



# Archean Chemical Industries Ltd Initiating Coverage



## Archean Chemical Ltd

### New product lines, coupled with volume off-take in existing products to propel growth

#### Investment Rationale

- Archean Chemical Industries (ACI) is set to amplify its product offerings by incorporating **bromine derivatives**. Leveraging its existing bromine production capabilities, this strategic move aims to create a more specialized product portfolio. By focusing on bromine derivatives, ACI is poised to benefit from products such as clear brine fluids and PTA synthesis which can act as a catalyst for accelerated growth.
- This expansion will likely streamline ACI's product mix, concentrating on relatively value-added product items in clear brine fluids and PTA Synthesis with other downstream derivatives which is likely to further accelerate the growth.
- ACI's existing product portfolio is notably robust, featuring elemental bromine, industrial salt, and sulphate of potash (SOP). These products exhibit strong margin profile, enhancing the overall financial muscle of the company. The company increased bromine's capacity to 42,500 MTPA in January 2023 from 28,500 MTPA earlier. ACI is also the largest producer of Industrial salt with a capacity of 4 million MT for FY24
- The strength of ACI's product line is further fortified by its access to abundant brine reserves, which serve as a natural competitive advantage. The company's extensive technical expertise in chemistry enables it to produce these products cost-effectively, ensuring competitive pricing in the market.

#### Outlook & Valuation

Archean Chemical demonstrated strong resilience in FY24, maintaining a 35% margin despite revenue and profit growth moderation. The industrial salt segment's robust performance offset declines in bromine revenue. With INR 130-140 crore already spent on capex, benefits from the bromine derivative business are expected to materialize starting FY25E. **We project a CAGR of 34% in revenue and 44% in net profit during FY24-FY26E, driven by volume recovery and new product lines. Valuing the stock at a P/E multiple of 17.5x on FY26E EPS, we recommend a BUY with a target price of INR 943.**

Particulars (INR Million)	FY22	FY23	FY24	FY25E	FY26E
Revenues	11,304	14,411	13,301	18,215	23,852
EBITDA Profit	4,672	6,340	4,627	6,559	9,215
EBITDA %	41%	44%	35%	36%	39%
Profit After Tax	1,882	3,826	3,190	4,660	6,647
PAT%	17%	27%	24%	26%	28%

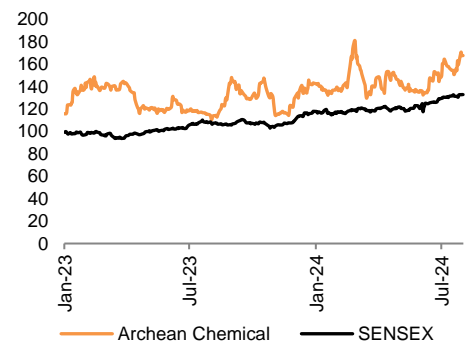
Source: Company Information & Deven Choksey Research

CMP (INR)	<b>762*</b>
Target Price (INR)	<b>943</b>
Upside %	<b>24%</b>
Rating	<b>BUY</b>

#### MARKET DATA

M - Cap (INR Mn)	93,991
52 W H/L (INR)	838/495
Volume Avg. (3m K)	220K
Outstanding shares (Mn)	123
Face Value (INR)	2

#### Price Chart



SENSEX	81,455
NIFTY	24,857

#### Shareholding pattern

Particulars	Dec-23	Mar-24	Jun-24
Promoters	53.46%	53.46%	53.46%
FIIIs	4.15%	5.86%	9.53%
DIIIs	28.69%	27.13%	21.04%
Others	13.71%	13.55%	15.96%
Total	100.0%	100.0%	100.0%

Source: Bloomberg, Deven Choksey

\* CMP indicates close as on 30<sup>th</sup> July 2024

## Archean Chemical Ltd

### Company overview:

#### Incorporation

- ACI formerly known as Archean Chemical Industries Private Limited was formed in July'2009 . In the span of nearly last one and half decade the company has built quality focused and cost-competitive marine chemicals business with the tag of leading manufacturing capability.

#### Business Verticals and Profitability

- ACI currently has three prominent categories in the specialty marine chemicals: industrial salt, bromine and sulphate of potash with an average EBITDA margin profile between 35%-40%. According to F&S report, ACI is the largest exporter of bromine and industrial salt by volume in fiscal 2021
- ACI generated nearly 50:50 ratio of Industrial Salt and Bromine revenue in FY23 with EBITDA margin pegged at 44%. Though, the bromine contribution moderated during FY24 around 30% due to industry wide headwinds and bromine price moderation but the management could successfully manage the blended margin. Consequently, it captured EBITDA margin at 35% aligned with the company's long-term EBITDA range of 35%-40%
- ACI is introducing downstream bromine derivatives to enhance the resilience of its bromine product line. This move into bromine-related derivatives will improve the revenue concentration for the company. ACI is well-positioned to leverage its long-standing relationships with global customers, established infrastructure, access to brine reserves, and proximity to the captive Jakhau Jetty and Mundra Port. ACI holds a leadership position due to its low-cost production, competitive pricing, economies of scale, and ability to expand the business

#### Major Events

Year/events	Particulars
2011	<ul style="list-style-type: none"> <li>Strategic investment of approximately ₹ 225.05 Mn by Sojitz Corporation</li> </ul>
2013	<ul style="list-style-type: none"> <li>Commenced industrial salt operations</li> <li>Commenced exports to Japan and South Korea</li> </ul>
2014	<ul style="list-style-type: none"> <li>Commenced production of bromine</li> <li>Commenced exports to China</li> </ul>
2015	<ul style="list-style-type: none"> <li>Commissioned production of sulphate of potash</li> <li>Commenced exports to Belgium</li> </ul>
2018	<ul style="list-style-type: none"> <li>India Resurgence Fund, a joint venture between Piramal Enterprises Limited and Bain Capital Credit, made a strategic investment by issuing listed and redeemable NCDs totalling ₹8,400 Mn. The NCDs are listed on BSE Limited's wholesale debt segment under ISIN INE128X07028 and scrip code 958408.</li> </ul>
2021	<ul style="list-style-type: none"> <li>Expansion and increase of bromine installed capacity to 28,500 MT</li> <li>Commenced exports to Qatar</li> </ul>

Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

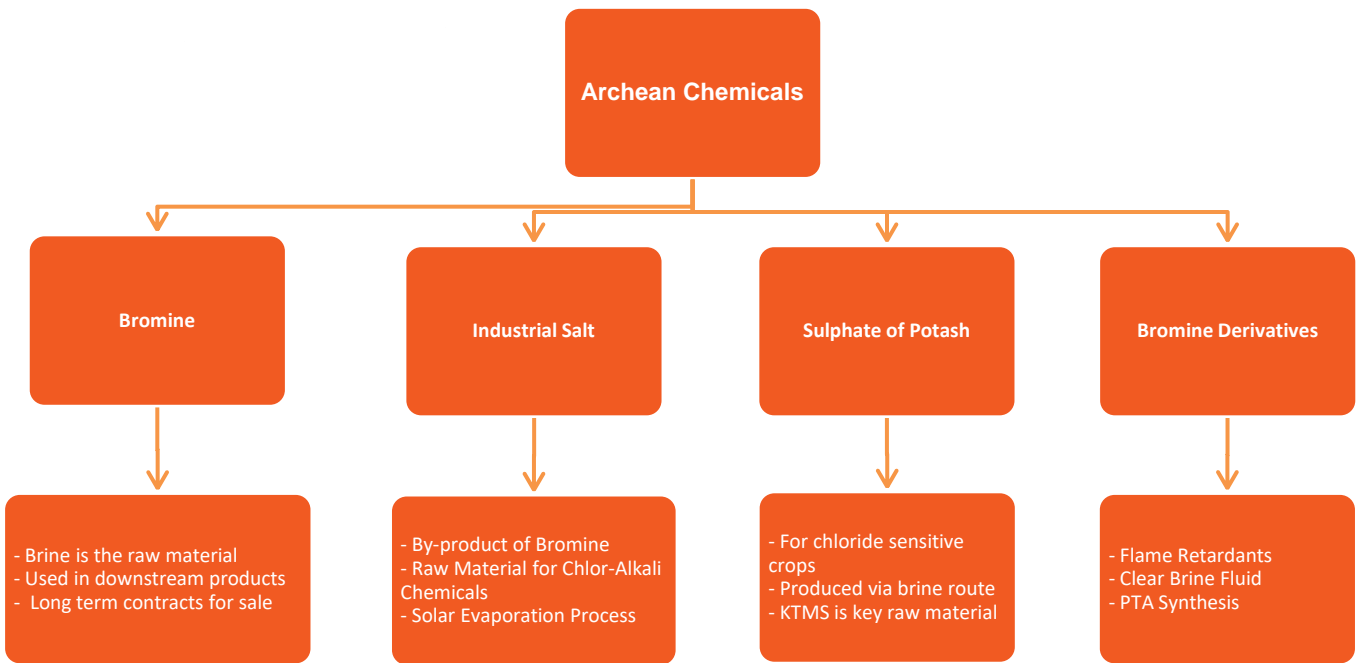
### Product Suite

ACI leverages its brine reserves in the Rann of Kutch to produce Bromine, Industrial Salt, and Sulphate of Potash (SOP) at its facility near Hajjipir in Gujarat.

