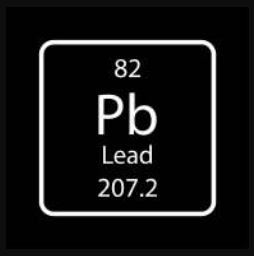
LEAD



WHAT IS LEAD?

Lead is a chemical element with the symbol Pb (from the Latin plumbum) and atomic number 82. It is a heavy metal that is denser than most common materials. Lead has been used for thousands of years because it is easy to extract and shape and has a low melting point. However, Lead is also toxic to humans and other living organisms and can cause various health problems, including brain damage and reproductive failure. Due to this, its use has been phased out or severely restricted in many products and applications.

DID YOU KNOW?

This comes from the Latin word plumbum which means 'waterworks' referring to the Roman practice of making water pipes out of lead. Some historians believe that lead poisoning from the water pipes was partially responsible for the fall of the Roman Empire.

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LEAD

DID YOU KNOW?

The Romans knew lead was dangerous. The physician Dioscorides wrote, "Lead makes the mind give way."

WHAT IS THE HISTORY OF LEAD?

Humans have used Lead for thousands of years. The ancient Egyptians, Greeks, and Romans used Lead for plumbing and in producing jewelry, coins, and other decorative items. Lead was also used in the production of lead-based paints, which were popular until the mid-20th century.

In the Industrial Revolution, Lead was an essential component in producing lead-acid batteries, which were used to power vehicles and other machinery. Lead was also used in the production of gasoline, so lead pollution became a primary environmental concern.

In the 20th century, the adverse health effects of lead exposure became increasingly apparent. As a result, the US banned lead-based paint in 1978, and leaded gasoline was phased out in the 1980s and 1990s.

In recent years, there has been increasing concern about lead exposure from sources such as contaminated water and soil, as well as from imported consumer products.

Overall, Lead has been used for thousands of years for various purposes. However, due to its toxicity, its use has been phased out or severely restricted in many products and applications.

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DID YOU KNOW?

Before it was banned from gasoline in the 1990s, three common environmental sources of lead were pipes, paint and fuel.

WHY IS LEAD A VITAL COMMODITY?

Lead is an essential commodity for several reasons:

1. Industrial uses: Lead is used in producing lead-acid batteries, which are used in vehicles and other machinery. It also produces radiation shielding, cable sheathing, and the construction industry.
2. Energy storage: Lead-acid batteries are also used in renewable energy storage systems, such as solar and wind power, and in backup power systems for critical infrastructure.
3. Nuclear power: Lead is used as a coolant in some nuclear reactors.
4. Medical uses: Lead is used in X-ray and radiation shielding to protect patients and medical staff from the harmful effects of radiation.
5. Military applications: Lead is used to produce ammunition and other military equipment.

Overall, Lead has a wide range of industrial applications and plays a vital role in several industries, including energy storage, transportation, construction, and infrastructure.

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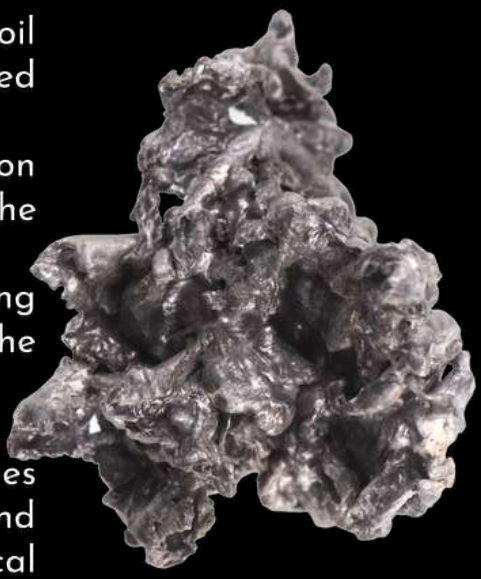
DID YOU KNOW?

Lead melts at 621 degrees Farenheit, a relatively low temperature for metals. The malleable metal used to be a popular choice for plumbers.

HOW IS LEAD MINED?

Lead is typically mined as a byproduct of other metals such as zinc, silver, and copper. There are several methods used to extract Lead from the earth, including:

1. Underground mining: This method involves extracting Lead from deep underground mines. Miners dig tunnels and shafts to reach the lead ore, which is then brought to the surface for processing.
2. Open-pit mining: This method removes the top layers of soil and rock to access the lead ore. This method is typically used for ore that is close to the surface.
3. Heap leaching: This method involves stacking crushed ore on a lined pad and spraying it with a solution that dissolves the Lead. The lead-rich solution is then collected and processed.
4. Flotation: This method involves crushing the ore and treating it with chemicals that cause the Lead to separate from the other minerals. The Lead is then collected and processed.



Once the lead ore is mined, it is processed to remove impurities and concentrate the Lead. This typically involves crushing and grinding the ore and then using various chemical and physical processes to separate the Lead from the other minerals. The Lead is then refined to produce a pure lead product.

Overall, Lead is mainly mined as a byproduct of other metals like zinc, silver, and copper and is extracted through underground mining, open-pit mining, heap leaching, and flotation. The mined lead ore is then processed to remove impurities and concentrate the Lead.

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DID YOU KNOW?

Higher lead levels in teeth are tied to lower IQs, behavior problems and language delays.

WHAT EVERYDAY PRODUCTS CONTAIN LEAD?

Lead was once used in a variety of everyday products, but due to its toxicity, its use has been phased out or severely restricted in many products. However, some products that may still contain Lead include:

1. Paint: Before the 1970s, Lead was commonly used in color as a pigment and drying agent. Houses and buildings painted before 1978 may still contain lead-based paint.
2. Cosmetics: Some traditional cosmetics, such as kohl and Surma, used to contain Lead.
3. Ceramics and Glassware: Lead is sometimes used in the production of ceramics and glassware, particularly in the glaze.
4. Imported toys and children's jewelry: Lead is sometimes found in imported toys and children's jewelry.
5. Imported candies: Lead is sometimes found in imported candies
6. Lead crystal glassware: Lead crystal glassware contains a lead oxide, which gives it a higher refractive index and brilliance.
7. Lead pipes and plumbing: Lead pipes and plumbing materials were commonly used.
8. Lead shot for hunting and fishing: Lead shot is still used for hunting and fishing, although alternatives are available.
9. Lead solder: Lead solder was once commonly used to seal joints in copper pipes and other metal products.

It's important to note that various regulations and laws have been implemented to limit the amount of Lead in these and other products. However, some products may still contain Lead, mainly imported items that may need to meet current safety standards.

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