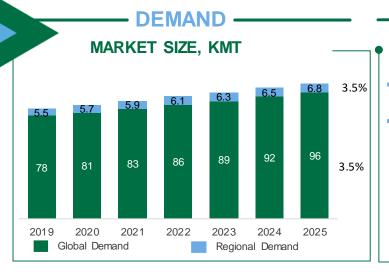


CHEMICALS DL-Malic Acid (MAL)

OPPORTUNITY DESCRIPTION: Opportunity to DL-Malic Acid (MAL) manufacturing plant in KSA to cater regional and global demand



INVESTMENT HIGHLIGHTS

- the project is purely private sector investment with land lease from MODON
- The capital investment size is to be determined based on the plant capacity and available feedstock materials

INVESTMENT OVERVIEW

VALUE PROPOSITION

- KSA is one of the largest chemical producers in the world and contributes ~10% to the global output
- KSA is strategically located at the crossroads of several markets that have high demand for chemical products
- KSA benefits from having an abundant access to raw materials and a high standard of infrastructure that is continuously being improved upon
- Opportunity for first mover advantage due to non-existent local production of Propionic Acid and lack of competition from major global manufacturers
- This opportunity has a strategic alignment with vision 2030 and National Industrial Strategy by supporting many sectors such as automotive and food and beverage

KEY DEMAND DRIVERS

- DL-Malic acid is used mainly in the beverage, confection, and food sectors. In most end uses. DL-malic acid serves to enhance flavors, provide sourness/tartness, control the growth of microorganisms (preservation), adjust pHlevels, and reduce ingredient cost.
- Demand in these markets will continue to increase as the popularity of processed food and ready-to-drink beverages grow, along with improving living standards. In developed countries and regions, consumers' desire for nutrition and health will drive demand growth for nutraceutical and fruitflavored beverages, low-calorie confections, and savory foods. These, along with new product introductions in the food and beverage sector, will support the consumption

MARKET OVERVIEW

GLOBAL TRENDS

- Global consumption of DL-malic acid will continue to grow by 2.5–3% during 2019–24, driven by developing markets in Asia, the Middle East, and Africa, as well as in Central and Eastern Europe.
- China accounts for more than 29% of the total capacity, followed by the Americas at 25%, Other Asia at 24%, and Europe, Middle East, and Africa at 22%.
- The concept of using malic acid is to develop downstream businesses in food and beverage with a focus on dietary products.

growth of De malic acid.





SUPPLY

SCALABILITY AND LOCALIZATION

Grade: Low

Meduim



High

- Easy local access to key the primary raw materials in KSA A small volume of maleic anhydride ("MAN") is available in the Kingdom from IDC.
- KSA's strategic advantage over regional peers in cost of establishing the business, especially in the manufacturing domain
- Potential to serve the local and regional markets and create a 'regional hub' for chemicals manufacturing in KSA

IMPORT DEPENDENCY

 No local production of DL-Malic Acid in Saudi Arabia, 100% of the local demand in KSA is met by imports

Healthcare and medical

Food and beverage

Personal care

Pharmaceuticals

• VALUE CHAIN ANALYSIS

Maleic Anhydride — DL-Malic Acid (MAL)

Key raw materials

Investment scope

End use applications

KEY STAKEHOLDERS













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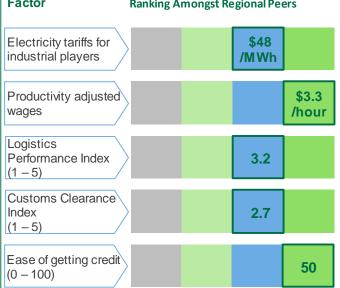
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ENABLING FACTORS

ENABLERS

- 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 employees monthly salaries (additional 10% for females) for 2 years, provided that it does not exceed USD 4,000

COST OF DOING BUSINESS IN KSA Factor Ranking Amongst Regional Peers



Bottom 25%

Top

75%

Top 50%

Top 25%

3



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	Demand 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	Competitor analysis	List of the local & international players manufacturing the underlying product in Saudi Arabia and their market share
7	Global trends	Latest business developments within the sector/product category
8	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
9	Import dependency	An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports
10	Value chain analysis	The process or activities that would potentially need to be carried out to deliver the underlying product or service
11	Key stakeholders	Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service
12	Enablers	Factors that enable investment in the underlying opportunity
13	Cost of doing business in KSA	Key factors that position KSA as a competitive destination for investment in the region



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