

GLUTARALDEHYDE

INVESTMENT OPPORTUNITY

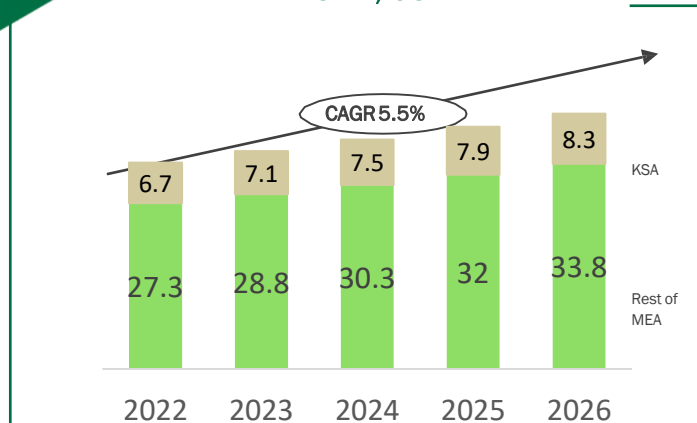
Specialty Chemicals



OPPORTUNITY DESCRIPTION: Setup manufacturing plant for Glutaraldehyde in KSA

DEMAND

MARKET SIZE, USD Mn



KEY DEMAND DRIVERS

- Use of glutaraldehyde disinfectant in wastewater treatment applications
- Expanding household and industrial cleaning industries are expected to contribute to glutaraldehyde market growth
- Focus on healthcare industry across developing countries, where glutaraldehyde can be used as a disinfectant
- Glutaraldehyde does not corrode metals and does not harm lenses, rubber, or plastics, so it is preferred over other disinfectants in a variety of end-use industries

INVESTMENT HIGHLIGHTS

- Expected Investment size of USD 15-20 Mn
- Plant capacity: 5 ktpa
- Expected IRR*: 10-15%
- Payback period*: 3-6 years
- Job Creation: 10-15 Employees
- GDP Impact: 4-6 Mn USD
- Location (Region): Jubail/Yanbu

INVESTMENT OVERVIEW

VALUE PROPOSITION

- Strategic geographic location to serve emerging markets like Middle East, Africa, Europe and Asia.
- KSA is one of the largest chemical producers in the world and contributes ~10% to the global output
- KSA has a market of 6.7 Mn USD and majority of Glutaraldehyde is imported in KSA showing high scope for localization
- Glutaraldehyde has applications across strategic sectors such as healthcare, water management, food processing etc.

MARKET OVERVIEW

GLOBAL TRENDS

- Europe has the highest demand for glutaraldehyde, followed by North America and Asia Pacific. The Asia Pacific region, led by China and India, is expected to increase
- Dow Chemical and BASF are major producers of Glutaraldehyde

RAW MATERIALS

- Cyclopentene
- Hydrogen peroxide
- Tertiary butyl alcohol



SUPPLY

SCALABILITY AND LOCALIZATION

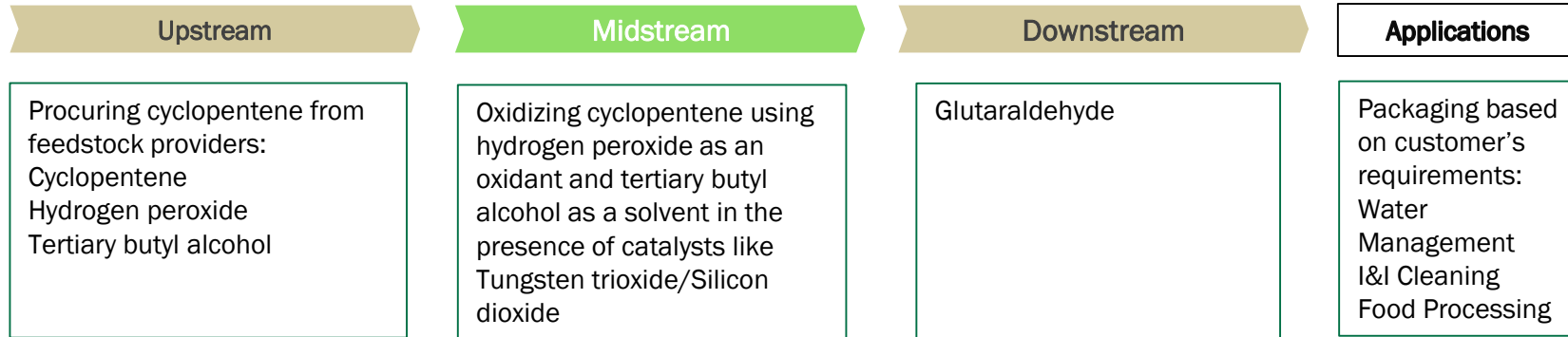
Grade: Low Medium High

- Hydrogen peroxide is available in KSA (Sadara). However other raw materials such as cyclopentene and tertiary butyl alcohol are not produced by local players
- Large imports indicates high scope for localization
- Supplying value-added service with the chemicals, and rapid development of multi-functional and environmentally friendly grades are important

IMPORT DEPENDENCY

- No local players all demand met by imports

VALUE CHAIN



KEY STAKEHOLDERS



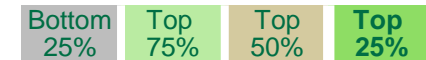
ENABLING FACTORS

ENABLERS & INCENTIVES

- Custom land options from RCJY AND Modon
- 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

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



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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