**Bromine:** ACI's Bromine serves as a crucial raw material with diverse applications, including pharmaceuticals, agrochemicals, water treatment, flame retardants, additives, oil & gas, and energy storage batteries.

**Industrial Salt:** ACI exports 100% of its Industrial Salt, primarily catering to chlorine and chlorine derivative manufacturers across the Asian market.

**Sulphate of Potash (SOP):** Although contributing minimal revenues at present, ACI's SOP production benefits from technical expertise provided by a German engineering company and utilizes the Salt Lake process, making ACI the sole producer of SOP from natural sea brine in India.



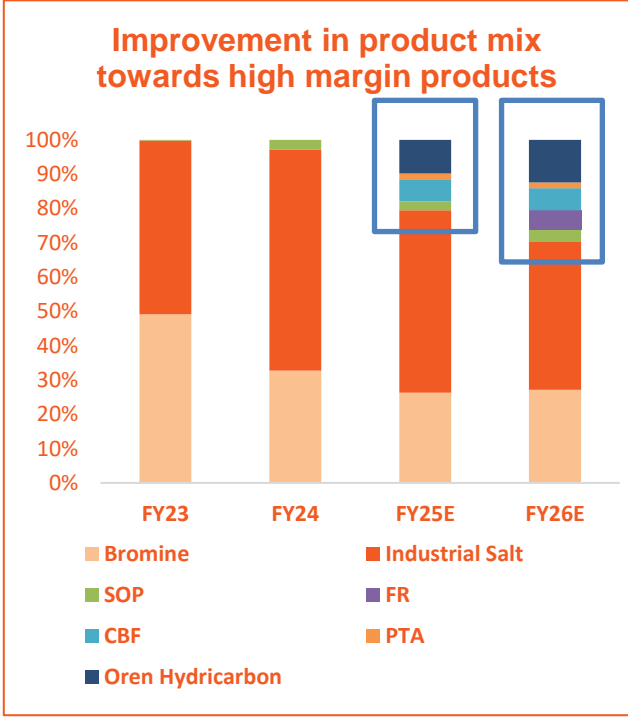
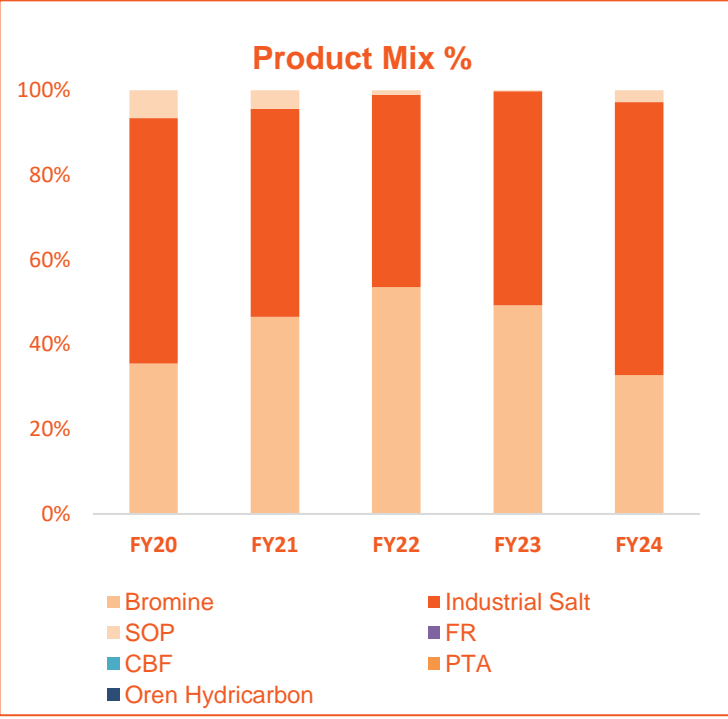
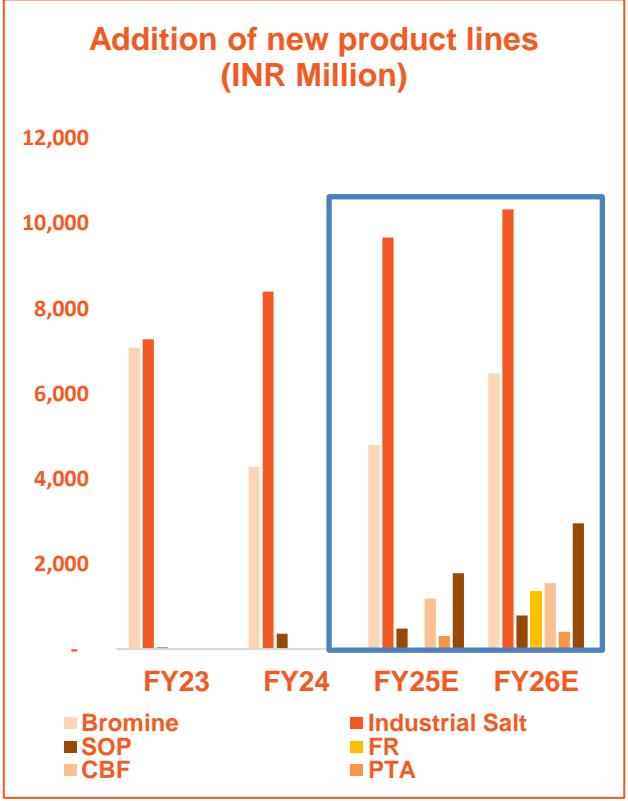
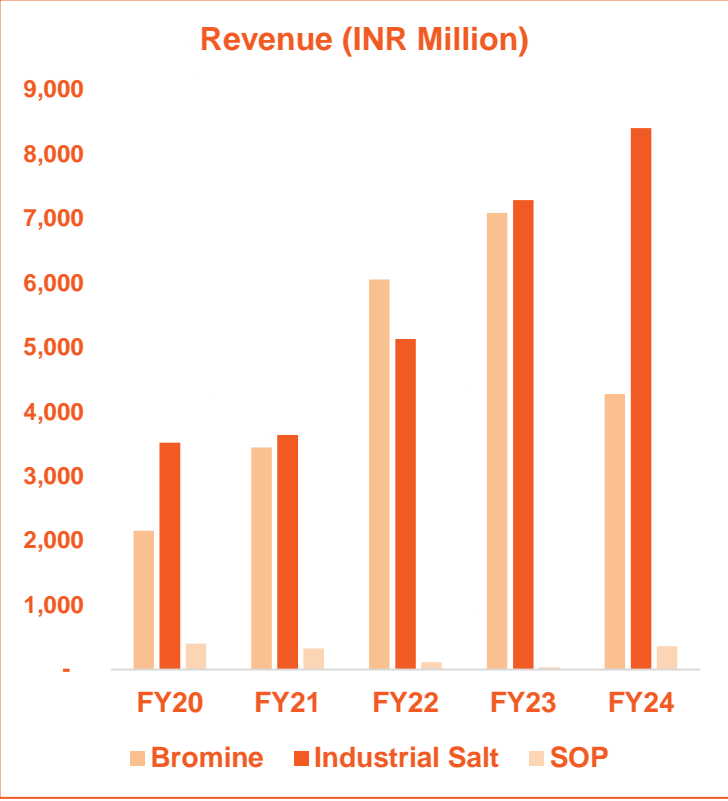
Source: Company Information & Deven Choksey Research

ACI is undertaking significant capital expenditures, including a large INR 2500 Mn capex at Jhagadia, GIDC, to add greenfield bromine derivative performance products through its subsidiary Acume Chemicals Private Limited. **This expansion will enhance the capacity by 28,000 MTPA, producing high-end flame retardants, clear brine fluids, and PTA synthesis. These products have robust applications in industries such as electronics, wire and cable compounds, polyester resins, and PET materials.**

Additionally, ACI's strategic focus on debottlenecking existing bromine and industrial salt production facilities, combined with greenfield expansions, positions the company to capitalize on the growing global demand for these essential industrial chemicals. This approach ensures a continuous supply of high-quality products to their global customer base, thereby reinforcing their market leadership and paving the way for sustained growth and profitability.

