

**[Fluoroelastomers]**

INVESTMENT OPPORTUNITY

**[Conversion]**

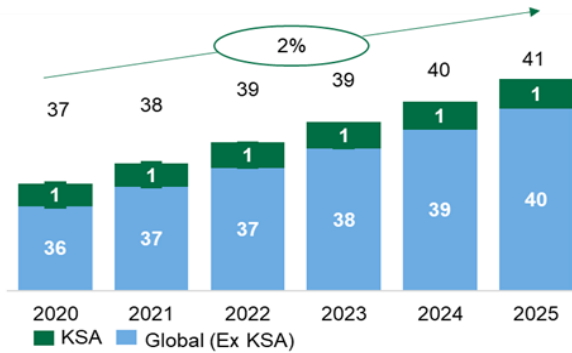


# [Conversion] Fluoroelastomers

**OPPORTUNITY DESCRIPTION:** Opportunity to develop Fluoroelastomers production facility of ~2 KTA in KSA to cater regional and global demand

## DEMAND

### MARKET SIZE, KT



### INVESTMENT HIGHLIGHTS

- Expected investment size of ~USD 50-60 MN
- Plant capacity: 2 KTA
- Expected IRR: >15%

## INVESTMENT OVERVIEW

### VALUE PROPOSITION

- KSA has a strategic location and access to feedstock enabling it to serve emerging markets like India, Africa, Southeast Asia and Northeast Asia which have large imports of fluoroelastomers.
- KSA can leverage favorable trade agreements and strong logistics infrastructure to enhance export capability for distributing the products in Middle East
- KSA is well established player with the right infrastructure and a large chemical production landscape thus can offer access to land, energy and feedstock. Increasing global demand and a smaller number of producers in the region provides an opportunity to penetrate local markets in vicinity including Africa, India and SEA.

### KEY DEMAND DRIVERS

- Consumption of fluoroelastomers is dominated by fluorocarbon elastomers (FKM), accounting for 92% of the global market of 36ktpa. Fluorosilicone & Perfluoro elastomers are used in much smaller quantities.
- The key driver is corrosion resistance combined with typical elastomer properties.
- Automotive applications remain the most important market for fluorocarbon elastomers, accounting for about 64% of the global consumption.
- The other major markets are aircraft/aerospace and chemical processing.

### KEY PLAYERS

- Chemours
- Dyneon (3M)
- Solvay
- Daikin
- Asahi Glass

## MARKET OVERVIEW

### GLOBAL TRENDS

- In 2021, the global market for fluoroelastomers was about 38 thousand metric tons.
- The global market has been driven largely by the rapid development of the Chinese automotive industry in the past decade, as well as by the recovery from the economic crisis in late 2008; the economic crisis hit the automotive industry in the United States, Europe, and Japan particularly hard.
- Based on volume (base raw material), China accounted for 33% of world consumption in 2018, with Europe and the United States accounting for 19% each, and Japan for 9%.



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## SUPPLY

### SCALABILITY AND LOCALIZATION

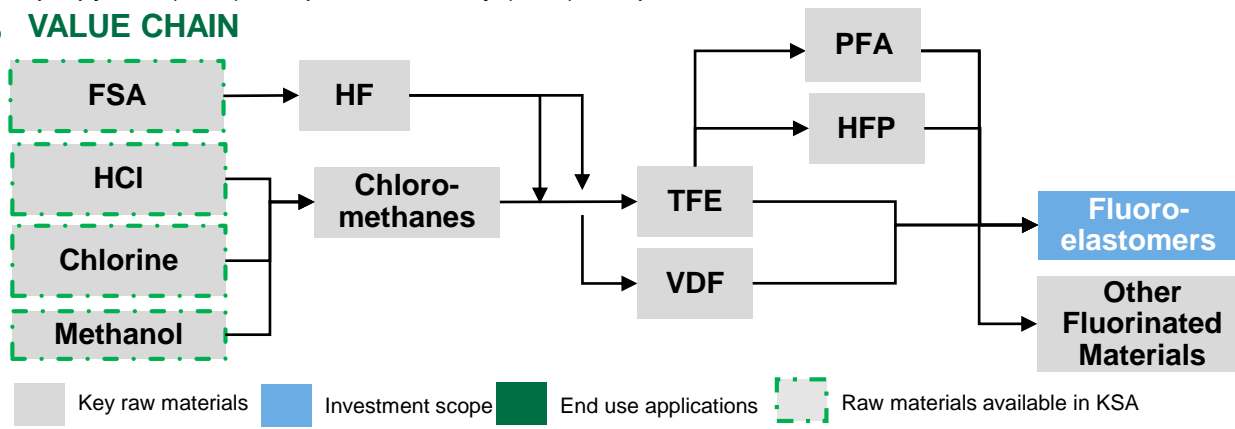
Grade: Low Medium High

- The region has some availability of the primary precursor i.e., HF. A local manufacturer in Abu Dhabi produces HF in the region. Production is around 54 ktpa used mainly to produce aluminum fluoride. Buss Chemitech can provide the technology for this route to HF. There is no production of chloromethanes in the Middle East region. However, the major raw materials are available. Chlorine is produced by Petrokemya in KSA. Methanol is produced by CHEMANOL in KSA.
- Fluoroelastomers need a range of fluorinated monomers and intermediates, HCFC-22, HCFC-142b, vinylidene difluoride (VDF), tetrafluoroethylene (TFE), hexafluoropropylene (HFP) and perfluoroalkoxy (PFA) compounds, and others.

### IMPORT DEPENDENCY

- At current there is no local producer of fluoroelastomers in the KSA. Entire demand is met through imports of finished products.

### VALUE CHAIN



#### Served Applications

- Automotive
- Aircraft/aerospace
- Chemicals/plastics, oil and gas processing

### 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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