application, and region. Manufacturing process includes Lead Chamber Process, Contact Process, Wet Sulfuric Acid Process, and Others. Applications include Phosphate Fertilizers, Chemical Manufacturing, Agricultural Chemistry, and Electrolyte in Lead-Acid Storage Battery, Metal Processing, and Others.



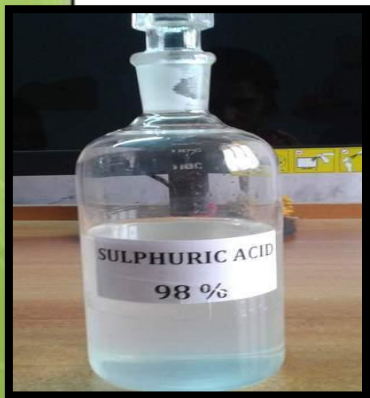
The major use of sulfuric acid is in the production of fertilizers, e.g., superphosphate of lime and ammonium sulfate. It is widely used in the manufacture of chemicals, e.g., in making hydrochloric acid, nitric acid, sulfate salts, synthetic detergents, dyes and pigments, explosives, and drugs. It is used in petroleum refining to wash impurities out of gasoline and other refinery products. Sulfuric acid is used in processing metals, e.g., in pickling (cleaning) iron and steel before plating them with tin or zinc. Rayon is made with sulfuric acid. It serves as the electrolyte in the lead-acid storage battery commonly used in motor vehicles (acid for this use, containing about 33% H₂SO₄ and with specific gravity about 1.25, is often called battery acid).

Market Outlook

Sulphuric Acid is a diprotic mineral acid and possess highly corrosive properties. Moreover, the chemical is a colorless and water soluble acid, and has a pungent smell. Due to strong oxidizing and dehydrating properties, sulphuric acid is used in phosphate fertilizers production, mineral processing, metal processing, fibers, etc. However, fertilizer production is the largest application segment utilizing sulphuric acid in India, followed by demand from metal processing industry which is anticipated to witness fastest growth till 2025.



The sulphuric acid market in India is projected to exhibit a CAGR of 3.35% during 2016-2025, on account of increasing fertilizer production in the country. Moreover, growing demand and consumption of sulphuric acid can be attributed to rapid growth in population size of India, which is subsequently driving demand for infrastructure, food crops and base metals. Growing application of sulphuric acid in processing of fertilizers and other industrial chemicals, coupled with rising initiatives by Government of India to collaborate with global manufacturing firms, are further expected to drive India sulphuric acid market during the forecast period.



India is one of the largest consumers of sulphuric acid globally, accounting for 4% of demand while producing around 5% of all sulphuric acid. As such, India is a substantial influencer on the global sulphuric acid balance.

Furthermore, many of India's producers have the capability to switch between producing and purchasing sulphuric acid, and depending on market conditions this can swing the sulphuric acid balance significantly.

