

## ZINC ORE

Zinc ore is most commonly found as zinc carbonate, known as calamine or smithsonite. It generally occurs as rounded, crystalline crusts, honeycombed masses that have a vitreous or pearly luster and are typically dirty brown or grey in color.

## Commodity



### Miner / Exporter of Metal Products

ELIPSE is a well-established producer/supplier of zinc ore and many other minerals located in South Jos Plateau State of Nigeria, a Sub-Saharan African region. Our emphasis on delivery quality products and reliable services to our clients is what set us apart from our competitor. We are well positioned to provide our client with competitive pricing, quality and reliability as we continually improving our services to add value to our existing and future customers.

Zinc Ore is normally found in association with other base metals such as copper and lead in ores. Zinc is a chalcophile, meaning the element has a low affinity for oxides and prefers to bond with sulfides. Chalcophiles formed as the crust solidified under the reducing conditions of the early Earth's atmosphere. Sphalerite, which is a form of zinc sulfide, is the most heavily mined zinc-containing ore because its concentrate contains 60–62% zinc. Centuries before it was identified as an element, zinc was used to make brass (an alloy of zinc and copper) and for medicinal purposes. Metallic zinc and zinc oxide were produced in India sometime between the 11th and 14th centuries and in China in the 17th century, although the discovery of pure metallic zinc is credited to the German chemist Andreas Marggraf, who isolated the element in 1746.

### Background

Zinc is a bluish-white, lustrous, diamagnetic metal although most common commercial grades of the metal have a dull finish. It is somewhat less dense than iron and has a hexagonal crystal structure, with a distorted form of hexagonal close packing, in which each atom has six nearest neighbors (at 265.9 pm) in its own plane and six others at a greater distance of 290.6 pm.

The metal is hard and brittle at most temperatures but becomes malleable between 100 and 150 °. Above 210 °C, the metal becomes brittle again and can be pulverize by beating. Zinc is a fair conductor of electricity. For a metal, zinc has relatively low melting (419.5 °C) and boiling points (907 °C).

Sphalerite (zinc sulfide) is the primary ore mineral from which most of the world's zinc are produced, but a number of other minerals that do not contain sulfide contain zinc as a major component. Much of the early zinc production was from non-sulfide deposits; however, as these resources were exhausted, production shifted to sulfide deposits. In the past 30 years, advances in extractive metallurgy have resulted in renewed interest in non-sulfide zinc deposits.

Nigeria is one of the top African countries that is richly blessed with zinc deposits in Cross River, Ebonyi, Abuja, Bauchi, Kaduna, Enugu, Bayelsa, Kogi, Zamfara, Plateau and Nasarawa States. The mineral spread in Nigeria is significant with evidence of 34 various minerals distributed richly endowed geology.

Zinc Ore Specs	
Zinc (Zn)	40 – 60%
Copper (Cu)	1.50% max
Lead (Pb)	3.0% max
Cadmium (Cd)	0.09% max
Phosphorous (P)	0.03% max
Iron (Fe)	5.9% max
Manganese (Mn)	0.01% max
Sulphur (S)	11.5% max
Arsenic (As)	0.04% max
Size:	30 mm – 90 mm



## Why work with ELIPSE? The reasons are many.

In this rapidly changing buy/sell environment, ELIPSE strongly believed that we bring value to our clients by maximizing cost-effective solutions by taking care of all freight logistics procedures like vessel chartering, customs clearance, freight forwarding, transportation, containerization, warehousing, insurance, etc. by aligning ourselves with reliable service partners both locally and internationally.

ELIPSE is committed in providing our clients the basic function as international trading specialist role we perform virtually to every activity necessary to assure continued and efficient supply of minerals on every contractual transaction at the most favorable price, quality and conditions from loading port to final destination port at the lowest transportation cost in the shortest possible time.



ELIPSE has a strong operating result that are driven by solid and consistent performance from a diverse portfolio of mines located in five regions. After gaining additional mineral rights in 2017, ELIPSE plan to proceed with its expansion project during the first quarter of 2019. In doing so, ELIPSE will become the largest producing mines in the region and as part of the ELIPSE's goal of becoming an efficient manganese producer, the new strategy focuses on three main areas: 1) Over the short-term growth focus on existing assets and ramping up production at existing mines to achieve full production capacity, 2) On medium-term growth, continues exploration on existing properties to expand our minerals resource base, extend mine longevity and bring new mines into production, and 3) On long-term growth, expand mineral exploration and mining in chromate, tin and even gold.

### Uses and Benefits of Zinc Ore

Zinc is currently the fourth most widely consumed metal in the world after iron, aluminum, and copper. It has strong anticorrosive properties and bonds well with other metals. Consequently, about one-half of the zinc that is produce are use in zinc galvanizing, which is the process of adding thin layers of zinc to iron or steel to prevent rusting.

The next leading use of zinc is as an alloy; the zinc is combine with copper (to form brass) and with other metals to form materials that are used in automobiles, electrical components, and household fixtures. A third significant use of zinc is in the production of zinc oxide (the most important zinc chemical by production volume), which is used in rubber manufacturing and as a protective skin ointment.

Zinc is also important for health. It is a necessary element for the proper growth and development of humans, animals, and plants. The adult human body contains between 2 and 3 grams of zinc, which is the amount needed for the body's enzymes and immune system to function properly. It is also important for taste, smell, and to heal wounds. Trace amounts of zinc occur in many foods, such as oysters, beef, and peanuts.

Although many elements can be used as a substitute for zinc in chemical, electronic, and pigment applications, the demand for zinc galvanized products remains strong, especially in regions where significant infrastructure projects are being developed. The dramatic increase in the world's production (supply) and consumption (demand) of zinc in the past 35 years reflects demand in the transportation and communications sectors for such things as automobile bodies, highway barriers, and galvanized iron structures.