

[Copper Sulphate]

INVESTMENT OPPORTUNITY

[Specialty]

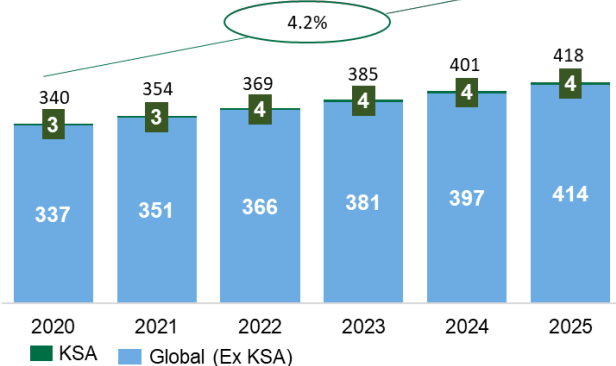


[Specialty] Copper Sulphate

OPPORTUNITY DESCRIPTION: Opportunity to develop Copper Sulphate production facility in KSA to cater regional and global demand.

DEMAND

MARKET SIZE, KT



INVESTMENT HIGHLIGHTS

- Expected investment size of ~USD 30 MN
- Plant capacity: ~10 KTA
- Expected IRR: 18%-20%

INVESTMENT OVERVIEW

VALUE PROPOSITION

- KSA is one of the largest chemical producers in the world and contributes ~ 10% of the global output.
- Availability of key raw materials like Copper ores and Sulphuric acid, for production of Copper Sulphate within the kingdom.
- Investment in battery industry and existing mining and construction activities in KSA and the gulf region can provide a boost for demand of Copper Sulphate.
- Proximity to demand centres like Asia Pacific and Europe along with strong logistics infrastructure to enhance export capability.

KEY DEMAND DRIVERS

- Major use of Copper Sulphate is in agriculture as fungicide; and animal feed. More than 50% of the demand goes into these two categories.
- In mining, it is used as flotation reagent in copper and related mineral mines.
- Also used as an electrolyte in the metal and electrical industries for refining and battery development.
- Rise in need for energy storage devices in small-scale and large-scale electronic projects is expected to increase demand for Copper Sulphate across the globe.

KEY PLAYERS

- Benuet Enterprise Co Ltd
- Blue Line Corp.
- Changsha Haolin Chemicals Co. Ltd.
- Highnic Group
- JX Nippon Mining & Metals Corp.

MARKET OVERVIEW

GLOBAL TRENDS

- Estimated at ~ 340 thousand metric tons in 2020, the global consumption is expected to increase at an average rate of 4.2% between 2020-25.
- Asia Pacific region is expected to hold largest market share owing to growing agriculture and construction industry in countries like China and India.
- High adoption of Copper Sulphate in chemical application is expected fuel the market growth in North America. In Europe growth is attributable to the rising use of the product in the mining and metallurgical application.
- In Middle East and Africa, mining and construction is anticipated to bring in largest growth.

SUPPLY

SCALABILITY AND LOCALIZATION

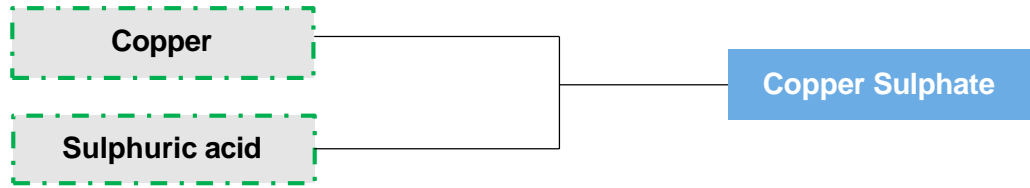
Grade: Low Medium High

- Copper and Sulphuric acid are the major raw materials for Copper Sulphate, and both are available abundantly in KSA. This provides a good opportunity to manufacture Copper Sulphate in KSA and export to high demand markets like Asia Pacific.
- Saudi Arabia's Vision 2030, together with diversification from an oil-based economy fosters well for Copper Sulphate because it is a key material for production of battery for Electric Vehicles (EV).

IMPORT DEPENDENCY

- KSA has limited copper sulphate demand compared to global demand and majority of the demand is met through domestic production.

VALUE CHAIN



Served Applications

- Animal feed
- Fungicide in agriculture
- Battery industry
- Construction
- Mining and metallurgy

 Key raw materials
 Investment scope
 End use applications
 Raw materials available in KSA

KEY STAKEHOLDERS



ENABLING FACTORS

ENABLERS & INCENTIVES

- According to New Jersey Department of Health, Copper Sulphate can irritate and burn the skin and eyes. Inhaling copper sulphate can irritate nose and throat and can cause sore and hole in the bone (septum) dividing the inner nose. It can also cause headache, nausea, vomiting, diarrhea, abdominal pain and skin allergy.

COST OF DOING BUSINESS IN KSA

Factor	Ranking amongst regional peers
Electricity tariffs for industrial players	\$48 /MWh
Productivity adjusted wages	\$3.3 /hour
Logistics Performance Index (1-5)	3.2
Construction Costs (Indexed to US, % 0 is cheapest)	74
Ease of getting credit (0-100)	50

Bottom 25%
 Top 75%
 Top 50%
 Top 25%

DEFINITIONS

#	SCORECARD SECTION	DEFINITIONS
1	Market size	Size of market in value/volume in KSA and/or Region (MENA/GCC) covering future projections based on available estimates from published /government sources
2	Business drivers	A select number of factors that will influence future demand for the related product/service
3	Investment highlights	An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size
4	Value proposition	Summary of key differentiators that position KSA as a strategic choice over other regional/global peers
5	Market readiness	An overview of KSA market structure, market maturity and level of participation by local and global players
6	Global trends	Latest business developments within the sector/product category
7	Scalability and localization	Ease of scaling the business across the value chain or into new adjacent products or geographies that would maximize the opportunity's investment returns and the ability and potential to locally manufacture the product and its components
8	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
9	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
10	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
11	Enablers	Factors that enable investment in the underlying opportunity
12	Cost of doing business in KSA	Key factors that position KSA as a competitive destination for investment in the region. Productivity adjusted wages do not include cost of \$1.23/hour towards annual recurring charges including work permit, resident identity (iqama) and health insurance

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