Phosphate (P)

Base Year 2025

World Production

250 million tonnes of phosphate concentrate

+4.6%

Brazil Production

7,432,221 t of phosphate concentrate

+6.1%

National Highlight

National production reached its highest level on record



Trade Balance

↓ Deficit of USD 6.42 billion

Exports

USD 239.2 million

+23.4%

Mining Royalties (CFEM)

R$ 110.6 million

+41.8%

% Change 2025 vs 2024

What is Phosphate?

Phosphate contains phosphorus (P), a non-metallic chemical element with atomic number 15. It plays a key role in photosynthesis, sugar metabolism, energy storage and transfer, cell division, cell enlargement and the transfer of genetic information, supporting crop development in agriculture. No other element can replace it.

Occurrence

Phosphate occurs mainly in association with the following minerals:

- Apatite;
- Phosphorite (sedimentary deposits).

Main Applications

Phosphate is used mainly in fertilizer production. It is also used in animal nutrition and the food industry. Its use in LFP (lithium iron phosphate) lithium-ion batteries is noteworthy. Other uses include:

- Water treatment;
- Detergents;
- Beverages (acidity regulator);
- Inputs for the pharmaceutical industry.

Phosphate is a critical and strategic mineral, essential for agricultural productivity and supporting global food security.

1. World Supply

In 2025, according to the United States Geological Survey (USGS), world phosphate production totaled about 250 million tonnes of concentrate, an increase of 4.6% over the previous year. China alone accounted for 44.0% of total world phosphate production.





Table 1 – Main Phosphate Producing Countries (concentrate) – 2025

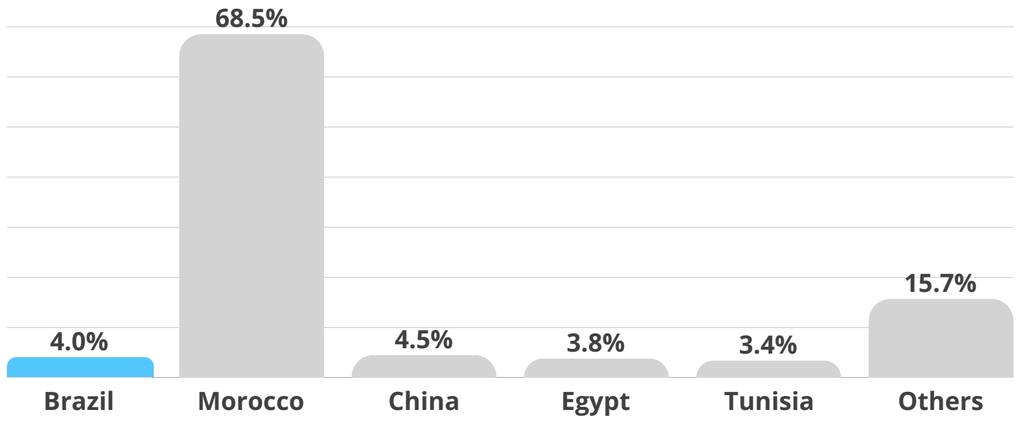
Country	Production (kt)	Share (%)
Brazil	**7,432**	**3.0**
China	110,000	44.0
Morocco	36,000	14.4
USA	20,000	8.0
Russia	14,000	5.6
Other Countries	62,568	25.0
Total	**250,000**	**100.0**

Sources: USGS-Mineral Commodity Summaries 2026; ANM (Brazilian production).

2. Reserves

According to the USGS, world phosphate reserves totaled about 73 billion tonnes in 2025, with strong geographic concentration in Morocco, which holds about 50 billion tonnes (approximately 68.5% of the world total).

Distribution of the Main World Phosphate Reserves – 2025





Brazilian phosphate reserves total about 2.95 billion tonnes, approximately 4.0% of the world total. It should be noted that this estimate does not include mineral reserves subject to environmental and technological restrictions.

Sources: USGS - Mineral Commodity Summaries 2026; ANM (Brazilian reserves).

3. Domestic Production

National production of phosphate concentrate reached its highest level on record in 2025: 7,432,221 tonnes, an increase of 6.1% over the previous year, driven by higher output in Minas Gerais. Production over the last three years is shown in the table below:

Year	2023	2024	2025
Phosphate (concentrate, t)	**6,459,354**	**7,004,459**	**7,432,221**

Source: ANM



Minas Gerais remains the largest phosphate producer in Brazil, with 49.8% of the national total.