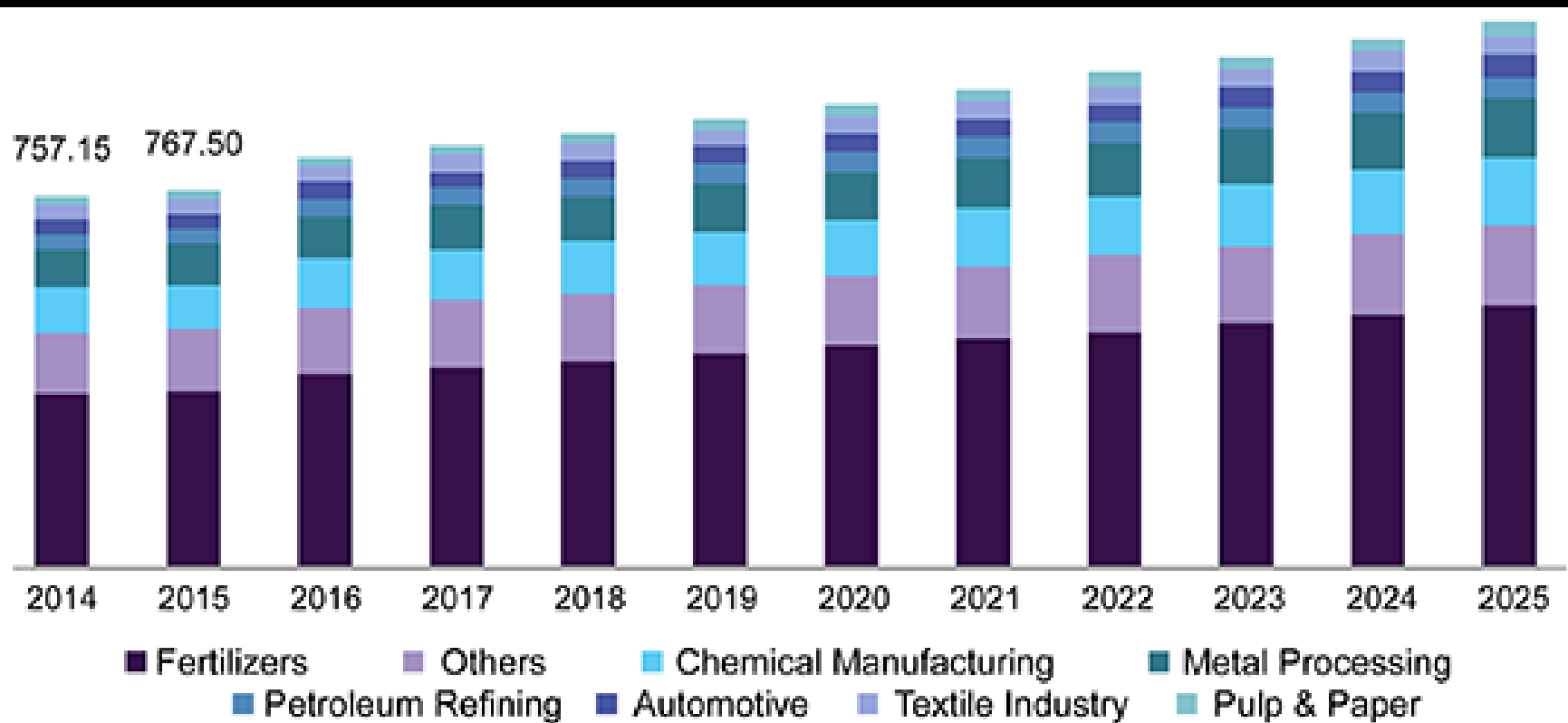


The demand in the global sulfuric acid market will increment at a CAGR of 2.8% during the forecast period of 2017 to 2023. Revenue-wise, this long-established market for sulfuric acid is estimated to attain a valuation of US\$85.4 billion by the end of 2023, swelling up from the market's evaluated worth of US\$72.4 billion as of 2017.

The rise can be attributed to the presence of stringent environmental regulations to control emissions, which is expected to lead to the increased use of smelters to capture sulfur dioxide products.

Increasing demand for the product from fertilizers, chemical manufacturing, paper & pulp, petroleum refinery, metal processing, and automotive industries for use as a catalyst, dehydrating agent, and a reactant is expected to boost the industry over the foreseeable period. Rising concerns about high crop yield and excellent food quality from agricultural sector are projected to propel fertilizer market growth, which, in turn, is likely to trigger sulfuric acid market.

