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SULPHUR

What are the properties of sulphur?

Sulphur is a non-metallic chemical element identified by the letter S. It has the atomic number 16. Sulphur burns with a blue flame that emits sulphur dioxide, notable for its peculiar suffocating odour.

In its native form, sulphur is a yellow crystalline solid. At room temperature, it is a soft, bright-yellow solid. Sulphur is insoluble in water. Unlike most other liquids, the viscosity of sulphur in its molten state increases above temperatures of 200°C due to the formation of polymers. Pure sulphur, known as elemental sulphur, is odourless.

Where does it come from?

Sulphur is the 16th most abundant element in nature. It is found in the Earth's crust, in the ocean and even in meteorites. Sulphur occurs naturally all over the world and is most prolific where sulphur-rich gas and oil are processed and refined the United States, Canada, the Former Soviet Union, and Western Asia. Canada is the biggest exporter of sulphur, and China is the biggest importer of it.

What is it used for?

a. Agriculture: an essential nutrient for crops

Sulphur is one of the essential plant nutrients, along with nitrogen, phosphorus and potassium. It can contribute to an increase in crop yields in three different ways:

- 1.It provides a direct nutritive value
- 2.It provides indirect nutritive value as soil amendments, especially for calcareous and saline alkali soils
- 3.It improves the efficiency of other essential plant nutrients.

b. Chemical production

Sulphur is the primary source to produce sulphuric acid, the world's most used chemical and a versatile mineral acid used as an essential intermediate in many processes in the chemical and manufacturing industries.

c. Industry

Sulphur is also used in many other industries, including non-ferrous metals, pigments, fibres, hydrofluoric acid, carbon disulfide, pharmaceuticals, agricultural pesticides, personal care products, cosmetics, synthetic rubber vulcanisation, water treatment, and steel pickling.

d. Asphalt

Sulphur asphalt (SA), sometimes referred to as sulphur bitumen, sulphur extended asphalt or SEA, is a viable alternative for asphalt road binder. Sulphur's unique properties to improve the characteristics of asphalt have been known for more than a century.

e. Concrete

Sulphur concrete is a relatively new corrosion-resistant material that contains stones, sand and sulphur polymer cement binder. Sulphur concrete is mixed and placed at an elevated temperature. It rapidly gains high strength over a few hours of cooling and provides an economic long-term performance in many harsh environments.



TYPES OF SULPHUR

Lump Sulphur

Lump sulphur is commonly stored and transported in large outdoor stockpiles or plant sites for use in sulphuric acid production. Formed by crushing larger sulphur blocks, the resulting pieces are irregular with sharp edges and prone to dust formation. Handling challenges has led to efforts in developing dust-minimising particle formats.

Molten Sulphur

Molten sulphur is used across refineries, chemical plants, and fertiliser industries. Transported at ~140°C in insulated or heated containers, it requires dedicated tankers. In some regions, backhaul double trailers are used, carrying molten sulphur one way and bulk goods (e.g., fertilisers) on return trips to optimise transport efficiency.

Slated Sulphur

Slated sulphur is created by pouring molten sulphur onto a cooling belt, forming thin sheets that break into sharp-edged pieces. This low-cost, high-volume solidification method allows for easy storage and handling via conventional bulk systems.

Moulded Sulphur

Moulded sulphur is shaped into half-cylinder bricks, each weighing around 0.75 to 1.5 lbs. It is primarily used in oil refining, steel production, and smelting operations.

Prilled Sulphur

Prilled sulphur is formed by dripping molten sulphur into an agitated water bath, creating uniform spherical pellets with low moisture. A closed-loop water cooling system and screening process ensure quality, with undersized prills recycled or blended back into the final product.

Pastillated Sulphur

Pastillated sulphur is made using a rotary drop-former on a cooled belt, producing consistent hemispherical pastilles. Cooling and solidification are tightly controlled, ensuring high product quality and minimal environmental impact. A release agent aids clean discharge from the belt.