**Archean Chemical Ltd**

Expanding into Bromine Derivatives & Narrowing Revenue Concentration



Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Product Suite

#### Bromine

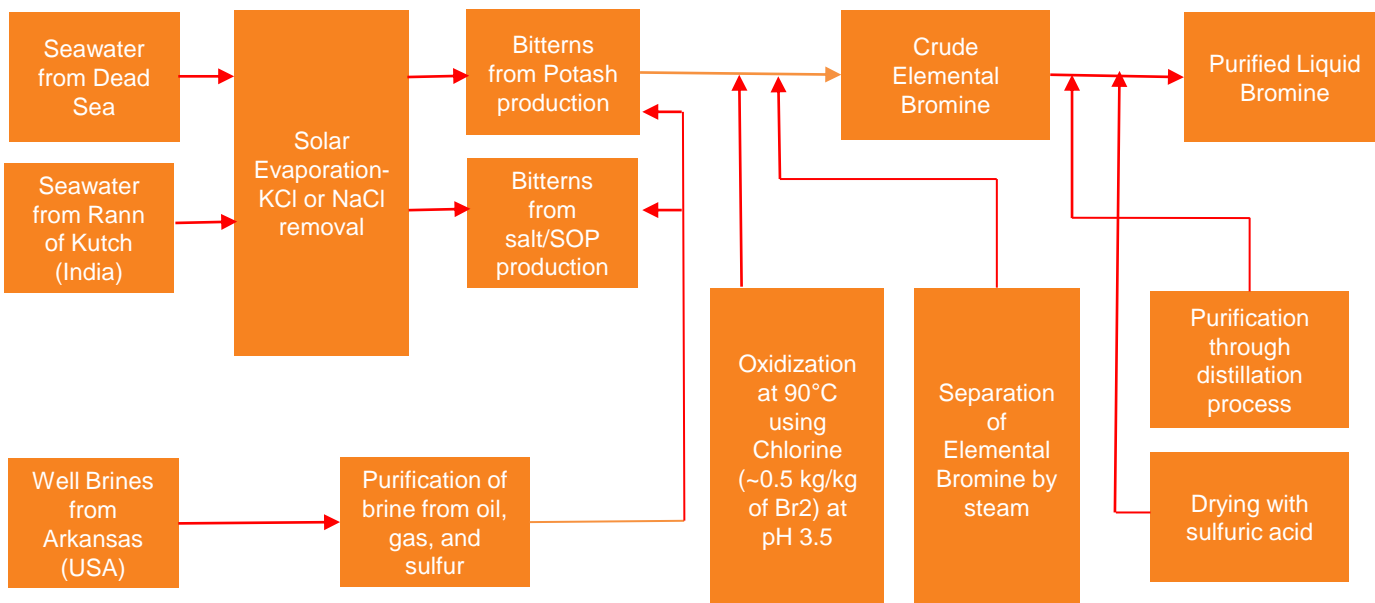
Bromine stands out as the only non-metallic element that exists as a liquid under standard conditions. Though it's widely distributed in nature, it's usually found in small quantities, mainly in the form of soluble salts. Bromine commonly exists as bromide in seawater and natural deposits alongside chloride. As a member of the halogen family, it's naturally present in seawater, underground brine deposits, and other water bodies.

The concentration and extraction methods of bromine vary depending on the source. The lower its concentration in brines, the more challenging and costly it becomes to extract. Bromine is typically obtained from highly concentrated brine, known as bittern, which remains after the precipitation of potash and magnesium salts like kainite. This bittern is also used as a raw material in the production of sulphate of potash.

Elemental bromine serves as a cornerstone for manufacturing a wide range of bromine-derived performance products. Bromine and its derivatives find applications across various industries, including **pharmaceuticals, fumigants, agrochemicals, water treatment, mercury control, flame retardants, additives, and oil and gas**. Leading global producers of bromine include the United States, China, India, Israel, and Jordan. ACI has nearly 42,500 MT of bromine capacity ( including captive purpose)

ACI produces liquid bromine with specification of <60 ppm of chlorine and <30 ppm of moisture. ACI leverages stemming out-process to produce Bromine. It requires a minimum feedstock more than two grams of bromine/litre of bromine and is less energy sensitive while the blowing-out process may use a lower feedstock grade as air is used. Archean Chemical has built very long-term relationship with customers across the globe.

#### Steaming-out process



Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Product Suite

#### Industrial Salt

Industrial salt is the primary material used for production of chlorine and caustic soda, together known as chloralkali. **It's widely employed in the chemical, food, and beverage industries. Chlorine is used in vinyl, phosgene, chloromethanes, chlorinated C3, water treatment, hydrochloric acid synthesis, bleach, and other chemical processes.** Caustic soda is used in alumina production, paper and pulp processing, soap and detergent manufacturing, textiles, water treatment, and bleach production. **However, ACI's Industrial Salt business is more tied up with chlorine and chlorine derivative manufactures. ACI deals with chlorine and chlorine derivatives in Asian market who require grade I industrial salt.** ACI produces industrial salt using the solar evaporation method. This kind of process is utilized by players, who have the access to salt reserves and geography. Following is the solar evaporation process

**Sea Water Pumping:** Brine is pumped into reservoirs and condensers, where solar evaporation increases its concentration from 20-25 °Bé to 27-28 °Bé. The concentrated brine is then directed to salt crystallizers for precipitation

→ **Crystallization:** Salt crystallizes at a density of 25-29 °Bé, depositing on the salt bed at a rate of 2.5-3 cm per month. Once the desired density is reached, excess brine is removed

→ **Solar Salt Harvesting:** The crystallized salt is harvested annually, yielding 25-30 cm of salt, which is then collected using harvesters and excavators and sent to the washery

→ **Washery:** Automated washers operate for 22 hours per day to remove impurities

→ **Quality Checks:** Quality checks ensure the salt meets specifications, with analysis for calcium (<0.05%), magnesium (<0.03%), and a calcium-to-magnesium ratio around 1.5. Subsequently, it is followed by transpiration for export.

ACI has an annual capacity of 40,00,000 MT for industrial salt as of FY24. To cater to the growing demand of customers, ACI is expanding the manufacturing capacities, and it is expected to go up to 50,00,000 MT/ annum in the near term.

#### Manufacturing Facility & Access to Brine Reserve



Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Product Suite

#### Sulphate of Potash

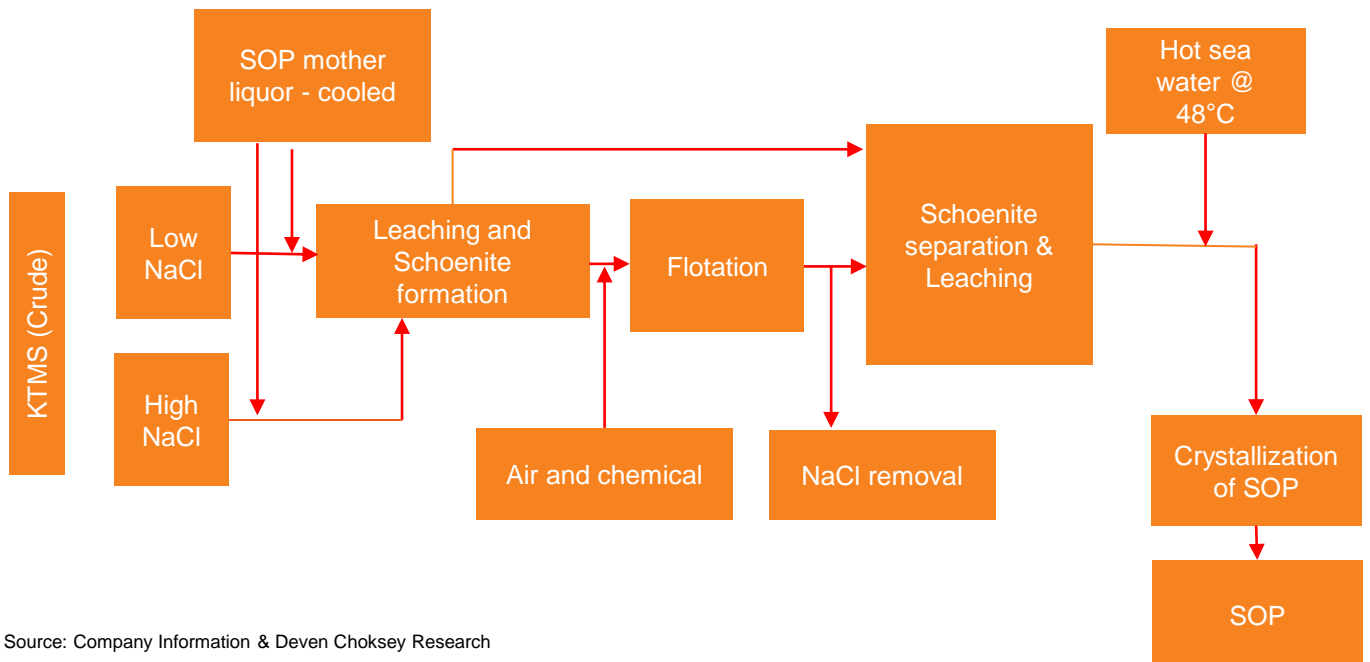
Sulphate of potash (potassium sulphate) is a high-quality fertilizer ideal for chlorine-sensitive crops due to its high 50-52% K<sub>2</sub>O content. The technical know-how and technology for the sulphate of potash plant were provided under contract with a German engineering company. Generally, there are three processes for sulphate of potash production: **(a) the Mannheim process, (b) the MOP and Kieserite process, and (c) the salt lake/sea water process.** The Mannheim process and the MOP/Kieserite process require potash as a raw material and are significantly more expensive than the salt lake process. **The salt lake process uses kainite-type mixed salt (KTMS), an inexpensive byproduct from salt production in potassium-rich brines.**

In this process, KTMS is the raw material, which precipitates during brine evaporation after salt crystallization. The precipitated KTMS is harvested and stored. At the processing plant, KTMS is decomposed to schoenite, an intermediate product of sulphate salts of potassium and magnesium. Upon thermal decomposition, schoenite yields sulphate of potash, which is then dried and packed. This process produces low-chloride sulphate of potash, a valuable market product.