U.S. Sulfuric Acid Market Revenue, by Application, 2014-2025 (USD Million)

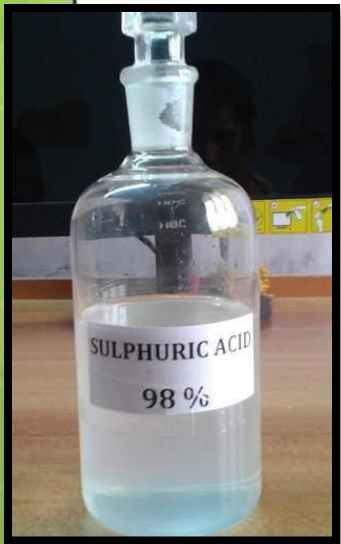


Increasing demand from the various end-use industries is considered to be one of the primary growth drivers for sulfuric acid market. Moreover, growing production of nutrient dense food crops, increasing use of sulphuric acid in metal processing, rising demand for sulfur based fertilizers, continuous and stable demand for sulfuric acid due to several end-user applications and rising demand from oil & gas industry, waste water treatment are the factors favouring the market growth. However, stringent government regulations, high raw material costs, weaker sales due to surplus and health concerns associated to sulfuric acid are some of the factors restraining the market.



Automotive industry is projected to progress at the highest CAGR over the forecast period. Increasing use of sulfuric acid in automotive batteries is anticipated to trigger automotive application segment over the coming years.

The Global Sulphuric Acid Market is mainly driven by the growing demand for Sulphur based fertilizers. Rising demand for sulphuric acid in the oil & gas industry and waste water treatment is expected to drive the sulphuric acid market for the forecasted period.



Wide variety of application of the sulphuric acid in the chemical industry is driving the global sulphuric acid market. Additionally, with increasing population demand for better infrastructure, food crops and base metals is expected to increase. This is expected to increase the global demand for sulphuric acid. Also, various fertilizers are produced with the use of sulphuric acid; so increasing demand for fertilizers is further expected to increase the demand of sulphuric acid in the global market.



Global Sulfuric Acid Market Value, By Application, 2017 (US\$ Bn)

CAGR 2.8% (2017-2023)



The future of the sulfuric acid market is banking on the sustained demand coming from the fertilizers segment as a result of consistently increasing demand for food across the world. Arable land are limited and that is arising a need to exact the best out of limited opportunities and fertilizers are proven to serve the purpose. Key applications of sulfuric acid include processing of fertilizers, nitric acid, hydrochloric acid, hydrofluoric acid, and titanium dioxide. Demand for fertilizers, especially phosphate fertilizers, is anticipated to increase significantly due to the rising production of cereals and oilseeds such as wheat, rice, cotton, and soya bean as a result of global population growth.

Sulfuric acid is one of the most high volume product chemicals being manufactured across the globe. Numbers given by manufacturers, industry related consultants and other market observers place the Sulfuric acid production in recent years to be around 200 million tonnes. Indeed it is because of this significant place Sulfuric acid production occupies in the industrial chemical manufacture sector, that it is commonly regarded that a country's industrial development, and by extension, economic growth can be measured by its production contribution of Sulfuric acid.

Chlorosulfuric Acid

Chlorosulfonic Acid is a clear, corrosive, straw colored liquid with a strong odor. It reacts violently with water with evolution of heat and large quantities of dense white fumes. They are formed on decomposition. It is used principally in organic synthesis as a sulfating, sulfonating or chlorosulfonating agent. Its chemical formula is ClSO_2OH .

The major use of CSA is for sulfating long chain alcohols. Specific areas of usage include; manufacture of surfactants for preparation of intermediates for making dyes and pigments, manufacture of pesticides for protection of crops and livestock, manufacture of pharmaceuticals for human and veterinary medicines, and others.