4. Foreign Trade

In 2025, the phosphate sector posted a trade deficit of USD FOB* 6.42 billion.



Mineral Sector Exports

Total: USD FOB 239.2 million
Change: +23.4%

Main destinations:
Paraguay (47.7%)
Argentina (20.6%)
Uruguay (9.7%)

Mineral Sector Imports

Total: USD FOB 6.66 billion
Change: +39.5%

Main origins:
China (23.2%)
Russia (19.6%)
Morocco (18.8%)

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC) and COMEXMIN/ANM

- Data include the Mineral Extraction Industry (IEM) and the Mineral Processing Industry (ITM)

***FOB** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period.

Foreign trade: main products of the mineral extraction industry (IEM) in 2025

Main Exported Products

	NCM 25102010 - Natural calcium phosphates, ground	NCM 25101010 - Natural calcium phosphates, unground
USD FOB	59,445	235
EXP Share (%)	99.6	0.4

Main Imported Products

	NCM 25101010 - Natural calcium phosphates, unground	NCM 25102010 - Natural calcium phosphates, ground
USD FOB	130,223,457	18,602,984
IMP Share (%)	87.5	12.5

Foreign trade: main products of the mineral processing industry (ITM) in 2025

Main Exported Products

	NCM 31052000 - Mineral or chemical fertilizers containing N, P and K	NCM 31055900 - Other mineral or chemical fertilizers containing N and P
USD FOB	114,933,040	54,334,412
EXP Share (%)	48.1	22.7

Main Imported Products

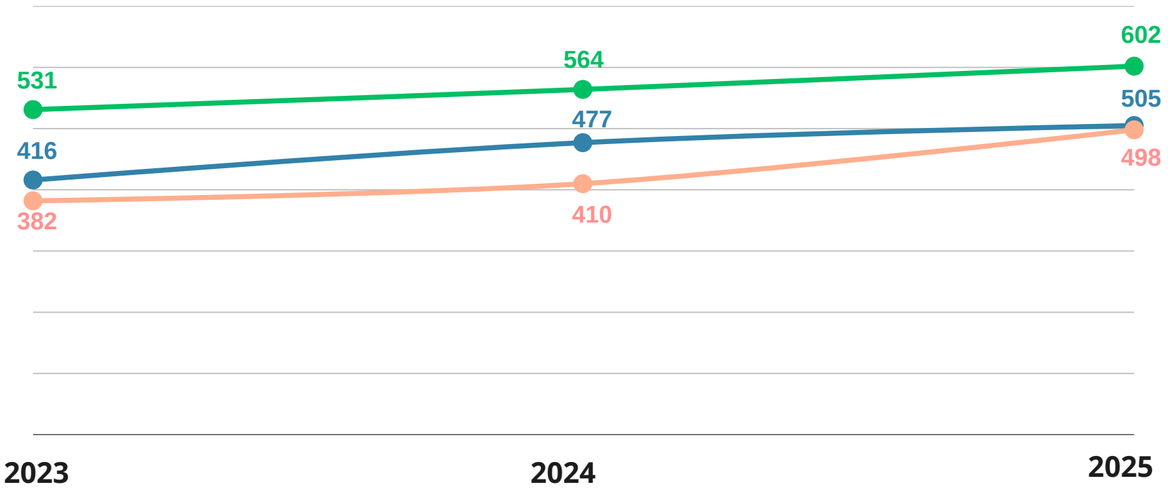
	NCM 31054000 - Ammonium dihydrogenorthophosphate (MAP/DAP)	NCM 31055900 - Other mineral or chemical fertilizers containing N and P
USD FOB	2,077,030,424	1,828,187,702
IMP Share (%)	31.9	28.1

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC) and COMEXMIN/ANM

5. Prices

The chart shows the average import prices (USD FOB/t*) of the main phosphate fertilizers between 2023 and 2025.

Chart – Average FOB Import Prices - USD/t - Last 3 Years



- Monoammonium/diammonium phosphate (MAP/DAP) (Imports)
  NCM: 31054000
- N and P fertilizers (Imports)
  NCM: 31055900
- Superphosphates ≥35% P2O5 (Imports)
  NCM: 31031100

Source: Open Data/Ministry of Development, Industry, Trade and Services (MDIC).
***USD FOB/t** = The seller fulfills its obligations and responsibilities when the goods, cleared for export, are delivered, stowed on board the vessel at the port of shipment, both indicated by the buyer, on the date or within the agreed period.

