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The Sulfuric Squeeze

How a dual supply shock made one of the world's highest-volume industrial chemicals strategic — and why the chemical industry's reaction has been so muted.

Two structural disruptions converged in Q1 2026. The Strait of Hormuz disruption restricted roughly half of seaborne sulfur supply at source. Beijing's 1 May export ban removed 4.6 million tonnes of merchant sulfuric acid from the global market for at least eight months. Spot prices tripled in some regions in ten weeks. The reaction across the integrated chemical majors has been muted. This paper traces the squeeze, maps corporate exposure, and asks what the absence of panic is concealing.

+158 %	CFR US Gulf sulfuric acid, late Feb → 6 May 2026
4.6 Mt/yr	Chinese merchant acid exports removed by 1 May ban
~33 %	Middle East share of global sulfur production
$1,200 / t	Marginal sulfur cost — uneconomic at margin (Mosaic Q2)

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ANALYSIS

Sulfuric acid has become a strategic input without being declared one.

WHAT THIS PAPER ESTABLISHES:

- The structure of the dual shock
- The corporate exposure map
- The downstream cost cascade
- Why the reaction is muted
- Where policy is absent
- What we still don't know

2026
Wuppertal

01 · POSITION

The thesis, stated plainly

KEY FINDINGS

- **Dual shock.** Persian Gulf sulfur restriction (Feb 2026) and China's 1 May sulfuric acid export ban removed roughly half of seaborne sulfur trade and 4.6 Mt of merchant acid simultaneously.
- **Price evidence.** CFR US Gulf acid +158% in ten weeks. Brazil delivered to ~$1,000/mt (with logistics premium). Mosaic Q2 sulfur cost guidance: $540/t, marginal cost ~$1,200/t.
- **Corporate response.** Pure-play merchant fertilizer (Mosaic) curtailed, cut CapEx by $250M, and reduced headcount. Vertically integrated producers (OCP, PhosAgro, Ma'aden) absorbed internally.
- **Structural read.** The episode may represent the beginning of a supply chain restructuring — captive-integration model gaining ground over merchant model — though the durability of that shift depends on whether the China ban extends past December 2026.
- **Policy gap.** Sulfur and sulfuric acid sit on no major government's critical raw materials list. China is the only major jurisdiction acting as though they were strategic.

A textbook-style commodity squeeze has unfolded in sulfuric acid — one of the world's highest-volume industrial chemicals, with annual global output of approximately 280 million tonnes and downstream exposure to fertilizer, copper extraction, electronics, batteries, and refining. Two structural disruptions converged in Q1 2026: the Strait of Hormuz disruption restricted roughly half of seaborne sulfur supply at source, and Beijing's 1 May export ban removed 4.6 million tonnes of merchant acid from the global market for at least eight months. Spot prices tripled in some regions in ten weeks.

The reaction across the integrated chemical majors has been muted. Not absent — Mosaic took its books to the woodshed in Q1 2026 with phosphate curtailments at Bartow and Louisiana, a $250 million CapEx cut, a workforce reduction targeting $50 million in annualised savings, and a withdrawn annual phosphate production forecast. But Mosaic is the exception, not the rule. The integrated majors who, in 2008, would have been on televised crisis calls and emergency board meetings, are logging sulfuric acid as a line item in input cost variance and moving on.

The muted reaction is the story

This paper argues that the muted reaction is not because the squeeze is small. It is real, it is documented in price data, and it is beginning to reshape the global sulfur–fertilizer–copper supply chain. The muted reaction is because chemical companies have been re-engineered since 2008–2009 for absorption rather than for resistance: pass-through pricing, captive integration, contractual buffer, geographic diversification, and the operational lever of curtailment-not-headcount have replaced the panic-mode response that defined earlier crises.

That re-engineering looks like resilience. In some readings, it is also a mechanism for hiding cost erosion inside accounting categories that do not make headlines. This paper traces the squeeze, maps the corporate exposure, examines the downstream cost cascade, and asks what the absence of panic may be concealing — while flagging clearly where the evidence is strong and where it remains interpretive.

Is this just another commodity cycle?

A reasonable counter-thesis: sulfur and acid have been here before. The 2008 spike took sulfur from around $40 per tonne to roughly $1,000 per tonne and triggered food riots in Haiti and Mozambique. The 2026 move from $525 per tonne to $910 per tonne is smaller in proportional terms. The acid spike is bigger, but acid prices are notoriously volatile and have always normalised within twelve to twenty-four months. Why elevate this one to structural?