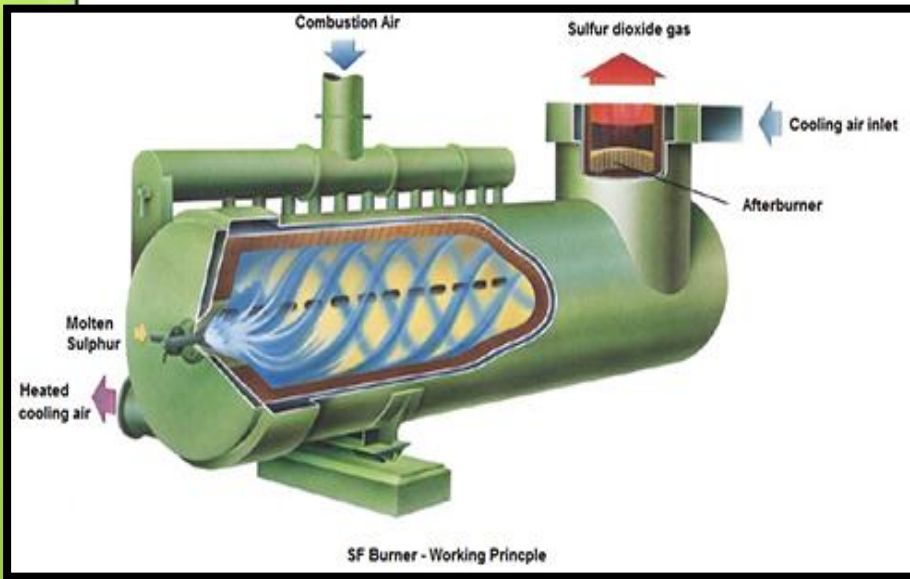
Global Chlorosulfonic Acid Market is segmented on the basis of application, and region. Chlorosulfonic acid is primarily used to produce sulfates, sulfonates, sulfonyl chlorides with organic compounds like hydrocarbons, alcohols, phenols, amines. Chlorosulfonic acid is a strong oxidizing and dehydrating agent function as a catalyst in the esterification of aliphatic alcohols, alkylation of alkenes, and synthesis of alkyl halides from alkenic halides, and isoalkanes containing tertiary hydrogen.

Chlorosulfonic Acid Market is classified, by application into Detergent, Pharmaceutical, Agrochemical, and Plastic Industries. Chlorosulfonic Acid Market is segmented, geographically into North America, Europe (Eastern Europe, Western Europe), Asia Pacific, Latin America, Middle East and Africa.

Few Indian major players are as under:

- **Amal Ltd.**
- **Kamar Chemicals & Inds. Ltd.**
- **Mahadeo Fertilizers Ltd.**
- **Nath Industrial Chemicals Ltd.**
- **Rampur Fertilizers Ltd.**
- **Shree Sulphurics Pvt. Ltd.**

Machinery Photographs



SULFUR BURNING FURNACE



SO₂ CATALYTIC CONVERTER COLUMN



ACID COOLER AIR DRYING COLUMN



CHLORINATION COLUMN

Project at a Glance

PROJECT AT A GLANCE

(` in lacs)

COST OF PROJECT				MEANS OF FINANCE			
Particulars	Existing	Proposed	Total	Particulars	Existing	Proposed	Total
Land & Site Development Exp.	0.00	30.00	30.00	Capital	0.00	589.42	589.42
Buildings	0.00	433.00	433.00	Share Premium	0.00	0.00	0.00
Plant & Machineries	0.00	1482.00	1482.00	Other Type Share Capital	0.00	0.00	0.00
Motor Vehicles	0.00	10.00	10.00	Reserves & Surplus	0.00	0.00	0.00
Office Automation Equipments	0.00	87.00	87.00	Cash Subsidy	0.00	0.00	0.00
Technical Knowhow Fees & Exp.	0.00	50.00	50.00	Internal Cash Accruals	0.00	0.00	0.00
Franchise & Other Deposits	0.00	0.00	0.00	Long/Medium Term Borrowings	0.00	1768.27	1768.27
Preliminary & Pre-operative Exp	0.00	5.00	5.00	Debentures / Bonds Unsecured	0.00	0.00	0.00
Provision for Contingencies	0.00	134.00	134.00	Loans/Deposits	0.00	0.00	0.00
Margin Money - Working Capital	0.00	126.69	126.69				
TOTAL	0.00	2357.69	2357.69	TOTAL	0.00	2357.69	2357.69