The recovery of sulphate of potash depends on potassium chloride (KCl) and sodium chloride (NaCl) content. Lower NaCl levels yield better sulphate of potash recovery from KTMS, while higher NaCl levels result in lower output. To improve the conversion ratio, the facility and flotation circuit were upgraded by ACI, increasing overall production. By improving the KTMS ratio, utility and raw material costs are expected to decrease, significantly enhancing sulphate of potash production.

The harvested KTMS by ACI had higher NaCl levels, so professional advice was sought to improve its quality. The method of KTMS precipitation was changed from parallel to series mode in the crystallizers, which should yield lower NaCl content.

#### Salt lake/ Sea brine processing into Sulphate of Potash(SOP)



Source: Company Information & Deven Choksey Research



## **Archean Chemical Ltd**

### **Bromine Derivatives**

Bromine derivatives are a class of secondary bromine products with various use cases. ACI is introducing a 28,000 MTPA capacity for downstream bromine products, which will significantly contribute to revenue from FY25 onward. ACI will leverage its in-house bromine capacity to produce these derivatives. This shift from selling elemental bromine to selling value-added (high-margin) bromine derivatives is a trend followed by global players such as ICL and Albemarle. Most elemental bromine manufacturers are also the largest producers of bromine derivatives and ACI is also following the similar path. Following are the bromine derivatives that is ACI is expanding into:

### **Bromine Flame Retardants**

Bromine is widely used in flame retardants due to its high atomic mass and versatility across a range of polymers and applications. Over 70 types of brominated flame retardants (BFRs) exist, each with varying properties (e.g., reactive, polymeric, halogenated). The appropriate type is selected based on the materials or products that need to be fire-resistant.

BFRs are predominantly used to prevent fires in electronics and electrical equipment, representing over 50% of their applications. According to the ACI Commissioned F&S Report, the global electronics manufacturing sector is projected to grow from \$526 billion in 2021 to \$624.38 billion by 2025, with a CAGR of approximately 4.4%. Additionally, BFRs are utilized in wire and cable compounds for buildings and vehicles and in insulation foams. The automotive sector, recovering from the pandemic and resolving semiconductor shortages, is anticipated to expand with a decent pace. Stringent fire safety regulations in the automotive, electronics, consumer goods, and textile industries, especially in EU countries, have increased global demand for flame retardants. ACI has plans to put 10,000 MTPA flame retardants but it is being postponed due to underlying demand uncertainty.

### **Clear brine fluids**

Clear brine fluids are widely used in the oil and gas drilling industry, particularly those derived from bromine, including calcium bromide, zinc bromide, and sodium bromide fluids. Clear brine fluids, sometimes mixed with additives, are chemical compounds used in well-completion operations to ensure the brines are solids-free. These fluids are extensively employed in the oil and gas drilling industry to minimize the risk of damage to the well bore and productive zone. With their high density, brine fluids prevent fluid migration between underground formations through the well bore. ACI is putting 13,000 MTPA of clear brine fluids.

### **PTA Synthesis**

Bromide is used in the production of pure terephthalic acid (PTA), a key material for polyester production. Most PTA is used in polyester resins, including films, fibers, yarns, and PET bottles. It also serves as an intermediate for liquid crystal polymers, plasticizers, polybutylene terephthalate, and other compounds. Polyesters made from PTA are used in textiles and packaging. With economic growth and increased polymer adoption, PTA demand is expected to rise. ACI is putting 5,000 MTPA capacity for PTA synthesis.

## Archean Chemical Ltd

### Industry Overview

#### Bromine

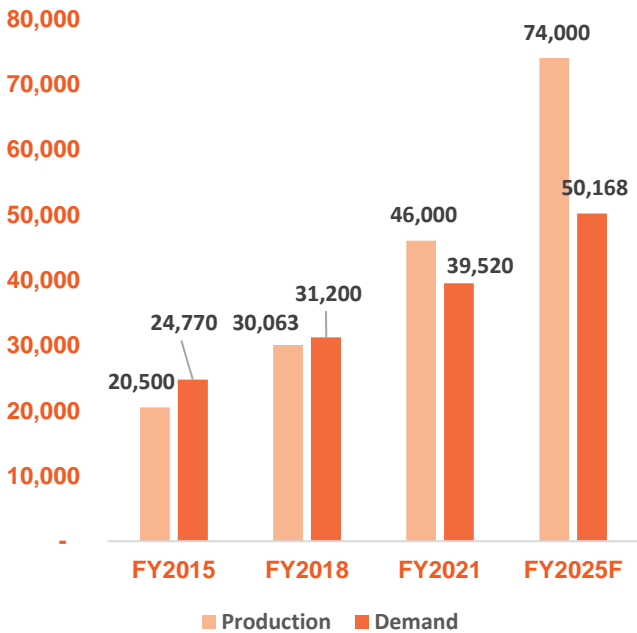
India's bromine production primarily comes from bittern and underground brine, mainly concentrated in the western state of Gujarat. According to a Company Commissioned F&S Report, India's bromine capacity has grown rapidly, increasing from 20,000 MT in 2008 to 60,000 MT in 2020. The same report indicates that bromine production in India rose from 20,500 MT in fiscal 2015 to an estimated 46,000 MT in fiscal 2021, with approximately 13,500 MT used for captive consumption.

As domestic demand for bromine exceeds production, India relies on imports to meet the shortfall. In 2020, most imports came from Jordan (53%), Israel (41%), and the United States (4%). Conversely, India exports bromine at higher prices than the import cost. Most of the bromine exports (approximately 95%) go to China, with other destinations including the Russian Federation, Ukraine, the United Kingdom, and Vietnam.

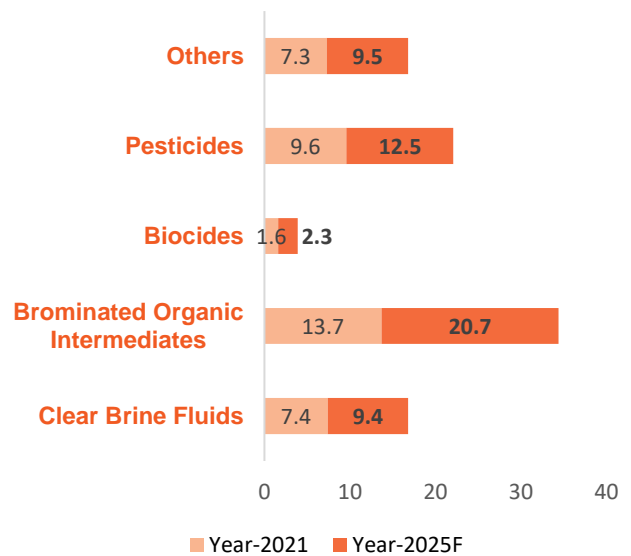
Bromine usage in India is predominantly in brominated organic intermediates, with 107 bromo-organic compounds in widespread use. Other significant applications include biocides, pesticides, and water treatment, among others.

#### Bromine Industry Specific Analysis

**Indian Bromine Volume (MT)**



**Indian Bromine Consumption (KT)**



Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Industry Overview

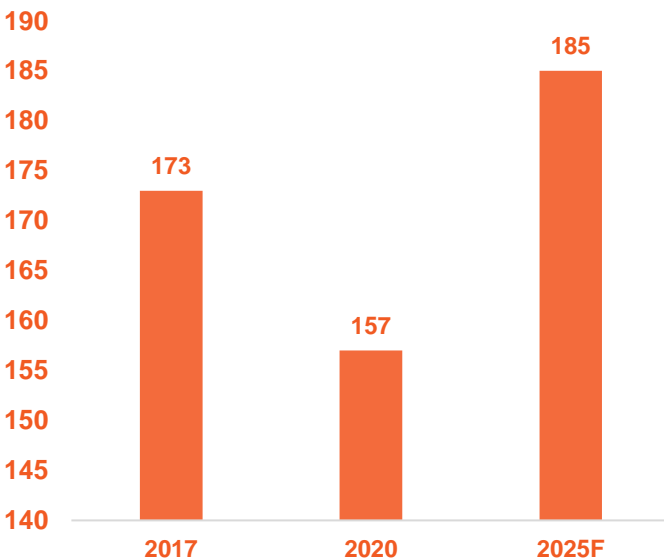
#### Industrial Salt

According to the Company Commissioned F&S Report, the global industrial salt market saw no significant growth from 2017 to 2019, with consumption remaining at 173 million MT. However, projections indicate a growth rate of 2.8% CAGR, increasing from 157 million MT in 2020 to 185 million MT by 2025. The global industrial salt market was valued at US\$ 14.7 billion in 2023 and is projected to grow at a CAGR of 4.0% from 2023 to 2033. In India, industrial salt is primarily produced through the evaporation method, which is more cost-effective than the mining method.