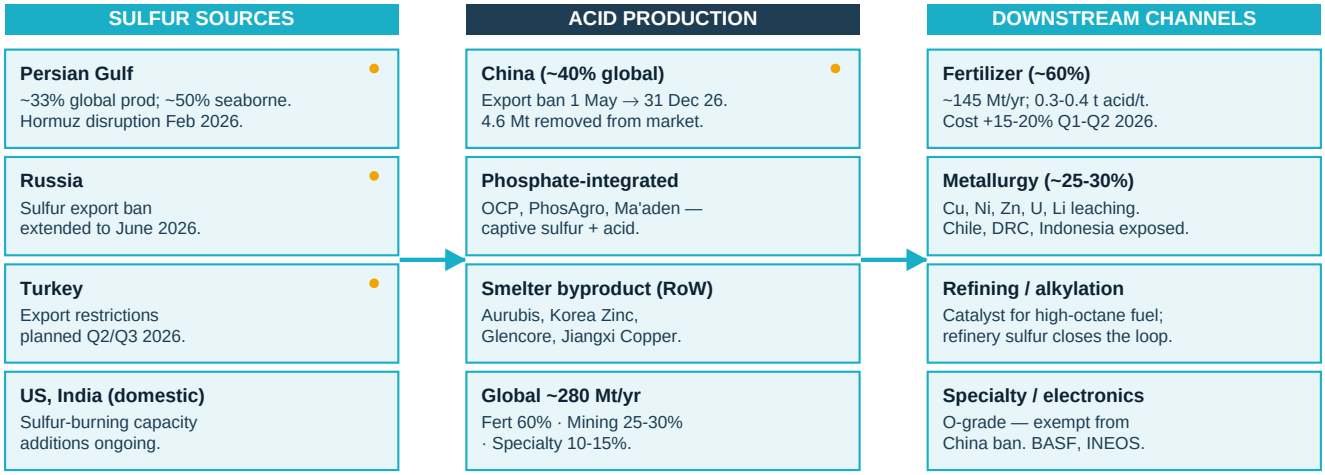
Three differences are worth flagging. First, the supply shock is dual — Persian Gulf and China simultaneously, with Russia (export ban extended to June 2026) and Turkey (Q2/Q3 2026 restrictions announced) adding compounding layers. Second, the China ban is policy-locked through 31 December 2026, not market-clearing; even if Hormuz normalises tomorrow, Chinese acid does not return until 2027 at the earliest. Third, sulfuric acid is now structurally tied to copper extraction at industrial-electrification scale, not just to fertilizer; mining now consumes roughly 25–30% of global acid output and is the fastest-growing demand vector. None of these guarantee a structural rather than cyclical outcome — but together they make this episode harder to dismiss as routine.

Anatomy of the squeeze

Sulfuric acid sits at the end of a three-stage supply chain: elemental sulfur (recovered as a byproduct of crude oil and sour gas processing, plus smelter offgas) is converted via the contact process into concentrated acid, which is then either consumed captively or sold into merchant markets. Both upstream stages — sulfur extraction and acid production — were hit simultaneously in Q1 2026. The schematic below maps the active choke points; the timeline that follows establishes the sequence.

The sulfur–acid–downstream value chain — choke points highlighted

Yellow markers denote choke points active in Q1–Q2 2026. Volumes are approximate global annual figures.



Choke point active in 2026

Volumes from IFA, USGS, Cefic, and market commentary aggregates; rounded.

Shock 1 — Persian Gulf sulfur supply (February–March 2026)

The Middle East accounts for approximately one-third of global elemental sulfur production and roughly half of seaborne sulfur trade, with Qatar, the UAE, and Saudi Arabia as principal processing hubs. The Iran–US–Israel conflict and resulting Strait of Hormuz disruption from February 2026 restricted these flows materially. S&P Global Platts assessed FOB Middle East sulfur at $695–700 per tonne on 19 March 2026, an increase of approximately $200 per tonne from pre-conflict levels. S&P Global Energy CERA projected that one month of full disruption would remove 1.0–1.5 million tonnes of sulfur from the market and three months would eliminate over 4 million tonnes.

Shock 2 — China sulfuric acid export ban (effective 1 May 2026)

On 10 April 2026, Bloomberg reported that Beijing had communicated to domestic producers a halt of sulfuric acid exports effective 1 May 2026. The measure covers acid produced as a byproduct of copper and zinc smelting — approximately 40% of Chinese acid output — with limited exceptions for electronic-grade material. The stated rationale: protect China's domestic phosphate fertilizer industry and food security during the spring planting season. Duration: through 31 December 2026.

China was not a marginal exporter. Chinese sulfuric acid exports in 2025 reached 4.65 million tonnes, up 73% year-on-year — a record. Chinese acid production capacity in 2025 was approximately 177 million tonnes, more than 40% of the global total. The customs data show the redirection in real time: shipments to Chile fell from 151,268 tonnes in March 2025, to 31,870 tonnes in February 2026, to zero in March 2026. Chile, the world's largest copper producer, normally imports more than one million tonnes of Chinese acid per year.

