

[Saccharin]

INVESTMENT OPPORTUNITY

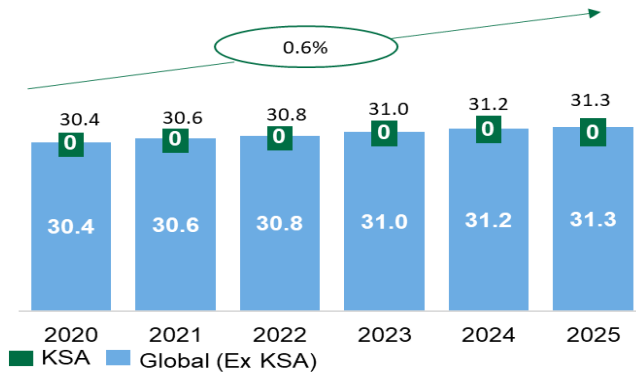
[Specialty]



OPPORTUNITY DESCRIPTION: Opportunity to develop Saccharin production facility of ~5 KTA in KSA to cater regional and global demand

DEMAND

MARKET SIZE, KT



INVESTMENT OVERVIEW

INVESTMENT HIGHLIGHTS

- Expected investment size of ~USD 20-30 MN
- Plant capacity: 5 KTA
- Expected IRR: 17-20%

VALUE PROPOSITION

- KSA including other Middle Eastern countries are 100% dependent on imports. This gives a first mover advantage to setup a manufacturing unit in Saudi Arabia.
- Proximity to key demand centres like Africa, Southeast Asia and Northeast Asia along with strong logistics infrastructure to enhance export capability
- .More than 70% of Saccharin is used as sweeteners and rest is used in other applications like personal care etc.

KEY DEMAND DRIVERS

- Saccharin is a mature product with a broad range of uses. It serves as a sugar replacement in foods and beverages; in addition, its sweetness masks the bitter taste of other ingredients in personal care products and pharmaceuticals. Smaller end uses include animal feed and electroplating.
- Sodium and calcium saccharin account for most consumption of saccharin and its salts; they are both highly water-soluble.
- Saccharin and salts are nonnutritive because the body does not metabolize them. Saccharin and its salts combine well with other sweeteners and have excellent shelf life.

KEY PLAYERS

- PMC Specialties Group, Inc..
- Productos Aditivos
- JMC Corporation
- PT Batang Alum Industrie
- Jiangsu Suzhou Fine Chemical Co., Ltd.
- Kaifeng Xinghua Fine Chemical Co., Ltd.
- Tianjin Changjie Chemical Co., Ltd.

MARKET OVERVIEW

GLOBAL TRENDS

- Estimated at 30.4 thousand metric tons in 2020, the global consumption is expected to increase at an average rate of 0.6% from 2020-25. Saccharin, which is 300 times as sweet as sucrose, was third with respect to consumption volume after cyclamate and aspartame but first in terms of sucrose equivalents
- China and Other Asia/Oceania accounted for more than half of world saccharin consumption in 2020. the Asia and Oceania, Africa, China, and the Middle East are expected to see above-average growth in saccharin consumption during 2020–25. In contrast, saccharin consumption is expected to decrease in the Americas and Europe. The decrease is due to increased interest in natural sweeteners, which are perceived as healthy and wholesome. Stevia extract has been the primary beneficiary of consumer interest in natural sweeteners;

SUPPLY

SCALABILITY AND LOCALIZATION

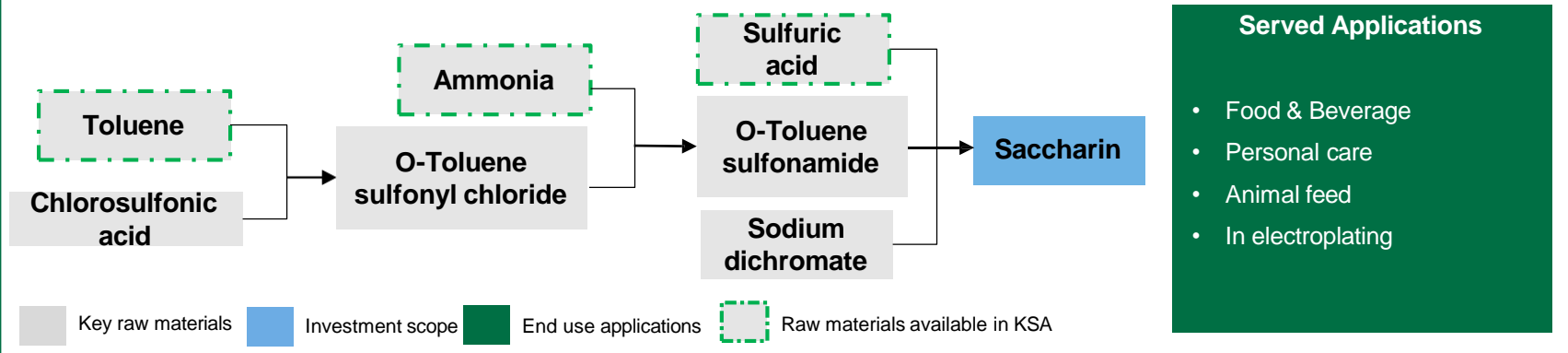
Grade: Low Medium High

- Saccharin is produced from toluene or phthalic anhydride. Here we discuss only the toluene route where saccharin is produced from toluene in three steps.
- Saudi is the largest producer of toluene in Middle east accounting for more than one-third of regional capacity. Chlorosulfonic acid and sodium dichromate is not produced locally but can be easily imported from neighboring countries in South Africa and Asia. KSA accounts for more than quarter of ammonia and almost half of sulfuric acid capacity in the Middle East region. Ma'aden and SAFCO are two major ammonia producing players in KSA.

IMPORT DEPENDENCY

- There is no known producer of Saccharin in Middle East. Consumption of the region stood at around 0.5 thousand metric tons in 2020.

VALUE CHAIN



KEY STAKEHOLDERS



National Industrial Development and Logistics Program



Saudi Industrial Development Fund

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

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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