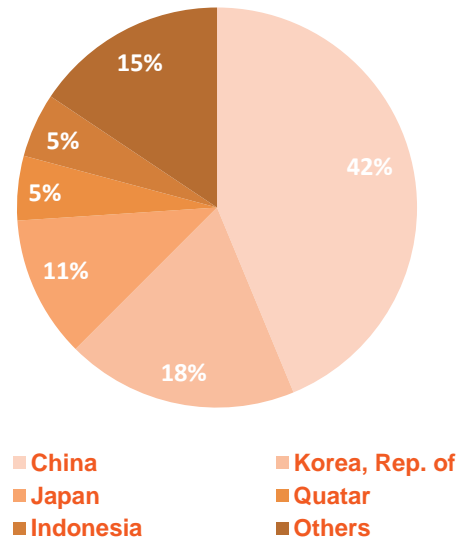
The global industrial salt industry is categorized by applications, including oil and gas, chemical processing, water treatment, and de-icing. The chemical processing segment is expected to hold the largest market share due to the rising demand for industrial salt in producing soda ash, chlorine, and caustic soda. Chlor-alkali production, the largest market for salt, accounted for approximately 38% of global consumption in 2021. Chlor-alkali products such as chlorine, caustic soda, and soda ash are essential raw materials in the chemical industry and are used in various industrial and manufacturing processes, including plastics, alumina, paper and pulp, and diverse end-use industries like construction and automotive. Increasing industrialization is driving up demand for Chlor Alkali, PVC, and Polyurethane, along with a rising demand from the food and beverage industry.

The global chlor-alkali market was valued at US\$50.2 billion in 2021 and is projected to grow to US\$54.3 billion by 2025. In 2021, India was a major exporter of industrial salt, with a 6.58% share of global exports and ranking 50th in imports with a 0.28% share. During fiscal 2020, India's exports of industrial salt (excluding common salt) decreased by 8.42%, dropping from 12.76 million tonnes in the previous year to 11.68 million tonnes. According to the Company Commissioned F&S Report, in Fiscal 2021, exports of industrial salt from India were mainly to China. (42%), Republic of Korea (18%), Japan (11%) and Qatar, Indonesia & Vietnam (5% each).

**Industrial Salt Volume (MT)**



**Export Destinations from Indian in Fiscal 2021**



Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Industry Overview

#### Sulphate of Potash

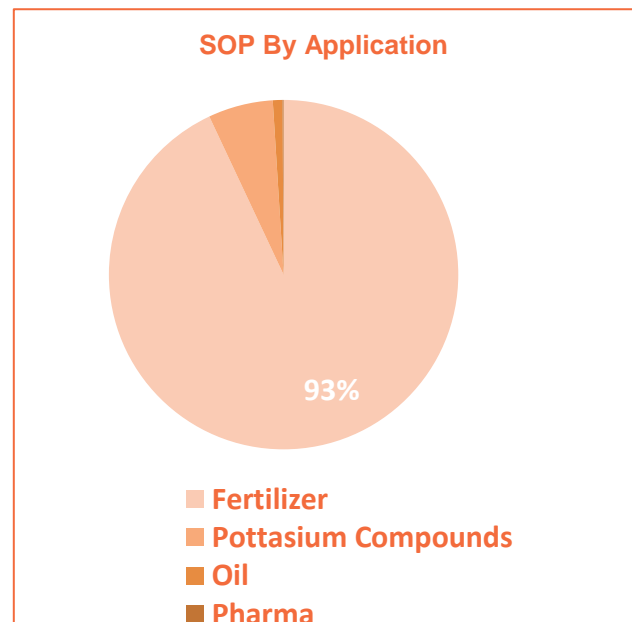
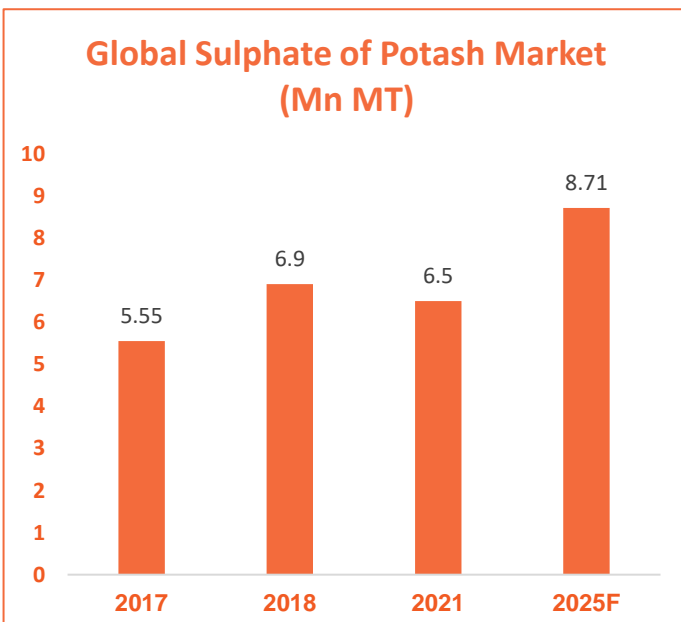
Potassium sulphate, also known as sulphate of potash (SOP), arcanite, or potash of sulphur, is an inorganic compound. It is a white, odorless, hygroscopic solid that dissolves in water, forming potassium cations and sulphate anions.

SOP is produced through processes involve extraction from mineral ores, the Mannheim process, ion exchange, and salt-water brine.

In 2021, the global SOP market was around 6.9 million MT and is expected to reach 8.71 million MT by 2025, with a CAGR of about 6.0%. The market's growth is driven by SOP's advantages over MOP and increased fruit consumption due to a rising middle-class population.

India's SOP exports in 2020 primarily went to the Netherlands (43%), Croatia (17%), UAE (12%), and Morocco & Peru (6% each). However, exports decreased by 40% in 2021 due to logistical issues and reduced demand from the pandemic. Future growth in exports is expected as India strengthens its trade channels and benefits from the "China+1" strategy of many Western countries.

Potassium sulfate, also known as sulphate of potash (SOP), is a versatile compound used across various industries. In agriculture, SOP serves as a critical nutrient for plants, aiding in protein synthesis, water regulation, drought resistance, and disease prevention. It is a chloride-free, low-salt fertilizer, enhancing crop quality in both open fields and protected cultivation. Medically, potassium sulfate is essential in treating hypokalemia, maintaining cardiac cell function, and alleviating constipation through its cathartic action. Additionally, SOP has industrial applications in glass manufacturing, cosmetics as a reagent, food and beverage production for water correction and flavoring, and pyrotechnics for producing purple flames. It is also utilized as a flash reducer in artillery propellants to minimize muzzle flash and overpressure.



Source: Company & Deven Choksey Research

## **Archean Chemical Ltd**

### **Industry Overview**

#### **Bromine Flame Retardants**

Bromine is widely used in flame retardants due to its high atomic mass and versatility across various applications and polymers. There are over 70 types of brominated flame retardants (BFRs) with different properties, such as reactive, polymeric, and halogenated. BFRs are essential for preventing fires in electronics and electrical equipment, which accounts for over 50% of their usage. The global electronics market is projected to grow from \$526 billion in 2021 to \$624.38 billion by 2025, with a CAGR of 4.4%.

BFRs are also used in wire and cable compounds for buildings and vehicles, as well as insulation foams and other building materials. The global automotive sector, recovering from the pandemic and resolving semiconductor shortages, is expected to grow from \$21.3 billion in 2021 to \$25.7 billion by 2025, with a CAGR of 4.8%. Stringent fire safety regulations in the EU and other countries have increased the demand for flame retardants in industries such as automotive, electronics, consumer goods, and textiles. The global BFRs market is anticipated to grow at a CAGR of 6%, from \$1.46 billion in 2021 to \$1.843 billion by 2025.

#### **Clear brine fluids**

Bromine is extensively used in the oil and gas drilling industry in the form of clear brine fluids. These fluids include derivatives such as calcium bromide, zinc bromide, and sodium bromide. Clear brine fluids are chemical compounds used, sometimes with additives, in well completion operations to ensure solids are free from brines. They are crucial in the oil and gas well-drilling industry to minimize the risk of damage to the wellbore and productive zone. Due to their high density, brine fluids prevent fluid migration between underground formations through the wellbore.

The global clear brine fluids market is expected to grow from \$1,073 million in 2021 to \$1,236 million in 2025, with a CAGR of over 3.6%, according to the Company Commissioned F&S Report.

#### **Pure Terephthalic Acid (PTA)**

Bromide is used in the production of pure terephthalic acid (PTA), which is a crucial material for producing polyester. Most PTA is used to develop polyester resins, including polyester films, polyester fiber & yarn, and PET bottles. PTA is also an intermediate in manufacturing liquid crystal polymers, plasticizers, polybutylene terephthalate, and other compounds such as cyclohexane dimethanol, terephthaloyl chloride, polytrimethylene terephthalate, and copolyester ether elastomers. Polyesters made with PTA are used in various industries, such as textiles and packaging.

With overall economic growth and increased adoption of polymers, the demand for PTA is expected to rise. According to the Company Commissioned F&S Report, the global PTA market is projected to grow from \$339 billion in 2021 to \$423 billion in 2025, with a CAGR of 5.7%.