Shock 3 — Russia, Turkey, and the compounding layer

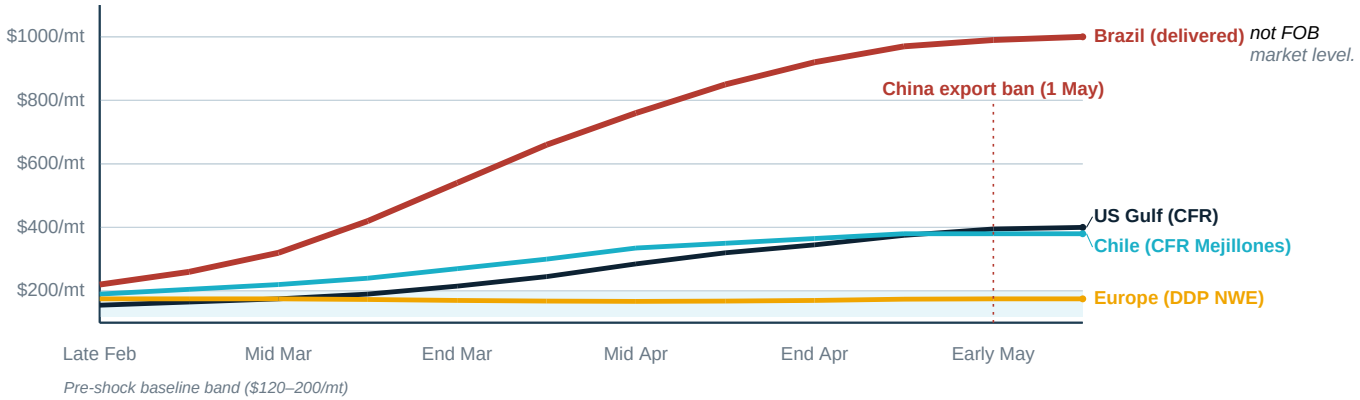
Layered on top of the two principal shocks: Russia has extended its sulfur export ban through June 2026; Turkey announced planned sulfur export restrictions for Q2/Q3 2026; the Democratic Republic of the Congo cut export volumes. The cumulative effect — characterised in market commentary as a "triple supply shock" — is that no alternative export source of meaningful scale remains uncontested. Sulfur prices have risen approximately 70% since the start of 2026, from $525 to $910 per tonne. Acid costs now account for 65–70% of phosphate fertilizer production cost in many operating regions.

What the spot market is saying

Price data across multiple regional benchmarks and downstream cost lines confirms the squeeze is not noise. Below: the four regional spot trajectories that matter, March 2026 levels by region including pre-shock baselines for context, and the downstream sulfur cost flowing into Mosaic's reported numbers. Two caveats up front. The acid market is fragmented; spot liquidity varies materially by region, and single-source forecasts mislead. What matters is that multiple independent benchmarks moved in the same direction with similar magnitude across the same ten-week window. Second, the Brazil delivered figure of approximately $1,000/mt reflects a logistics premium on top of FOB market levels — it is not a market-level benchmark and should be read as the cost faced by import-dependent buyers, not as a peer to FOB prices elsewhere.

Sulfuric acid spot prices by region, Q1–Q2 2026 (USD/mt)

Indicative weekly trajectory; reconstructed from ChemAnalyst, ECIKS, Akin Gump, mining.com.
Benchmark series fragmented; spot liquidity varies by region. Many transactions are contractual; spot represents marginal pricing.
Brazil delivered figure reflects logistics premium,



Sulfuric acid spot prices, March 2026 with pre-shock baselines, USD/mt

Source: ChemAnalyst pricing data; ECIKS; Akin Gump regulatory alert; mining.com. Pre-shock baseline reflects Q4 2025 levels.

Region	Pre-shock baseline (Q4 25)	Mar 2026 price	Q1 QoQ move	Driver
Saudi Arabia (FOB)	~$120 / mt	$195 / mt	Higher	War-risk premium; logistics; export tightness
Japan (port)	~$98 / mt	$153 / mt	+56.35%	Limited prompt parcels; export competition
Germany	~$153 / mt	$146 / mt	–4.7%	Smelter byproduct supply; soft demand
USA (US Gulf CFR)	~$120 / mt	$119 (early Mar) → $400 (early May)	+158% in 10 wks	Pre-planting fertilizer demand + Hormuz
Chile (CFR Mejillones)	~$155 / mt	$190 (Feb) → $380 (mid-Apr)	+100% in 7 wks	China substitution; smelter rationing
Brazil (delivered, with logistics)	~$220 / mt del.	~$1,000 / mt	Multiple	Import-dependent; logistics & war-risk premium
China (domestic FD)	~RMB 0.67/kg	RMB 0.93 → 1.28/kg (Jan → Mar)	+38.8% Q1	Sulfur import dependence; smelter shutdowns
India (CIF, 98%)	~INR 17 / kg	INR 21.34 → 31.66/kg	+45.5% Q1	Sulfur stockpiles <2 weeks