6. Financial Compensation for the Exploitation of Mineral Resources (CFEM)

In 2025, CFEM, Brazil's mining royalty, collected on phosphate reached R$ 110,604,081.19, an increase of 41.8% over 2024 (R$ 77,987,755.76). Minas Gerais accounted for R$ 66,303,967.00 and Goiás for R$ 28,760,212.00, as the largest collecting states.

Phosphate is included in the list of mineral substances subject to CFEM calculation based on the reference value in the case of industrial consumption/processing, under Law No. 13,540/2017, Decree No. 9,252/2017 and DNPM Ordinance No. 239/2018.

State	Amount (R$)
MG	66,303,967
GO	28,760,212
Other States	15,539,902
Grand Total	**110,604,081**

Source: ANM.

7. Investments and Mining Rights

Phosphate investments are concentrated in the mining stages (mines and plants), which accounted for 97.0% of the total declared in 2025; mineral exploration accounted for 3.0%.

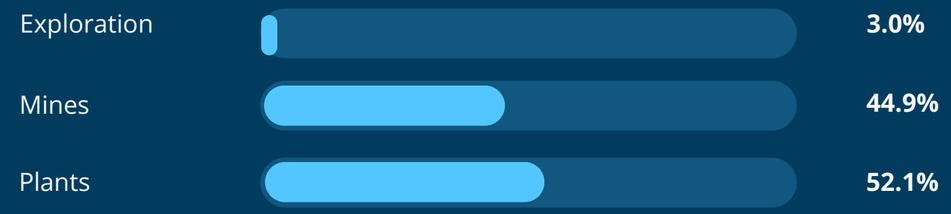
Mining Investments

In 2025, according to the Mineral Exploration Investment Statement (DIPEM) and the Annual Mining Report (RAL), declared investments in phosphate were approximately R$ 31.3 million in mineral exploration and R$ 1.01 billion in mines and plants, totaling R$ 1.04 billion.

Main States

- MG (69.4%)
- GO (18.5%)
- TO (3.9%)

Investment Breakdown



Mining Rights 2025

Main States

- RS (88 permits)
- BA (66 permits)
- MG (63 permits)

Mineral Exploration

- 458 new exploration permits
- +20.5% compared with 2024
- 24 exploration reports approved and published

Mining Applications

- 8 mining applications

Mining Concession/ PLG

- 5 mining concession orders published

Source: ANM.

8. Relevant Factors

New projects in production: Águia Resources' "Três Estradas" project is expected to start production in 2026 [1]. Galvani also plans to launch its project in Irecê/BA in 2026/27, with an estimated output of around 350,000 tonnes per year of phosphate concentrate [2].

Licensing in Santa Quitéria and Caracol: Galvani, in a consortium with Indústrias Nucleares do Brasil (INB), continues the licensing stage for the Santa Quitéria project in Ceará, which plans to recover both phosphate and uranium and involves highly complex environmental and nuclear licensing (CNEN and ANSN) [3]. Galvani is also assessing the exploitation of phosphate reserves in Caracol, Piauí [4].

Environmental restrictions and LFP batteries: Brazil has two areas with strong potential but subject to exploitation restrictions (Anitápolis/SC and Ipanema/SP); in Anitápolis, the exploitation of natural phosphate and the storage of sulfur are prohibited statewide by State Law 17,895/2020, enacted in January 2020 [5]. The Jauru Project (Bemisa, Mirassol D'Oeste/MT) is researching the use of phosphate ore for fertilizers, under a partnership signed with CETEM in 2024 [6]. Lithium iron phosphate (LFP) batteries have high potential for electric vehicles and energy storage, offering high fire safety and lower production costs [7].

References (in Portuguese)

[1] Minera Brasil – Águia resumes phosphate project in RS after court ruling (2025)

[2] Brasil Mineral – Galvani presents R$ 1.4 billion projects in Bahia (2025)

[3] INB – Santa Quitéria

[4] Galvani Fertilizantes – Public hearing, Caracol Mining Unit (PI)

[5] ALESC – Law bans phosphate and derivatives exploitation in SC (Law 17,895/2020)

[6] Brasil Mineral – Bemisa announces agreement with CETEM (MT)

[7] STA Eletrônica – Advantages and disadvantages of LiFePO4 batteries