## Archean Chemical Ltd

### Investment Rationale

#### ACI's strong market position and advanced bromine infrastructure provide a distinct edge

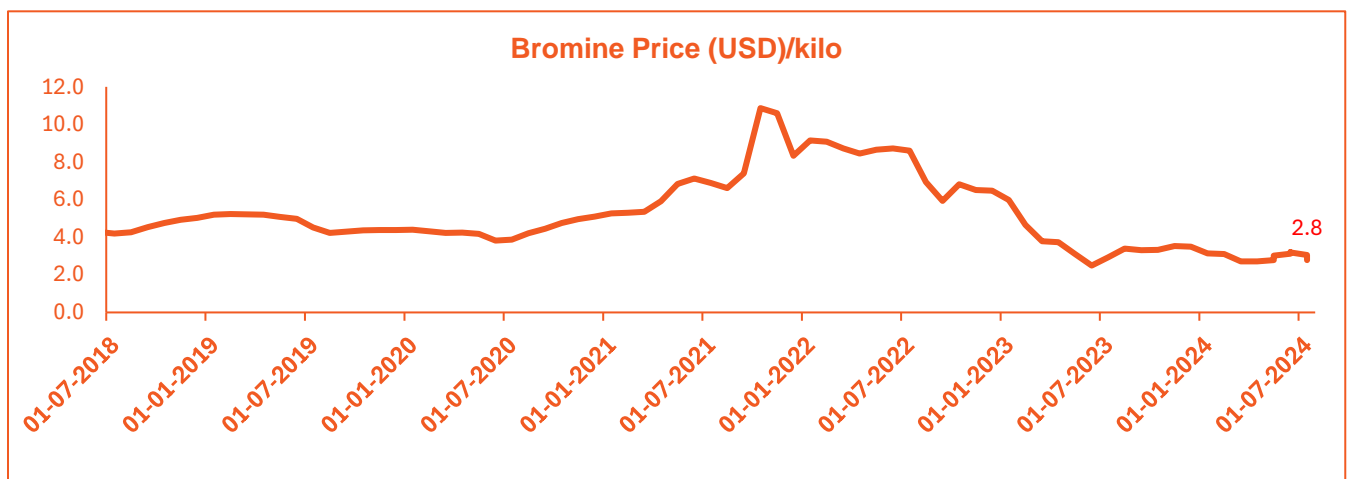
Archean Chemical Industries Ltd. (ACI) has significantly expanded its bromine production capacity, increasing it from 28,500 MTPA to 42,500 MTPA as of January 2023. **ACI holds a leading position in the Indian bromine merchant market, with a notable 48% of its business stemming from exports. By volume, Archean Chemical was the largest exporter of bromine from India in fiscal year 2021.**

Bromine can be considered a basic industrial chemical, the ability to access brine wells and manufacture bromine defines a company's core competence in this sector. Major global bromine production sites include the Dead Sea (Israel and Jordan) and underground wells in the Arkansas region of the USA. Despite its abundance, the extraction and manufacturing processes for bromine are costly. **For instance, ICL Group has noted in its annual reports that the receding water levels in the Northern Basin of the Dead Sea necessitate the construction of new pumping stations. It also signifies that the process of bromine extraction and the cost attached to it is also on rise.**

Archean Chemical's cost efficiency has made it the largest Indian exporter of bromine by volume and a leader in merchant sales as of FY21. **The company's integrated facility at Hajipir, Gujarat, near the Rann of Kutch, benefits from proximity to Jakau Jetty and Mundra port for international transportation. Covering 240 sq. km, the facility uses the steaming-out process for bromine production. Given bromine's corrosive and hazardous nature, ACI employs specialized handling and transports it using 228 nickel and lead-lined ISO containers. This resource access, manufacturing capability, and transportation infrastructure uniquely position ACI to expand its bromine business and move into bromine derivatives.**

### Bromine price trend

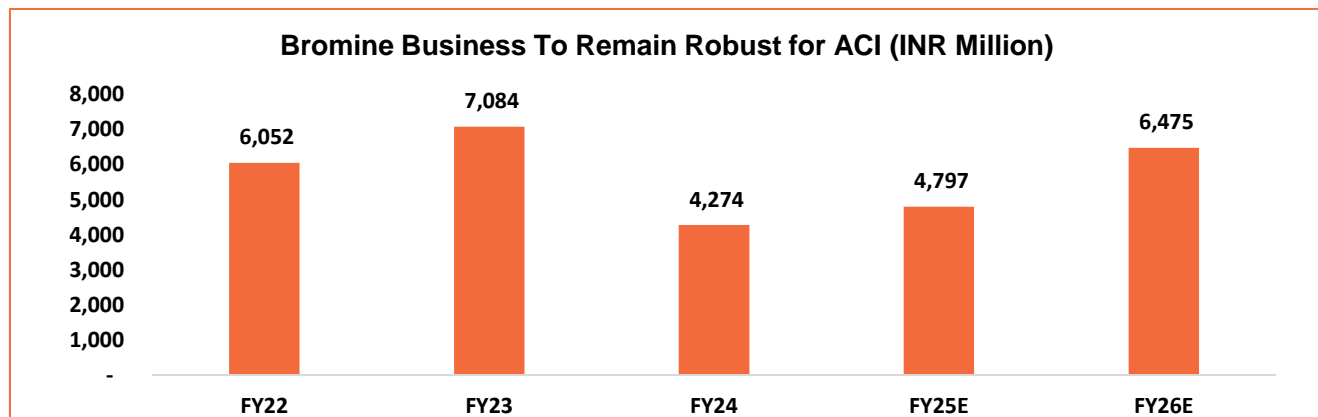
The declining trend of bromine prices have been arrested and it has been trending largely stable at \$2.7-2.8/kilo.



Bloomberg Ticker: CHCNBROM Index  
 Scrip Name: China Chemicals SunSirs BR Bromine

## Archean Chemical Ltd

### Investment Rationale



Source: Company Information & Deven Choksey Research

### Moving into the value chain with expansion in downstream bromine derivatives

Archean chemical has been focusing on downstream bromine derivative products leveraging its bromine manufacturing capabilities. Since ACI is already a manufacturer of bromine, it is strategically lucrative for the company to expand into downstream bromine derivatives aided by increasing demand for flame retardants, increasing consumption of oil well chemicals and increasing use of hydrogen and zinc bromide in flow batteries. The company allocated a capital outlay of INR 2520 Mn for its greenfield expansion into downstream bromine derivatives, and it is planned in two phases. The expansion is in to **High end Flame retardants, Clear Brine fluids and PTA Synthesis**.

**ACI has already spent INR 1300 - 1400 Mn of capex and the phase I is focused towards building PTA synthesis, Clear Brine Fluids and products beyond that. ACI is building 13,000 MTPA capacity for Clear Brine Fluids and 5000 MTPA for PTA Synthesis. It has already started exporting Clear Brine Fluids through Acume Chemicals Private Ltd and booked a revenue of around INR 5 Mn in the quarter ended Q4FY24. ACI has nearly 60+ clients in the pipeline and it has already received approvals from 10 of them while 20-30 are under testing.**

These products will be utilized for oil & gas drilling, agrochemicals and petrochemicals. On the flame-retardant front, ACI has paused the capex on flame retardants on account of the weak demand environment, but it is confident that it can make decent return on investment in the TBBA market (chemical derivative markets) considering ACI is an integrated manufacturer. ACI is also focusing on the products on inorganic side with new products and equal return on investments.

Products (INR Million)	FY22	FY23	FY24	FY25E	FY26E
Bromine	6,052	7,084	4,274	4,797	6,475
Industrial Salt	5,129	7,281	8,401	9,673	10,335
SOP	114	31	360	478	786
Flame Retardants	-	-	-	-	1,358
Clear Brine Fluids	-	-	-	1,183	1,545
PTA	-	-	-	305	403
Oren Hydrocarbon	-	-	-	1,780	2,950

Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Investment Rationale

#### Emerging stronger with industry wide destocking coming to an end, Higher asset turnover & NPM% to drive higher Return on Equity

FY24 was challenging for ACI due to increased stockpiles leading to destocking across product portfolios in the chemical sector, including bromine. Bromine production volumes dropped from 18,950 MT in FY23 to 17,300 MT in FY24, further impacted by falling bromine prices, resulting in lower realization. **However, ACI showed resilience in FY24 with limited impact on margins and a controlled cash conversion cycle aided by operational efficiencies. ACI managed the adverse impact fall in margin with reduction in power cost by INR 350 Mn, higher process efficiency, commissioning of 66 kilovolt amperes (KVA) lines and improved volume in industrial salt aided by enhanced capacity and stable prices.**

Despite these challenges, we remain optimistic about FY25, anticipating a volume recovery with an expected 30% growth. We believe volume growth is likely to be driven by the introduction of new downstream derivatives and the anticipated faster offtake in elemental bromine, along with Oren Hydrocarbon launch. These factors are projected to lead to better asset turnover and improved margins in FY25E and FY26E.