Project at a Glance

Year	Annualised		Book Value	Debt	Dividend	Retained Earnings		Payout	Probable Market Price	P/E Ratio	Yield Price/Book Value
	EPS	CEPS				Per Share	Per Share				
					Per Share	%		%		No. of Times	%
1-2	4.89	9.99	14.89	24.00	0.00	100.00	4.89	0.00	4.89	1.00	0.00
2-3	7.48	11.87	22.38	18.00	0.00	100.00	7.48	0.00	7.48	1.00	0.00
3-4	10.07	13.85	32.45	12.00	0.00	100.00	10.07	0.00	10.07	1.00	0.00
4-5	12.60	15.86	45.05	6.00	0.00	100.00	12.60	0.00	12.60	1.00	0.00
5-6	15.04	17.86	60.09	0.00	0.00	100.00	15.04	0.00	15.04	1.00	0.00

Project at a Glance

Year	D. S. C. R.			Debt / Equity - Deposits Debt	Equity as-Equity	Total Net Worth	Return on Net Worth	Profitability Ratio					Assets Turnover Ratio	Current Ratio
	Individual	Cumulative	Overall					GPM	PBT	PAT	Net Contribution	P/V Ratio		
	(Number of times)			(Number of times)		%	%	%	%	%	%			
Initial				3.00	3.00									
1-2	1.43	1.43		1.61	1.61	2.20		15.66%	8.45%	6.70%	1784.05	41.47%	1.56	1.01
2-3	1.68	1.55		0.80	0.80	1.26		18.44%	12.79%	8.79%	2000.14	39.85%	1.71	1.37
3-4	2.00	1.69	2.00	0.37	0.37	0.72		20.29%	15.84%	10.35%	2283.94	39.82%	1.76	1.79
4-5	2.38	1.84		0.13	0.13	0.42		21.53%	18.00%	11.51%	2567.74	39.79%	1.73	2.26
5-6	2.84	2.00		0.00	0.00	0.24		22.35%	19.54%	12.37%	2851.54	39.77%	1.64	3.91

Project at a Glance

BEP

BEP - Maximum Utilisation Year	5
Cash BEP (% of Installed Capacity)	44.56%
Total BEP (% of Installed Capacity)	50.39%
IRR, PAYBACK and FACR	
Internal Rate of Return .. (In %age)	26.88%
Payback Period of the Project is (In Years)	2 Years 3 Months
Fixed Assets Coverage Ratio (No. of times)	6.257

Major Queries/Questions Answered in the Report?

- 1. What is Sulphuric Acid Manufacturing industry ?**
- 2. How has the Sulphuric Acid Manufacturing industry performed so far and how will it perform in the coming years ?**
- 3. What is the Project Feasibility of Sulphuric Acid Manufacturing Plant ?**
- 4. What are the requirements of Working Capital for setting up Chlorosulphonic Acid Manufacturing plant ?**

- 5. What is the structure of the Sulphuric Acid Manufacturing Business and who are the key/major players ?**
- 6. What is the total project cost for setting up Sulphuric Acid Manufacturing Business?**
- 7. What are the operating costs for setting up Sulphuric Acid Manufacturing plant ?**
- 8. What are the machinery and equipment requirements for setting up Chlorosulphonic Acid Manufacturing plant ?**

- 9. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up Sulphuric Acid Manufacturing plant ?**
- 10. What are the requirements of raw material for setting up Chlorosulphonic Acid Manufacturing plant ?**
- 11. Who are the Suppliers and Manufacturers of Raw materials for setting up Sulphuric Acid Manufacturing Business?**
- 12. What is the Manufacturing Process of Sulphuric Acid, Chlorosulphonic Acid?**

- 13. What is the total size of land required for setting up Sulphuric Acid Manufacturing plant ?**
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5.2. IS 7130 (1994): CHLOROSULPHONIC ACID, TECHNICAL [CHD 1: INORGANIC CHEMICALS]

