Precipitated Silica
INVESTMENT OPPORTUNITY SCORECARD
CHEMICALS
FEBRUARY 2021
OPPORTUNITY DESCRIPTION: Opportunity to setup precipitated silica manufacturing plant of 20 – 25 KMT capacity in KSA to serve regional/global market

KEY DEMAND DRIVERS
- Increasing use of precipitated silica in end use application industries such as food & beverage, personal care, electronics and others are increasing the demand for precipitated silica
- Rising demand from rubber, agrochemicals, and oral care industries will also increase demand for precipitated silica
- Precipitated silica can be used at National Tire Company's (NTC) planned tire factory in Jubail

INVESTMENT HIGHLIGHTS
- Expected investment size of USD 147 Mn
- Plant capacity: 20 – 25 KMT
- Expected IRR: More than 12%

INVESTMENT OVERVIEW
- KSA has a strategic location and access to feedstock enabling it to serve emerging markets like India, Africa and South East Asia
- KSA can leverage favorable trade agreements (eg: GAFTA) and strong logistics infrastructure to enhance export capability
- KSA is one of the largest chemical producers in the world and contributes ~10% to the global output
- Opportunity for first mover advantage due to non-existent local production of Precipitated Silica and lack of competition from major global manufacturers

GLOBAL TRENDS
- Increasing utilization of precipitated silica in tires to enhance tire tread wear resistance and adhesion, is the major factor driving the growth. Substitution of carbon black with precipitated silica on account of its eco-friendly nature is anticipated to fuel the market
- Due to continued pressure from regulators across the globe to improve environmental safety, the call for green tires is escalating at a remarkable rate and in turn driving demand for intermediate products such as precipitated silica
- Application of the product in agrochemicals is expected to witness a considerable growth on account of its extensive usage as free flow agent due to its absorption ability and chemical stability. Additionally, precipitated silica is used extensively in food applications including edible salt and powdered food products
- Leading global manufacturers include: Evonik Industries (Germany), Solvay SA. (Belgium), and PPG Industries (USA)
SUPPLY

SCALABILITY AND LOCALIZATION
- Easy access to primary raw materials in KSA – Sodium silicate, produced by Adwan Chemical Industries
- KSA has strong logistics infrastructure and supportive regulatory value chain to support export of Precipitated Silica globally

IMPORT DEPENDENCY
- No local production of Precipitated Silica exists in Saudi Arabia; currently 100% of the local demand met by imports

VALUE CHAIN ANALYSIS

<table>
<thead>
<tr>
<th>Key raw materials exist in KSA</th>
<th>Investment scope</th>
<th>Further downstream opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Ash</td>
<td>Sodium Silicate</td>
<td>Precipitated Silica</td>
</tr>
<tr>
<td>Silica</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEY STAKEHOLDERS

Soda Ash
Silica
Sodium Silicate
Precipitated Silica
Tire
Agrochemical
Food & beverages
Personal care
Electronics

IMPORT DEPENDENCY
- No local production of Precipitated Silica exists in Saudi Arabia; currently 100% of the local demand met by imports

VALUE CHAIN ANALYSIS

Soda Ash → Sodium Silicate → Precipitated Silica

ENABLING FACTORS

- 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

<table>
<thead>
<tr>
<th>Factor</th>
<th>Ranking Amongst Regional Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity tariffs for industrial players</td>
<td>$48/MWh</td>
</tr>
<tr>
<td>Productivity adjusted wages</td>
<td>$3.3/hour</td>
</tr>
<tr>
<td>Logistics Performance Index (1–5)</td>
<td>3.2</td>
</tr>
<tr>
<td>Customs Clearance Index (1–5)</td>
<td>2.7</td>
</tr>
<tr>
<td>Ease of getting credit (0–100)</td>
<td>50</td>
</tr>
</tbody>
</table>

Bottom 25% | Top 75% | Top 50% | Top 25%
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## DEFINITIONS

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<th>#</th>
<th>SCORECARD SECTION</th>
<th>DEFINITIONS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Market size</td>
<td>Size of market in value/volume in KSA and/or Region (MENA/GCC) covering future projections based on available estimates from published government sources</td>
</tr>
<tr>
<td>2</td>
<td>Demand drivers</td>
<td>A select number of factors that will influence future demand for the related product/service</td>
</tr>
<tr>
<td>3</td>
<td>Investment highlights</td>
<td>An overview of key financial metrics summarizing the investment opportunity along with the expected return based on the suggested investment size</td>
</tr>
<tr>
<td>4</td>
<td>Value proposition</td>
<td>Summary of key differentiators that position KSA as a strategic choice over other regional/global peers</td>
</tr>
<tr>
<td>5</td>
<td>Market readiness</td>
<td>An overview of KSA market structure, market maturity and level of participation by local and global players</td>
</tr>
<tr>
<td>6</td>
<td>Competitor analysis</td>
<td>List of the local &amp; international players manufacturing the underlying product in Saudi Arabia and their market share</td>
</tr>
<tr>
<td>7</td>
<td>Global trends</td>
<td>Latest business developments within the sector/product category</td>
</tr>
<tr>
<td>8</td>
<td>Scalability and localization</td>
<td>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</td>
</tr>
<tr>
<td>9</td>
<td>Import dependency</td>
<td>An overview of the countries from which Saudi Arabia is importing the product and their value/volume and share in total imports</td>
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<tr>
<td>10</td>
<td>Value chain analysis</td>
<td>The process or activities that would potentially need to be carried out to deliver the underlying product or service</td>
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<tr>
<td>11</td>
<td>Key stakeholders</td>
<td>Government institutions, organizations, and/or authorities that participate or influence the market for the underlying product/service</td>
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<tr>
<td>12</td>
<td>Enablers</td>
<td>Factors that enable investment in the underlying opportunity</td>
</tr>
<tr>
<td>13</td>
<td>Cost of doing business in KSA</td>
<td>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</td>
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</tbody>
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