Furthermore, the company's effective management of inventory and debtor days during a harsh FY24 ensured that the cash conversion cycle remained in check, demonstrating ACI's robust operational resilience. This resilience, developed over the years, positions ACI well to absorb shocks and navigate challenging market conditions effectively. As the company moves forward, the strategic focus on enhancing the product mix and leveraging new market opportunities is expected to drive significant growth. **The anticipated improvement in volume and margins in the coming years highlights ACI's strong foundation and adaptive strategies. This adaptability not only underscores the company's ability to manage short-term challenges but also sets a solid groundwork for long-term sustainability and profitability in the evolving chemical sector.**

#### Return Ratios

	FY22	FY23	FY24	FY25E	FY26E
ROE %	113%	45%	20%	26%	27%
ROCE %	39%	44%	24%	31%	34%
ROA %	13%	23%	17%	22%	23%

#### Dupont Analysis

	FY22	FY23	FY24	FY25E	FY26E
Asset Turnover (x)	0.8	0.9	0.7	0.8	0.8
Net Profit Margin (%)	17%	27%	24%	27%	28%
Equity Multiplier (x)	8.9	1.9	1.2	1.2	1.2
ROE	<b>113%</b>	<b>45%</b>	<b>20%</b>	<b>26%</b>	<b>27%</b>

#### Robust Working Capital Management

Particulars	FY22	FY23	FY24	FY25E	FY26E
Inventory Days	39	42	35	37	34
Debtor Days	49	30	43	36	40
Creditor Days	36	24	27	26	27
<b>Cash conversion cycle</b>	<b>52</b>	<b>48</b>	<b>50</b>	<b>47</b>	<b>47</b>

Source: Company Information &amp; Deven Choksey Research



## **Archean Chemical Ltd**

### **Key Risks**

#### **Risk of Expansion into New Export Markets**

ACI may face significant challenges in penetrating new export markets, such as Europe and the United States, for bromine derivatives, industrial salt, and sulphate of potash. These challenges include unfamiliarity with local cultures and economic conditions, language barriers, staffing difficulties, and lack of brand recognition. Additionally, significant competition and regulatory complexities in these regions could hinder successful market entry. Given that 74% of the company's business was derived from exports in FY24, failure to effectively navigate these challenges could adversely impact growth and profitability.

#### **Competitive Landscape**

ACI faces intense competition from both domestic and multinational corporations, which could materially impact its business, financial condition, and operations. Despite significant entry barriers in the specialty marine chemicals industry, competition is driven by pricing, customer relationships, product quality, customization, and innovation. Competitors with greater financial, manufacturing, marketing, and other resources, or those offering more effective or cheaper products, may diminish Archean's competitive edge. Additionally, multinational competitors, especially those from Israel, China, and North America, may exert pricing pressures that Archean may struggle to match. Consolidation among competitors could further amplify their competitive advantages. Failure to effectively compete on these fronts could adversely affect Archean Chemical's business performance and financial health.

#### **Geographic and Regulatory Risks in Gujarat**

ACI manufacturing facility in Gujarat faces significant geographic and regulatory risks. Concentrating all operations in Hajipir, Gujarat, heightens exposure to adverse weather, natural occurrences, and regulatory changes. Excessive rainfall, as experienced in 2019 and 2020, can degrade salt and brine reserves, impacting production. For instance, heavy rainfall caused a 432 MT loss in bromine production due to a shutdown from August 10-22, 2019. Additionally, the facility's dependence on local labor and state government policies regarding taxes, duties, and incentives makes it vulnerable to unfavorable regulatory changes. Past social and civil unrest in Gujarat further adds to the risk of political or economic instability, potentially affecting the company's business, financial condition, and results of operations. Further, the inability to renew the lease of brine reserves from Government of Gujrat might lead to shutdown of manufacturing facility or relocating the business operations.

#### **Dependence on Major Customers**

Archean Chemical Industries Limited derives a significant portion of its revenue from major customers, with the largest customer contributing 27% and the top 10 and top 20 customers contributing 69% and 83%, respectively, of the revenue in FY24. The loss of one or more major customers, or failure to renew contracts on favorable terms, could adversely impact the company's business, financial condition, and results of operations. Past reliance on customers like Sojitz Corporation, which significantly contributes to the company's revenue and industrial salt sales, underscores this risk. Additionally, any delays, defaults, or financial distress among major customers could further exacerbate these challenges. Failure to meet high standards for product quality and delivery schedules could result in contract cancellations, further affecting profitability and liquidity.

## Archean Chemical Ltd

### Peer Analysis

Company	Ticker	Period	Market cap	EV	Sales	EBITDA	EBIT	EV/EBITDA	EV/EBIT
Albemarle	ALB US EQUITY	12/31/2023	10,774	14,869	9,617	701	222	21.2	66.9
ICL-Group	ICL US Equity	12/31/2023	5,573	7,914	7,536	1,675	1,139	4.7	6.9

Company	Ticker	Period	Net Income	Net Income FY1	Net Income FY2	EV/EBITD A FY1	EV/EBITD A FY2	P/E (x)	P/E FY1 (x)	P/E FY2 (x)
Albemarle	ALB US EQUITY	12/31/2023	1,610	307	729	12.4	8.2	23.4	40.3	16.2
ICL-Group	ICL US Equity	12/31/2023	646	463	559	5.6	5.1	11.8	12.1	10.0

Source: Bloomberg & Deven Choksey Research

Company Details	EBITDA Margin%			ROA%			ROE%			EV/EBITDA			P/E		
	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E	FY24	FY25E	FY26E
Archean Chemical	34.8%	36.0%	38.6%	16.7%	20.5%	23.6%	20.4%	24.5%	27.5%	19.7x	13.8x	9.9x	29.5x	20.2x	14.1x
Tata Chemicals Limited	18.5%	16.8%	17.8%	0.8%	2.5%	3.2%	1.3%	5.1%	6.9%	11.8x	13.1x	11.4x	63.0x	32.94	25.2x
Deepak Nitrite Limited	14.6%	16.6%	18.8%	14.4%	14.1%	13.7%	18.3%	18.3%	19.3%	37.1x	28.5x	22.5x	51.8x	42.75	33.9x
Aarti Industries Limited	15.5%	18.1%	19.4%	4.6%	6.2%	7.5%	8.2%	11.1%	13.4%	30.6x	20.8x	16.6x	64.7x	41.11	30.7x
Neogen Chemicals Limited	15.9%	16.8%	17.7%	2.8%	3.7%	4.0%	5.7%	10.2%	11.9%	42.4x	29.4x	20.3x	123.3x	68.05	45.4x

Source: Company Information, Deven Choksey Research, Factset

Bromine Manufacturers in India	Location	Approved Annual Capacity (KT)	Actual Production in FY21 (KT)	Captive Consumption (KT)	Net Merchant Sales (KT)
Archean Chemical Industries Ltd.	Hajjipir, Kutch District	42.5	14	-	14
Satyesh Brine Chem	Hajjipir, Kutch District	25	3	-	3
Solaris ChemTech Industries Limited	Khavda, Gujarat	23#	18	10.5	8.5
Agrocel Industries Pvt. Ltd.	Greater Rann of Kutch	10#	7		
Nirma Limited	Kalatalav village, Gujarat	3	2	2	-
Tata Chemicals Ltd.	Mithapur, Gujarat	2.4	1	1	-
Dev Salt Private Ltd	Morbi district, Gujarat	2.5	1	-	1

Source: Prospectus and Deven Choksey Research

#Both Agrocel Industries Pvt. Ltd. and Solaris ChemTech Industries Limited are now part of the Excel Group of Companies having both bromine production and bromine derivatives manufacturing.

## **Archean Chemical Ltd**

### **Key Management Personnel**

**Mr. Ranjit Pendurthi** is the Managing Director of Archean Chemical Industries Limited since its incorporation, holds an MBA from the University of Chicago, Illinois, USA, and has over 21 years of experience in the chemical industry. He has been instrumental in driving the company's growth, enhancing operational efficiency, and expanding market reach. He is deeply involved in strategic initiatives and corporate governance, contributing significantly to long-term business strategies. His leadership style focuses on innovation, quality, and customer satisfaction, fostering continuous improvement and maintaining a competitive edge in the industry.

**Mr. Ravi Pendurthi** is a Non-Executive Director and one of the promoters of Archean Chemical Industries Limited. He joined the board on January 29, 2022, bringing with him a robust background in the chemical industry. Ravi holds a Bachelor of Science degree in Business Administration with a concentration in Management from Monmouth University, New Jersey. With over 14 years of experience, he has previously been associated with Jakhau Salt Company Private Limited and Bharath Salt Refineries Limited. He is also a non-executive director in Chemikas Speciality LLP, further demonstrating his extensive involvement and commitment to the business.

**Mr. Subrahmanyam Meenakshisundaram** is a Non-Executive Director at Archean Chemical Industries Limited, having been associated with the company since its incorporation. He holds a Bachelor of Commerce degree from the University of Madras and is both an associate and a fellow of the Institute of Chartered Accountants of India. With nearly four decades of experience in accounting, finance, and tax, he has significantly contributed to the company's financial strategies and governance. Prior to his tenure at Archean, Subrahmanyam was associated with prominent companies such as Muljibhai Madhvani & Co. Limited, Chemplast Sanmar Limited, Electronics Corporation of India Limited, and Mohan Breweries and Distilleries Limited.