The downstream cost number that matters

The fastest way to read the squeeze in unambiguous corporate-finance terms is Mosaic's Q1 2026 earnings call (11 May 2026). Realised average sulfur cost in the phosphate segment was $379 per tonne in Q1; Q2 guidance is approximately $540 per tonne — a 42% sequential increase already baked in. Marginal sulfur cost was described by management as approximately $1,200 per tonne, with the statement that some production is uneconomic at the margin at that input level. This is what triggered the curtailments at Bartow and Louisiana, the $250 million CapEx cut, and the withdrawn annual phosphate production forecast. The squeeze is no longer a price-page item. It is now reshaping operating decisions.

04 · EXPOSURE MAP

Who is exposed, and how

A request to map the "top 10 chemical companies" in this context requires recalibration. The companies that would top a global chemical-revenue ranking — Sinopec, BASF, Dow, SABIC, LyondellBasell, INEOS, Mitsubishi Chemical, ExxonMobil Chemical, Formosa Plastics, Solvay — are petrochemical-dominant. Sulfuric acid for most of them is either a small-volume specialty input (alkylation, catalysis, electronics) or a captive byproduct. For those players the squeeze is real but small relative to their balance sheet.

The companies for whom this is material are a different set: phosphate-integrated fertilizer producers, copper smelter operators with merchant acid output, and pure-play acid merchants. The table below is a selected list of the most exposed names where public disclosure or production rankings make exposure observable. It is not a comprehensive ranking; private and state-owned operators (notably Sinochem subsidiaries, ICL, and several Chinese smelters) are material but harder to characterise from public data alone.

Selected exposure — sulfur–sulfuric acid axis, 2026

Sources: company filings, IFA producer rankings, MarketsandMarkets, Maximize Market Research, mining.com.

Company	Country	Exposure type	Material data	Q1/Q2 2026 signal
Mosaic Co.	US	Phosphate-integrated, merchant sulfur	Q1 phosphate sales 1.9 Mt; sulfur cost $379 → $540/t Q1→Q2	EPS miss 78%; Bartow/LA curtailments; CapEx –$250M
OCP Group	Morocco	Fully integrated	Largest global phosphate producer; captive sulfur burning	Relative beneficiary — captive supply, export pricing power
Nutrien	Canada	Diversified fertilizer	Smaller phosphate share than Mosaic; potash dominant	Pricing pass-through; limited operational restructuring
PhosAgro	Russia	Vertically integrated	Captive sulfur via Norilsk-region byproduct	Net beneficiary of export-ban environment; pricing leverage
Ma'aden	Saudi Arabia	Integrated phosphate-acid	Captive Saudi sulfur; co-located acid + phosphate complexes	Captive supply; resilient through Hormuz disruption
Aurubis AG	Germany	Smelter byproduct	Largest European copper smelter; multi-site acid output	Acid premium captured; customer mix shift toward EU buyers
Jiangxi Copper	China	Smelter byproduct (banned export)	Leading Chinese copper smelter; acid redirected domestic	Captive domestic price; export revenue lost
Korea Zinc	South Korea	Smelter byproduct	Major Asian smelter; export-oriented acid stream	Asian buyer leverage; Japan, India repricing upward
Glencore	UK / Switz.	Smelter + miner	Both sides of acid trade; copper leach customer + smelter producer	Internal balancing; emerging customer of Ivanhoe DRC acid
BASF (selected)	Germany	Specialty consumer; electronic-grade focus	Verbund-internal acid; O-grade segment (China-ban exempt)	Semiconductor segment shielded; commodity segments absorb

Reading the map

Three patterns are visible. First, integration wins: PhosAgro, OCP, and Ma'aden — each with captive sulfur and captive acid — are net beneficiaries of an environment that punishes merchant-dependent buyers. Second, smelters with surplus acid are repricing into a regional buyer's market they have not seen in fifteen years; Aurubis, Korea Zinc, and the surviving Chinese exporters (specialty grades only) are capturing premiums their commercial models did not anticipate. Third, the squeeze concentrates pain at the pure-play merchant fertilizer producer: Mosaic is taking the visible hit that the integrated structures are absorbing internally. The visible pain is concentrated in one specific corner of the industry.

