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Guizhou Phosphate moves to insulate fertilizer production from global sulfur volatility

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The Chinese phosphate producer is strengthening fertilizer raw-material security through direct overseas procurement while investing in phosphogypsum-based sulfur recovery to reduce exposure to volatile global sulfur markets

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GUIZHOU PHOSPHATE CHEMICAL GROUP

Guizhou Phosphate (Group) Co., Ltd. has secured 73,000 tonnes of sulfur directly from the Middle East, with the shipment arriving at Zhanjiang Port as the Chinese fertilizer industry prepares for the autumn-winter production cycle and the next spring planting season. The shipment is part of a broader strategy by the company to diversify and strengthen its access to sulfur, a critical input for phosphate fertilizer manufacturing. The successful delivery also provides Guizhou Phosphate with operational experience as it moves toward making direct overseas procurement a more regular component of its raw-material sourcing strategy.

The sulfur was purchased directly from producers in the Middle East under an international trading arrangement involving direct factory procurement, CIF (Cost, Insurance and Freight) terms and letter-of-credit settlement. The material was transported to China by sea in bulk. The timing of the procurement reflects growing pressure on the global sulfur market. Disruptions affecting major international shipping routes have added to existing supply constraints, intensifying concerns over the availability and cost of sulfur, particularly for fertilizer manufacturers that depend on imported material.

For Guizhou Phosphate, securing the 73,000-tonne cargo provides additional inventory cover and strengthens its ability to maintain stable fertilizer production during a period when seasonal demand is expected to increase. Sulfur occupies a critical position in the phosphate fertilizer value chain. It is primarily converted into sulfuric acid, which is then used to process phosphate rock and produce phosphoric acid. The phosphoric acid subsequently reacts with ammonia to manufacture key phosphate fertilizers, including monoammonium phosphate (MAP) and diammonium phosphate (DAP). This makes sulfur more than just another industrial raw material. Its availability directly influences the ability of phosphate fertilizer producers to maintain output.

The structure of the global sulfur industry also makes supply security particularly complex. Contrary to the common perception that sulfur is mainly extracted through dedicated mining operations, most of the world's sulfur is recovered as a byproduct of oil refining and natural gas processing. China remains dependent on overseas supplies to bridge the gap between domestic availability and industrial requirements. The country's sulfur import dependence is estimated at approximately 50%, with the Middle East accounting for roughly half of those imports.

The Middle East is one of the world's most important sulfur-producing regions, making the region strategically significant for Chinese fertilizer manufacturers. But geopolitical tensions, shipping disruptions and tighter global supply conditions have increased the risks associated with relying heavily on international markets. Sulfur prices have also risen sharply since last year and continue to trade at elevated and volatile levels. For fertilizer producers, sustained price increases can quickly translate into higher production costs, putting pressure on margins and potentially affecting fertilizer availability.

Guizhou Phosphate is therefore pursuing a two-track strategy. The first is to strengthen access to international supplies through direct procurement. The second is to reduce its dependence on external sulfur by developing internal recycling and recovery capabilities. At its Fuquan production base, Guizhou Phosphate Chemical is operating a phosphogypsum decomposition sulfuric acid facility that also produces cementitious materials. The unit has an annual processing capacity of approximately 1.4 million tonnes of phosphogypsum and can produce around 650,000 tonnes of sulfuric acid and 800,000 tonnes of cementitious materials.

The facility provides the company with an alternative source of sulfuric acid and helps insulate its fertilizer operations from fluctuations in the international sulfur market. More importantly, the technology enables Guizhou Phosphate to establish an internal resource loop. Instead of treating phosphogypsum solely as a byproduct of phosphate production, the company can recover sulfur from the material and convert it back into sulfuric acid. The resulting industrial pathway effectively connects sulfuric acid, phosphoric acid, phosphogypsum and sulfuric acid into a recycling loop within the company's production system.

In simple terms, the process recovers sulfur contained in phosphogypsum and converts it back into sulfuric acid, allowing the element to be reused in phosphate fertilizer production. This creates an internal source of sulfuric acid while simultaneously providing a productive use for phosphogypsum. Guizhou Phosphate is expanding this capability. The company is currently constructing two additional phosphogypsum decomposition acid-production units, with the objective of further reducing its exposure to external sulfur supplies. The investment highlights a broader shift in the fertilizer industry, where supply-chain resilience is increasingly being treated as a strategic issue rather than simply a procurement function.

Guizhou Phosphate's approach combines the two. Overseas procurement provides immediate access to additional raw materials and helps replenish inventories, while domestic recycling infrastructure offers a longer-term hedge against global sulfur volatility. The strategy is particularly relevant as China's agricultural calendar moves into a period of heightened fertilizer demand. Production preparations for the upcoming autumn-winter application season are gathering pace, while manufacturers are already planning inventories for fertilizer demand associated with next spring's planting cycle. Maintaining reliable access to sulfur will therefore be important not only for individual producers but also for the broader phosphate fertilizer supply chain.

The 73,000-tonne shipment gives Guizhou Phosphate additional inventory at a critical point in that cycle. But the company's longer-term strategy suggests that it does not intend to rely solely on imported sulfur to manage future supply risks. Instead, the company is combining global sourcing with domestic resource recovery—using international markets to secure near-term supply while building internal capabilities designed to reduce structural exposure to external raw materials. That model could become increasingly relevant as fertilizer producers confront a more fragmented global commodity landscape. Shipping disruptions, geopolitical tensions and commodity price volatility are making raw-material security an increasingly important component of industrial competitiveness.

For Guizhou Phosphate, the immediate priority is clear: ensure that sulfur availability does not become a bottleneck for phosphate fertilizer production during the upcoming agricultural seasons. The Middle East shipment strengthens that near-term position. The company's investment in phosphogypsum-based sulfur recovery, meanwhile, points to a longer-term objective—building a production system in which a greater share of critical sulfur resources can circulate within the industrial chain. Together, the two strategies give Guizhou Phosphate a more diversified approach to sulfur security and demonstrate

how fertilizer manufacturers are adapting their supply chains to a more uncertain global market.