

**[Di n hexyl phthalate (DnHP)]**  
INVESTMENT OPPORTUNITY  
**[Conversion]**



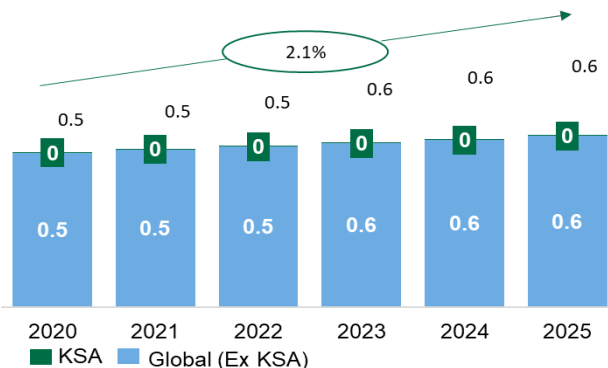
# [Conversion]

## Di n hexyl phthalate (DnHP)

**OPPORTUNITY DESCRIPTION:** Opportunity to develop Di n hexyl phthalate (DnHP) production facility of ~0.05-0.1 in KTA in KSA to cater regional and global demand.

### DEMAND

#### MARKET SIZE, KT



#### KEY DEMAND DRIVERS

- DnHP is an ester used in the manufacture of plastisols, which is used in the automobile industry and moulded products
- It is used as a compound in the production of PVC resins and other consumer products
- DNHP present in plasticizers is used in the making of cosmetic products (shampoos, soaps, hair gels), lubricants, etc.
- There is also use of DnHP for vinyl floorings, used in healthcare facilities, for other easy cleaning and hygienic alternatives to carpets

#### INVESTMENT HIGHLIGHTS

- Expected investment size of ~USD 0.5-1 MN
- Plant capacity: : 0.05-0.1 KTA
- Expected IRR: 10-15%

#### KEY PLAYERS

- Indo Nippon Chemical Company Limited
- Proviron Functional Chemicals NV.
- ExxonMobil Chemical Company

### INVESTMENT OVERVIEW

#### VALUE PROPOSITION

- KSA, including other Middle East countries, is dependent on the import of phthalate and its derivatives, such as DnHP, however, the key inputs in the production of DnHP are available in KSA
- Some regions have regulated policies against phthalate containing plasticizers for their high usage in consumer products with contact to skin and eye in cosmetics and in children's toys (bottle nipples, flexible plastic toys), however alternate uses for limited exposure allows the consumption.
- Product may act as a complementary portfolio of plasticizers complex in KSA.

### MARKET OVERVIEW

#### GLOBAL TRENDS

- DnHP is an ester grouped under hazardous chemicals. The input of DnHP in any plasticizer is very low
- Hazardous property and stringent regulation over the manufacture and usage of DnHP have been reduced, and the growth rate is expected to be 2.1% from 2020 to 2025
- High exposure to DnHP has been proved to be a hazard to health in the US and Europe. So, the regional demand of the US and Europe is estimated to be 12% and 18%. Whereas the Asia Pacific leads the phthalates demand and occupies 65% of the total global demand
- The US and European governments have strictly imposed laws against the manufacture and use of few phthalates, such as DnHP, DEHP, DBP, BBP, DIBP etc., in the end-use products



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## Di n hexyl phthalate (DnHP)

### SUPPLY

#### SCALABILITY AND LOCALIZATION

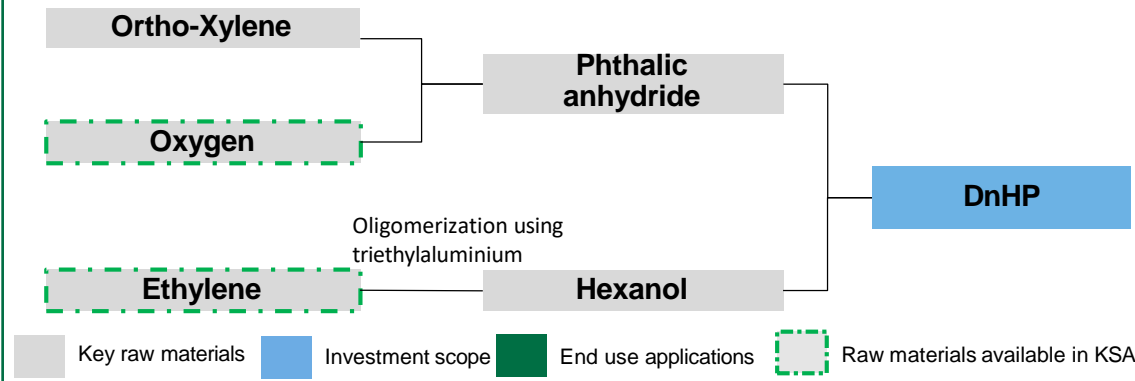
Grade: Low Medium High

- Despite the Middle East's feedstock cost advantage relative to the rest of the globe, the region only accounts for approximately 5% of global orthoxylene (OX) production. There is no production of O-Xylene in KSA
- KSA doesn't have phthalic anhydride capacity. Rest of the Middle East has around 165 thousand metric tons of phthalic anhydride capacity
- Considering the smaller demand and limited availability of feedstocks within KSA, attractiveness of this product seems to be low.

#### IMPORT DEPENDENCY

- KSA is dependent on the import of phthalates and their derivatives, such as DnHP.
- Esters are highly imported from China, Switzerland, Egypt, Singapore and South Korea.

#### VALUE CHAIN



#### Served Applications

- Automobiles
- Construction
- Beauty Care Industry
- Detergents & Surfactants
- Pharmaceuticals

#### KEY STAKEHOLDERS



### 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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