05 · DOWNSTREAM CASCADE

Where the cost lands

Sulfuric acid sits upstream of an unusually broad range of industrial chains. Fertilizer accounts for approximately 60% of global acid consumption (around 145 million tonnes annually); metallurgy for approximately 25–30% (~30 million tonnes, dominated by copper, zinc, nickel, and uranium leaching); the remainder spreads across refining, batteries, chemical synthesis, water treatment, and electronics. Each channel has a different cost-pass-through structure. The cascade below traces where the squeeze actually arrives — and where the chain loops back on itself.

CHANNEL 1 — FERTILIZER & FOOD PRICES

Sulfuric acid accounts for 60–70% of DAP/MAP fertilizer production cost. Each tonne of phosphate fertilizer requires 0.3–0.4 tonnes of acid. Fertilizer cost is forecast to rise 15–20% across Q1–Q2 2026 (Stellarix). The cascade arrives at food prices with an estimated 9–12 month lag — spring 2026 fertilizer costs flow into harvest pricing, then retail food prices, across late 2026 into 2027. India faces acute risk with sulfur stockpiles below two weeks; Brazil and African importers face delivered acid above $400/mt.

CHANNEL 2 — COPPER & ELECTRIFICATION

Discovery Alert market analysis indicates that each $50/mt increase in sulfuric acid pricing can raise copper production cost by approximately 4.4 to 26.2 cents per pound, depending on operational consumption intensity (the range is wide because copper-mine acid consumption varies materially by ore type and leach process). Chile's copper sector — dependent on more than 1 Mt of Chinese acid annually — is rationing acid consumption to preserve operations. The DRC's Kamoa-Kakula operation is building captive acid (117,871 t Q1 2026; capacity target 600–700 ktpa). Glencore and Eurasian Resources Group have emerged as buyers of this integrated output.

CHANNEL 3 — HPAL NICKEL & BATTERY MATERIALS

Nickel, cobalt, and lithium hydrometallurgy depend on sulfuric acid for leaching. Indonesia's high-pressure acid leach (HPAL) nickel projects are particularly exposed; acid consumption is high relative to product value, and HPAL cost curves shift materially with input acid pricing. Battery material cost lines are repricing through the producer-to-buyer chain — but with significant buffering from long-term offtake contracts, hedging, and currency offsets. Public statements from specific EV manufacturers tying production decisions directly to acid pricing remain scarce; downstream battery cost effects are real but slow-arriving and difficult to isolate cleanly.

CHANNEL 4 — REFINING, ALKYLATION & SPECIALTY

Refining and the broader sulfur cycle close the loop: refinery hydrodesulfurisation generates the elemental sulfur that becomes acid feedstock; alkylation units use sulfuric acid as catalyst for high-octane gasoline. The 2026 episode therefore links chemical cost lines to refining margins — refineries running sour crude can offset sulfuric acid input costs through sulfur sales — and to fuel pricing in CAFE-regulated markets. Electronic-grade ("O-grade") acid is the one segment exempt from China's ban, reflecting the strategic interlinkage with global semiconductor supply chains. Specialty buyers pay through. Commodity buyers carry the squeeze.

The arrival lag

The downstream cascade arrives in distinct waves. The acid spike is visible immediately in producer earnings (Q1–Q2 2026, Mosaic-type filings). Fertilizer prices reprice within one to three months. Crop input costs flow into harvest pricing across the 2026 growing season. Retail food price effects appear in the consumer price index between late 2026 and mid-2027 — though disentangling the acid contribution from other inflation drivers (energy, freight, weather) will require specialised analysis. Copper and nickel supply effects arrive in metal prices across 2026, but in finished EV and electronics pricing only as 2027–2028 model-year launches absorb the input cost. The macro effect is therefore not a single dated event — it is a slow-arriving redistribution of cost from the upstream chemical industry to the downstream industrial economy and ultimately to the consumer, over twelve to twenty-four months, with significant offsetting buffers along the way.

06 · THE MUTED REACTION

2008 versus 2026 — what changed

The 2008 sulfur and acid spike took elemental sulfur from approximately $40 per tonne to over $1,000 per tonne within twelve months, triggered emergency procurement across the global fertilizer industry, drove food riots in Haiti and Mozambique, and made daily front pages of the financial press. The 2026 episode is larger in dollar terms for sulfuric acid itself, comparable in upstream sulfur, and structurally more durable because it is policy-locked rather than market-clearing. The industry's reaction in 2026 has been an order of magnitude quieter. Why?