5.3. IS 1089 (1986): OLEUM, TECHNICAL [CHD 1: INORGANIC CHEMICALS]

5.4. IS 266 (1993): SULPHURIC ACID [CHD 1: INORGANIC CHEMICALS]

5.5. IS 6156 (1971, REAFFIRMED 1986): CODE OF SAFETY FOR CHLOROSULPHONIC ACID. UDC 614.878 : 547.431.6-113

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Reasons for Buying our Report:

- **This report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, market potential of the product and reasons for investing in the product**
- **This report provides vital information on the product like it's characteristics and segmentation**
- **This report helps you market and place the product correctly by identifying the target customer group of the product**

- **This report helps you understand the viability of the project by disclosing details like machinery required, project costs and snapshot of other project financials**
- **The report provides a glimpse of government regulations applicable on the industry**
- **The report provides forecasts of key parameters which helps to anticipate the industry performance and make sound business decisions**

Our Approach:

- **Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years.**
- **The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players**
- **We use reliable sources of information and databases. And information from such sources is processed by us and included in the report**

Scope of the Report

The report titled “Market Survey cum Detailed Techno Economic Feasibility Report on Sulphuric Acid Plant including Mfg. of Chlorosulphonic Acid, 23% Oleum.” provides an insight into Sulphuric Acid market in India with focus on uses and applications, Manufacturing Process, Process Flow Sheets, Plant Layout and Project Financials of Sulphuric Acid project. The report assesses the market sizing and growth of the Indian Sulphuric Acid Industry. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line. And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

- **Good Present/Future Demand**
- **Export-Import Market Potential**
- **Raw Material & Manpower Availability**
- **Project Costs and Payback Period**

We at NPCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in the Sulphuric Acid sector in India along with its business prospects. Through this report we have identified Sulphuric Acid project as a lucrative investment avenue.

Tags

Manufacture of Sulfuric Acid, Sulfuric Acid, Production of Sulfuric Acid, Preparation of Sulphuric Acid, Sulfuric Acid Production, Manufacturing of Sulfuric Acid, Processes of Manufacture of Sulfuric Acid, Manufacture of Sulphuric Acid by Contact Process PPT, Sulphuric Acid Manufacture, Industrial Production of Sulfuric Acid, Sulphuric Acid Plant, Sulphuric Acid Plant Process Flow Diagram, Sulfuric Acid Manufacturing, Sulfuric Acid Production Process, Sulphuric Acid Plant Including Mfg. of Chlorosulphonic Acid, 23% Oleum, Manufacture of Sulphuric Acid (Contact Process), Sulfuric Acid Manufacturing Plant, Industrial Applications of Sulfuric Acid, Essential Chemical Industry, Chemicals Manufacturing Company, Plant to Manufacture Sulfuric Acid, Process of Making Chlorosulfonic Acid, Manufacture of Chlorosulphonic Acid, Chlorosulfonic Acid, Chlorosulfonic Acid Manufacturing Process, Chlorosulfuric Acid, Manufacture and Properties of Chlorosulfonic Acid, Sulphuric Acid Industry, Sulphuric Acid Production Plant, Sulphuric Acid Plant Cost, Sulphuric Acid Manufacturing Unit, Project Report on Sulphuric Acid Manufacturing Industry, Detailed Project Report on Sulphuric Acid Plant, Project Report on Chlorosulfonic Acid Manufacturing, Pre-Investment Feasibility Study on Chlorosulfonic Acid Manufacturing, Techno-Economic feasibility study on Sulphuric Acid Plant, Feasibility report on Chlorosulfonic Acid Manufacturing, Free Project Profile on Sulphuric Acid Plant, Project profile on Chlorosulfonic Acid Manufacturing, Download free project profile on Sulphuric Acid Plant

**Niir Project Consultancy Services (NPCS)
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And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

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- **Raw Material & Manpower Availability**
- **Project Costs and Payback Period**

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We at NPCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in India along with its business prospects.....[Read more](#)



Contact us

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- *We use authentic & reliable sources to ensure business precision*

Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation

Contact us

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