Granulated Sulphur

Granulated sulphur is produced via a drum granulation process. Molten sulphur is sprayed onto seed particles, layering and solidifying in stages until granules reach the target size (1–6 mm). A screening system separates and recycles undersized particles, delivering dense, durable granules.

LUMP SULPHUR SPECIFICATIONS

Property	Limit	Test Method
Physical Form	Lumps & Powder	Visual
Appearance	Bright Yellow	Visual
Purity on Dry Basis (wt%)	99.80% Min	ASTM D-4239
Moisture (wt%)	0.02% Max	ASTM D-2790
Ash Content (wt%)	0.015% Max	ASTM D-1509
Organic Solid Matter (wt%)	0.01% Max	NA
Acid Content (wt%)	0.0001% Max	ASTM D-1613
Mechanical Impurities (e.g., paper, sand)	0.01% Max	NA

GRANULAR SULPHUR SPECIFICATIONS

Property	Limit	Test Method
Physical Form	Granular	Visual
Appearance	Bright Yellow	Visual
Purity on Dry Basis (wt%)	99.80% Min	ASTM D-4239
Ash Content (wt%)	0.05% Max	ASTM D-1509
Acidity (wt%)	0.02% Max	ASTM D-1613
Moisture (wt%)	0.5% Max	ASTM D-2790
Hydrocarbons (wt%)	0.05% Max	ASTM D-2360
Organic Solid Matter (wt%)	0.01% Max	NA

SIZE DISTRIBUTION OF GRANULAR SULPHUR

Particle Size	Limit (wt%)
Bigger than 4.75 mm	5% Max
Between 2.4 mm and 4.4 mm	75% Min
Smaller than 2 mm	3% Max
Smaller than 1.19 mm	2% Max
Smaller than 300 microns	0.1% Max

SULPHUR JUMBO BAG (FIBC) PACKAGING DETAILS

Specification	Description
Bag Types	Circular / Square / Rectangular
Capacity Options	1 Ton, 1.5 Ton, 2.0 Ton, 2.5 Ton
Material	PP woven coated fabric, Pure Polypropylene/Polyethylene
Color	White or Beige
Top Type	Filling Spout / Open / Skirt
Bottom Type	Discharge Spout / Flat
Lifting Loops	1/ 2/ 3/ 4 pieces
Safety Factor	5:1 or 6:1
Characteristics	Dustproof, Moisture-proof, Radiation-resistant, Durable

COMMERCIAL TERMS & CONDITIONS

We source our granular sulfur from multiple reputable and high-quality producers across the Gulf region, including:

- Kuwait
- United Arab Emirates (UAE)
- Qatar
- Saudi Arabia
- Oman
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These origins are known globally for their consistent quality, reliability, and compliance with international sulfur specifications.

Delivery Terms:

CFR (Cost & Freight) – Indonesia Major Ports.

We deliver directly to key seaports across Indonesia, including but not limited to:

- Tanjung Priok (Jakarta)
- Tanjung Perak (Surabaya)
- Belawan (Medan)
- Makassar Port
- Semarang Port

Our logistics team ensures safe, timely, and efficient delivery through strategic shipping partnerships and port clearances.

Packaging Options:

To cater to diverse industrial needs and storage requirements, we offer flexible packaging formats:

- Bulk Shipment: Ideal for large-scale industrial operations and port-handling facilities with direct offloading capabilities.
- Jumbo Bags (1 MT): Perfect for operations requiring better handling, reduced dust, and ease of storage or inland transportation.

All packaging complies with international safety standards, minimizing environmental impact and ensuring product integrity.

Applications:

Granular sulfur is widely used across various industries, including:

- Fertilizer production (e.g., sulfuric acid manufacturing)
- Petrochemical refining
- Rubber and plastic processing
- Explosives manufacturing
- Water treatment

For pricing, specifications, availability, and delivery schedules, please contact our commercial team. We're committed to providing competitive rates and tailored solutions based on your requirements.



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