2008 — Sulfur & acid spike

Sulfur trajectory
~$40/t → ~$1,000/t peak (12 months)

Pricing structure
Annual contracts; rigid, slow to reprice

Inventory orthodoxy
Just-in-time dominant; thin buffers

Corporate response
Emergency procurement; televised crisis calls; food riots

Industry posture
Shock and disbelief; first major shock in decade

Capital response
Rushed capacity investment 2008–2010; subsequent oversupply

2026 — Sulfur & acid spike

Sulfur trajectory
~$525/t → ~$910/t (4 months)

Pricing structure
Cost-plus, indexed quarterly resets standard

Inventory orthodoxy
Post-COVID rebuild left buffers intact

Corporate response
Pure-plays curtail (Mosaic); integrated absorb; no televised calls

Industry posture
Shock fatigue; fifth major disruption in five years

Capital response
CapEx CUT, not raised (Mosaic –$250M); operational levers preferred

Why the difference — five mechanisms

Contractual. The 2008–2010 cycle ended a generation of annual-contract pricing in commodity chemicals. Cost-plus, indexed, and quarterly-reset pricing structures are now standard across merchant fertilizer, refining, and mining chemicals.

Operational. Curtailment has replaced inventory crisis as the first-response lever. Mosaic's Q1 2026 decision to cut output at Bartow and Louisiana is reversible within weeks if input costs normalise — a flexibility that 2008-era assets, optimised for continuous high-load operation, did not have.

Inventory. The post-COVID supply-chain rebuild left every industry with structurally higher inventory baselines than the pre-2020 just-in-time orthodoxy. Buffer stocks absorb 60–90 days of input cost shock before operating decisions are forced.

Structural integration. The most exposed players in 2008 were merchant buyers. In 2026 the leading phosphate producers — OCP, PhosAgro, Ma'aden — are vertically integrated into sulfur or acid supply. Their reaction is muted because they do not have to react.

Cultural. The industry has been shock-trained. 2008. 2009 financial crisis. 2018 China environmental crackdown. 2020 COVID. 2022 European energy crisis. 2026 sulfur–acid squeeze. Five major disruptions in eighteen years — shock has become the baseline, not the exception.

Risk of the absorption posture. Each of these mechanisms is real and works. But absorption is a cost-distribution tool, not a problem-solving one. If the underlying squeeze persists, absorption mechanisms exhaust sequentially: inventory first (3–6 months), then operational curtailments (6–12 months), then contract resets (12+ months). The same mechanisms that prevent panic also delay the capital response that would actually fix a structural supply imbalance. That is the second-order risk worth flagging.

What the muted reaction may be hiding — and three diagnostics

Resilience and denial look identical from the outside. The same set of indicators — calm earnings calls, stable share prices, no televised crisis management — would describe a sector that has genuinely absorbed the shock and a sector that has hidden it inside accounting categories. Three diagnostics help distinguish the two. (1) **Are operating decisions changing?** Mosaic's curtailments and CapEx cut say yes for pure-plays; quieter at the integrated majors. (2) **Is downstream cost cascading?** Yes — fertilizer 15–20% Q1–Q2 2026, food prices on a 9–12 month lag. (3) **Is forward sulfur procurement tenor shortening?** Anecdotal evidence from market commentary suggests yes — buyers are reducing forward commitment from typical 6–12 month tenor toward 3-month and spot, a classic stress signal, though hard data is fragmented. To balance the framing: integrated structures may genuinely absorb volatility better than merchant-exposed models — captive sulfur, captive acid, and pass-through pricing are real advantages, not necessarily a mechanism for hiding weakness. The analytical question is whether that absorption remains durable if disruption extends — which Section 09 addresses in scenario terms.

07 · POLICY RESPONSE

What governments are doing — and not doing

Sulfur and sulfuric acid are not on any major government's critical raw materials list. Not the European Union's Critical Raw Materials Act (2024). Not the United States' National Defense Stockpile priority list. Not the United Kingdom's, Japan's, or Australia's critical minerals frameworks. The substance is treated as a logistics commodity, not a strategic input — a categorisation that the 2026 episode argues warrants re-examination.

How sulfuric acid sits relative to other strategic chemicals

Source: EU CRMA 2024; US NDS strategic materials list; IFA / IPNI; market data.