**Mrs. Padma Chandrasekaran** is an Independent Director at Archean Chemical Industries Limited. She holds a Post Graduate Diploma in Business Administration from the Indian Institute of Management, Ahmedabad, a Bachelor of Science degree from the University of Calcutta, and a Master of Business Administration with a prime emphasis on Telecommunication from the University of San Francisco. She has extensive experience in various fields including information technology and financial services. Her expertise has been instrumental in enhancing the company's corporate governance and strategic direction. She actively participates in several committees, including the Audit Committee and the Nomination and Remuneration Committee, where she serves as the Chairperson. Her contributions have significantly shaped the company's policies and governance frameworks.

**Mr. Kandheri Munaswamy Mohandass** is an Independent Director on the Board of Archean Chemical Industries Limited. He is a distinguished professional, admitted as an associate and fellow of the Institute of Chartered Accountants of India. He holds a Bachelor of Science degree from the University of Madras and is entitled to practice as a chartered accountant by the Institute of Chartered Accountants of India. With over four decades of experience, Mr. Mohandass has a profound expertise in audit, tax, project finance, corporate restructuring, and corporate laws advisory. He is the senior partner of M/s. K.M. Mohandass and Co, Chartered Accountants, where his leadership has been pivotal.

## Archean Chemical Ltd

### Outlook and Valuation

Archean Chemical Industries Limited has demonstrated strong resilience in FY24 despite facing industry-wide destocking in bromine. While the company reported a moderation in revenue and profit growth, consistent with the industry trend, it maintained a robust margin of 35%. This highlights the company's strong focus on profitability while continuing to pursue growth.

In FY24, the industrial salt segment exhibited significant resilience, delivering a 15% year-on-year revenue growth, which helped to mitigate the decline in bromine revenue to a considerable extent. However, Archean Chemical is currently undertaking substantial capital expenditure, aiming to move deeper into the value chain through expansion into downstream bromine derivatives. **The company has a capex plan of INR 2520 Mn, of which INR 1300-1400 Mn has already been spent. Phase-I of this capex focuses on downstream bromine derivatives such as clear brine fluids and PTA synthesis. Archean Chemical has started sending samples to certain customers, and the downstream derivative segment is expected to contribute to the topline from FY25E onwards.**

The introduction of new downstream bromine derivatives is targeted at expanding the company's value chain, while the core segments of elemental bromine, industrial salt, and sulphate of potash (SoP) are poised for further growth, driven by demand recovery and technological advancements across various segments. **We anticipate Archean Chemical to achieve a compound annual growth rate (CAGR) of 34% in revenue, 41% in EBITDA, and 44% in net profit during FY24-FY26E, supported by volume recovery and the introduction of new product lines. This growth is expected to improve the company's return on equity (ROE) and return on capital employed (ROCE) from current levels. We value the stock at a price-to-earnings (P/E) multiple of 17.5x on the adjusted EPS of FY26E and assign a BUY recommendation with a target price of INR 943.**

## Archean Chemical Ltd

### Profit & Loss Statement

Particulars	FY22	FY23	FY24	FY25E	FY26E
<b>Revenue From Operations</b>	<b>11,304</b>	<b>14,411</b>	<b>13,301</b>	<b>18,215</b>	<b>23,852</b>
Other income	124	433	433	490	490
Total Revenue	11,428	14,843	13,734	18,705	24,342
Gross Profit	10,911	14,383	12,424	16,697	21,909
Employee Benefit Expenses	378	720	724	937	1,153
Other expenses	5,861	7,323	7,073	9,201	11,541
Operating Expenses	6,633	8,071	8,674	11,656	14,637
<b>EBITDA</b>	<b>4,672</b>	<b>6,340</b>	<b>4,627</b>	<b>6,559</b>	<b>9,215</b>
<b>EBITDA %</b>	<b>41%</b>	<b>44%</b>	<b>35%</b>	<b>36%</b>	<b>39%</b>
Finance Cost	1,617	970	85	39	39
Depreciation	669	686	703	783	783
Total Expenses	8,918	9,727	9,462	12,478	15,459
Profit Before Taxes	2,510	5,117	4,272	6,227	8,883
Total tax expenses	628	1,291	1,082	1,568	2,236
<b>Profit After Tax</b>	<b>1,882</b>	<b>3,826</b>	<b>3,190</b>	<b>4,660</b>	<b>6,647</b>
<b>PAT Margin %</b>	<b>17%</b>	<b>27%</b>	<b>24%</b>	<b>26%</b>	<b>28%</b>
<b>Adj. &amp; Diluted EPS (INR)</b>	<b>15.28</b>	<b>31</b>	<b>25.85</b>	<b>37.76</b>	<b>53.86</b>

### Balance Sheet

Particulars	FY22	FY23	FY24	FY25E	FY26E
Property, plant and equipment	10,455	10,649	11,180	12,048	11,604
Capital work in progress	172	362	462	412	437
Right-of-use assets	406	450	416	433	424
Other financial assets	18	222	155	187	171
Other non-current assets	274	99	998	549	773
<b>Total non-current assets</b>	<b>11,327</b>	<b>11,787</b>	<b>13,297</b>	<b>13,674</b>	<b>13,476</b>
Inventories	1,208	1,678	1,273	1,835	2,226
Investments	111	2,101	3,499	2,800	3,149
Trade receivables	1,530	1,177	1,564	1,815	2,590
Cash and cash equivalents	122	60	455	4,224	9,517
Other financial assets	146	163	146	155	151
Other current assets	400	317	321	319	320
<b>Total current assets</b>	<b>3,986</b>	<b>5,767</b>	<b>7,262</b>	<b>11,152</b>	<b>17,957</b>
<b>Total Assets</b>	<b>15,313</b>	<b>17,554</b>	<b>20,559</b>	<b>24,826</b>	<b>31,433</b>
Equity Share Capital	193	246	247	247	247
Other Equity	2,430	14,064	16,769	20,840	26,949
<b>TOTAL EQUITY</b>	<b>2,623</b>	<b>14,310</b>	<b>17,016</b>	<b>21,087</b>	<b>27,196</b>
Borrowings	8,428	8	594	336	465
Lease liabilities	455	357	312	335	323
<b>Total non-current liabilities</b>	<b>10,934</b>	<b>1,520</b>	<b>2,194</b>	<b>1,893</b>	<b>2,043</b>
Borrowings	21	207	2	104	53
Total Trade Payable	1,123	956	998	1,287	1,738
Other financial liabilities	49	214	241	228	234
Other Current Liabilities	486	194	28	111	70
<b>Total current liabilities</b>	<b>1,756</b>	<b>1,724</b>	<b>1,349</b>	<b>1,847</b>	<b>2,193</b>
Total Liabilities	12,690	3,244	3,543	3,740	4,236
<b>TOTAL Equity &amp; Liabilities</b>	<b>15,313</b>	<b>17,554</b>	<b>20,559</b>	<b>24,826</b>	<b>31,433</b>

## **Archean Chemical Ltd**

### **Cashflow Statement**

Particulars	FY22	FY23	FY24	FY25E	FY26E
<b>Net cash generated from operating activities</b>	<b>3,145</b>	<b>4,961</b>	<b>3,794</b>	<b>6,100</b>	<b>6,134</b>
Net cash (used in) investing activities	-1,101	-2,903	-3,073	-1,607	-371
Net cash generated from / (used in) financing activities	-2,237	-2,120	-326	-723	-470
Cash & Cash Equivalents at the end of the year	122	60	455	4,224	9,517

### **Key Ratios**

Particulars	FY22	FY23	FY24	FY25E	FY26E
<b>Profitability</b>					
Return on Assets	13%	23%	17%	21%	24%
Return on Capital	39%	44%	24%	30%	34%
Return on Equity	113%	45%	20%	24%	28%
<b>Margin Trend</b>					
Gross Margin	97%	100%	93%	92%	92%
EBITDA margin	41%	44%	35%	36%	39%
Net Profit margin	17%	27%	24%	26%	28%
<b>Liquidity</b>					
Current Ratio	2.3	3.3	5.4	6.0	8.2
Debtor Days	49	30	43	36	40
Inventory Days	39	42	35	37	34
Creditors Days	36	24	27	26	27
Asset turnover	0.8	0.9	0.7	0.8	0.8
Working Capital Days	52	48	50	47	47
<b>Valuation Ratio</b>					
EV/EBITDA	20.2	14.8	20.3	14.4	10.2
P/E	49.9	24.6	29.5	20.2	14.1
P/B	35.8	6.6	5.5	4.5	3.5

Source: Company Information & Deven Choksey Research

## Archean Chemical Ltd

### Rating Legend (Expected over a 12-month period)

Our Rating	Upside
Buy	More than 15%
Accumulate	5% – 15%
Hold	0 – 5%
Reduce	-5% – 0
Sell	Less than – 5%

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