[Magnesium Chloride]

INVESTMENT OPPORTUNITY

[Inorganic]

استثمر في السعودية
INVEST SAUDI

[Inorganic]
Magnesium Chloride

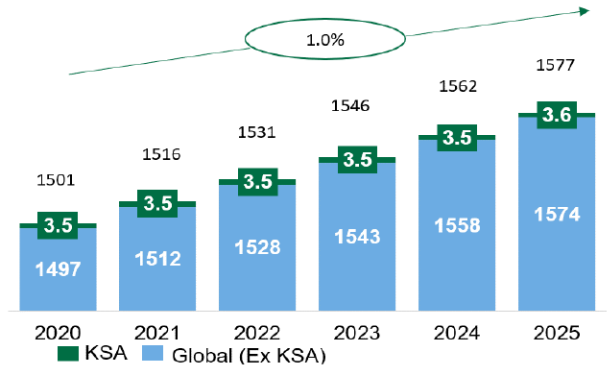
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High Potential | Moderate Potential | Low Potential

OPPORTUNITY DESCRIPTION: Opportunity to expand magnesium chloride production to serve growing construction, food, and pharmaceutical industries.

DEMAND

MARKET SIZE, KT



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected investment size of ~USD 15-20 MN
- Plant capacity: 400 KTA
- Expected IRR: ~>10%

VALUE PROPOSITION

- KSA is 100% dependent on import of magnesium chloride.
- Availability of key raw materials like magnesium oxide and hydrochloric acid within the Kingdom
- Proximity to key demand centres like Northeast Asia along with strong logistics infrastructure to enhance export capability.
- The opportunity aligns with Saudi vision 2030 by supporting the construction industry.

KEY DEMAND DRIVERS

- Construction applications, particularly in Sorel cement production, remains the largest single application for magnesium chloride
- Magnesium chloride is also used as a thawing and deicing agent, and demand is somewhat dependent on the severity of the winter in different world regions.
- Food and pharmaceutical applications counted for about 4% of total magnesium chloride. It is used in nutritional food supplements, over-the-counter medicines to help with cramps, as laxatives, etc.
- Fertilizers and animal feeds, textile processing, and sugar processing are the next most important applications for magnesium chloride.

MARKET OVERVIEW

KEY PLAYERS

- Compass Minerals International, Inc.
- K+S Aktiengesellschaft
- Israel Chemical Ltd.
- Intrepid Potash, Inc.
- Nedmag B.V
- Skyline Chemical Corporation

GLOBAL TRENDS

- Estimated at 1.5 million metric tons in 2020, the global consumption is expected to increase at an average rate of 1% from 2020-25.
- Mainland China dominates the global magnesium chloride market, accounting for 46% of magnesium chloride production, 44% of exports, and about 40% of consumption.
- The second largest producer and consumer is North America accounting for 18% and 21%, respectively, followed by Central and South America, accounting for 18% and 18%, respectively.
- Magnesium chloride is largely used in Sorel cement production, dust binding, thawing and deicing, food, and pharmaceuticals.

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SUPPLY

SCALABILITY AND LOCALIZATION

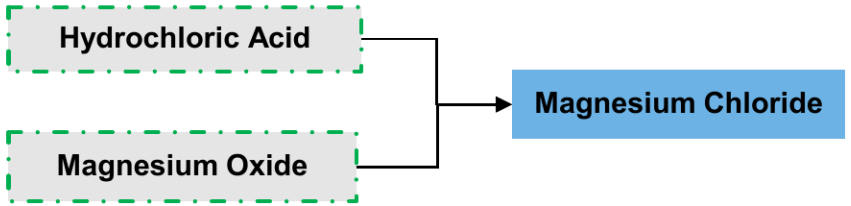
Grade: Low | Medium | **High**

- Local access to key primary raw materials in KSA. Hydrochloric acid can also be found in Yanbu, Al Jubail, and Dammam by Al-Biariq for Fertilizer Company, Ibn Hayyan, Sara Chemical, among others with a total production capacity of 769 KTA.
- Magnesium Oxide can also be found in Al Madinah by Saudi Arabian Mining Co. with a total production capacity of 71 KTA.
- Dependency of KSA on magnesium chloride imports presents an attractive opportunity considering the availability of raw materials and low operating costs.

IMPORT DEPENDENCY

- There are no producers of magnesium chloride in KSA.
- There is one producer of magnesium chloride in the Middle East region, with a total production capacity of 62 KTA.
- The region is a net exporter of magnesium chloride, with net exports of around 52 KTA.

VALUE CHAIN



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

Served Applications

- Animal Feed
- Fertilizer
- Sorel Cement Production
- Thawing agent
- Food supplements
- Medicine

KEY STAKEHOLDERS

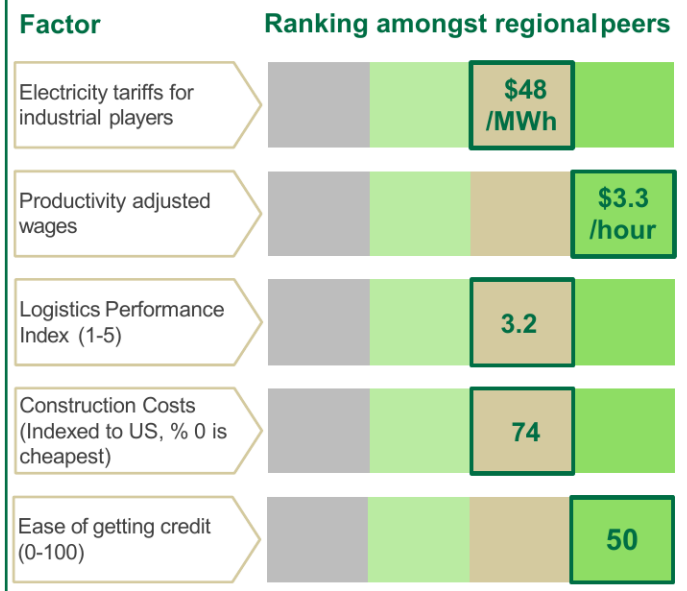
وزارة الطاقة MINISTRY OF ENERGY | وزارة الصناعة والثروة المعدنية Ministry of Industry and Mineral Resources | وزارة الاستثمار Ministry of Investment | مدن MODON | المركز الصناعي Industrial Center | National Industrial Development and Logistics Program | SIDF صندوق التنمية الصناعية السعودي

ENABLING FACTORS

ENABLERS & INCENTIVES

- Up to 75% of project financing by Saudi Industrial Development Fund (SIDF).
- 2-year grace period for the repayment of loans
- Expat worker levy waived-off for industrial manufacturers until October 2024.
- HRDF covers 30-50% of Saudi employee's monthly salaries (additional 10% for females) for 2 years, provide that it does not exceed USD 4,000

COST OF DOING BUSINESS IN KSA



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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