Chemical / material	Global production	On major strategic lists?	Storage feasibility	Recent geopolitical action
Rare earth elements	~0.35 Mt/yr	Yes — all major lists since 2010 quotas	Easy (oxides; solid)	China 2010 export quotas — established the template
Phosphate rock	~220 Mt/yr	Yes — EU CRMA 2024	Easy (mineral solid)	China phosphate fertilizer export tightening 2026
Ammonia	~185 Mt/yr	Partial — some national lists; not EU CRMA	Moderate (toxic gas; pressurised tanks)	Russian export under sanctions watch since 2022
Chlorine	~70 Mt/yr	Partial — defence-related lists	Difficult (toxic; hazmat constraints)	Stable; no recent restrictions
Sulfuric acid	~280 Mt/yr	**No — absent from all major lists**	Difficult (corrosive; FRP-lined or stainless infrastructure required)	China export ban May 2026; Russia / Turkey sulfur restrictions Q2 2026

Government posture across major jurisdictions, May 2026

Jurisdiction	Strategic stockpile?	On critical raw materials list?	Active 2026 policy lever
China	Implicit, via production capacity	Domestic strategic resource framework	Active — full export ban May–Dec 2026; phosphate fertilizer export tightening
United States	No — NDS focus is rare earths, lithium	No	None specifically — IRA tax credits incidentally support domestic acid via fertilizer chains
European Union	No	No — CRMA omits sulfur, sulfuric acid	None — CBAM applies to phosphate fertilizer imports from 2027 but does not address acid supply
India	No — sulfur stockpiles <2 weeks	No	Reactive — accelerating domestic sulfur-burning capacity additions
Russia	Implicit via state-aligned producers	Strategic resource (broad framework)	Active — sulfur export ban extended to June 2026
Turkey	No	No	Active — sulfur export restrictions planned for Q2/Q3 2026

The asymmetry — strategic posture without strategic declaration

China is the only major jurisdiction acting as though sulfuric acid and downstream phosphate availability are strategic supply priorities. The progression is visible in policy sequence: January–April 2026 export quotas (approximately 700,000 tonnes, significantly below same-period 2025); March–August phosphate fertilizer export tightening; 1 May full sulfuric acid export halt. The stated rationale is domestic food security — and that rationale is plausible on its own terms; the strategic-supply read is partly inferred. The operational effect, regardless of intent, is the consolidation of one major global supply node under exclusive domestic control for the duration of 2026. The pattern echoes — though does not replicate — China's 2010 rare earth export quotas, which transformed how Western jurisdictions thought about supply chain dependence on Chinese midstream chemistry. The rare earth episode took roughly a decade to drive substantive Western policy response. One important difference: rare earth oxides are solid and stockpilable; sulfuric acid is corrosive, requires specialised infrastructure, and is materially harder to hold strategic reserves of (see the storage discussion below). The sulfuric acid response timeline is open.

Storage constraints and private-sector response

There is a structural reason policy has lagged. Sulfuric acid storage is non-trivial: the substance is corrosive and requires FRP-lined or stainless steel infrastructure with secondary containment. Stockpiles equivalent to even one month of national consumption would require capital commitments measured in hundreds of millions of euros per major importing country, with negligible commercial return outside crisis periods. Strategic categorisation implies stockpiling; stockpiling implies sustained operating cost. That calculation is one reason governments have defaulted to treating acid as a logistics commodity. Where governments are absent, capital is reorganising: captive acid integration by mining companies (Ivanhoe's Kamoa-Kakula smelter, Eurasian Resources Group sourcing), domestic sulfur-burning capacity additions in India and Southeast Asia, and planned new African reagent plants targeting 2027–2028 commissioning. Regions with captive smelter acid or domestic sulfur-burning capacity absorb the shock; regions that rely on spot merchant cargoes carry the volatility.

08 · IMPLICATIONS

What this means for the next twelve months

The dual shock is not a one-quarter event. The China ban runs through 31 December 2026 by stated policy, with the realistic possibility of extension if domestic phosphate demand remains tight into the 2027 planting season. The Hormuz disruption has structural durability beyond the immediate conflict — once sulfur supply chains are restructured, they do not snap back rapidly. The implications below address the four stakeholder groups whose decisions in the next twelve months will determine whether the squeeze remains a price event or becomes a permanent structural shift in chemical industry economics. Each block ends with the question that stakeholder should be able to answer at their next governance cycle.

FOR BOARDS

Sulfur and acid are no longer purely commodity inputs. They are inputs with strategic supply chain characteristics. Procurement organisations should be treated as critical capabilities, not category functions. Boards should ask CFOs to report acid supply chain concentration risk separately in the next quarterly governance cycle — not buried inside aggregated input cost variance.

Ask yourself: What share of our acid supply runs through choke points we do not control — Hormuz, China-origin merchant flows, single-source smelter feeds?

FOR LENDERS AND INVESTORS

Credit and equity models for industries dependent on Chinese acid exports — Chilean copper, Brazilian fertilizers, Indian phosphates, Indonesian HPAL nickel — have not yet repriced for now-visible supply chain risk. Bond spreads have begun moving in selected names. Equity coverage continues to model "recovery to normal" on twelve-month horizons that the policy framework does not currently support.

Ask yourself: Have we modelled the scenario where the China ban extends into 2027? What is our operating margin on commodity-grade output at sustained acid prices above $300/mt?

FOR POLICY

Add sulfur and sulfuric acid to critical raw materials lists. Even without strategic stockpiles (which face genuine infrastructure constraints), inclusion creates trade-policy options that are currently absent. Build strategic acid storage capacity in import-dependent regions. The "free trade in chemicals" assumption no longer holds without qualification.

Ask yourself: What does our trade-policy toolkit look like for a chemical that is not on any critical materials list — and how fast can that change?

FOR THE INDUSTRY ITSELF

The shift toward captive smelter acid and sulfur burner integration is structural-trending. Companies that own their acid supply are systematically out-margining those that don't in 2026. The 2026–2028 capital decisions facing every phosphate-integrated producer, every copper miner, every battery-materials operator are about whether to remain a merchant buyer or to build captive supply.

Ask yourself: Which of our downstream products is no longer competitive at current pricing assumptions if acid prices stay elevated? Are we re-engineering, or just absorbing margin compression?

The over-arching question for every stakeholder group

Why is "shock fatigue" being treated as resilience inside our organisation, when it may be a refusal to update assumptions about a supply chain that has structurally changed? The four stakeholder asks above all collapse into this single question. Resilience that comes from absorbing each shock without changing the underlying model is not resilience — it is deferred adjustment. The 2026 episode is the test of whether the chemical industry's post-2008 re-engineering is genuinely better or simply better at hiding the same underlying exposure.

09 · CLOSING

What we know, what we don't, and what to watch

Two ideas are usually conflated in the chemical industry's current public narrative. The first: that the 2026 sulfur and acid squeeze is a routine commodity cycle that will normalise within twelve to eighteen months. The second: that the muted corporate reaction reflects mature, well-engineered industrial resilience.

The first is partly true. Some normalisation will occur. The Hormuz disruption is not permanent. The China ban has a stated end date. Sulfur prices will likely retrace some of the 2026 move once Persian Gulf logistics stabilise. But the structural reorganisation already underway in captive smelter acid, Indian sulfur burning, and African reagent plants does not undo because spot prices normalise. The 2026 episode has begun reshaping parts of the supply chain. The question is how much further the change goes.

The second is harder. The muted reaction does reflect real improvements: cost-plus pricing, inventory buffers, operational flexibility, captive integration at the most exposed producers. But the same indicators that describe genuine resilience also describe a sector that has hidden the shock inside accounting categories that do not make headlines. Mosaic's Q1 2026 results show the visible part. The integrated majors are absorbing the rest. Whether that absorption is resilience or denial depends on what happens next.

The squeeze is real.
The reaction is muted.
What the muted reaction is concealing is itself the story.

What we don't know yet — and where the analysis remains interpretive

- **Strategic intent in Beijing.** The China export ban is real and quantified. Whether it reflects strategic categorisation of sulfuric acid as a strategic resource or a tactical move to protect domestic phosphate economics is interpretive — both readings are consistent with the observed policy.
- **Downstream cascade magnitude and capital durability.** The 9–12 month food price cascade is industry-standard but measurable only ex-post against several confounders. Whether captive acid integration (Ivanhoe DRC, Indian sulfur burners) represents a sector-wide structural shift or one-off responses requires another 12–18 months of capital announcements.
- **The "hidden cost erosion" thesis.** Consistent with observable behaviour (CapEx cuts, withdrawn forecasts, curtailments at pure-plays but not at integrated players); not yet directly evidenced in segment-level financials of the integrated majors — which is part of the point, and which the next two earnings cycles will clarify.

Scenario matrix — what to watch through 31 December 2026

Scenario	Framing	Sulfur price range	Acid price range	Implication
Base case	Working scenario	$700–900/t	$250–400/mt (varies by region)	China ban runs to Dec 2026; Hormuz partially normalises; structural shift continues at current pace
Upside (normalisation)	Alternative normalisation case	$450–600/t	$150–250/mt	China lifts ban early; Hormuz fully clears; captive-integration capital paused
Downside (extension)	Stress-extension case	$900–1,200/t	$400–600+/mt	China extends ban into 2027; new restrictions from other producers; captive-integration accelerates

Framing is qualitative — not a probability statement. Ranges are derived from the trajectory of the data in Sections 02 and 03.

10 · SOURCES

Methodology and references

All data drawn from public-source company filings, regulatory alerts, trade press, industry association data, and pricing-service publications. Price trajectories are reconstructed from multiple sources; where regional benchmark sources differ, both higher and lower figures are reported. Pre-shock baselines reflect Q4 2025 levels approximated from chemanalyst quarterly data. Estimates and forward-looking figures are clearly marked. No proprietary or client data is used.

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