



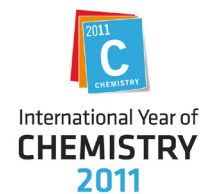
KERRY LAMB

LEAD

Element Symbol: **Pb**

Atomic Number: **82**

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LEAD

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Atomic number: 82

Lead has atomic symbol Pb and atomic number 82. It is located towards the bottom of the periodic table, and is the heaviest element of the carbon (C) family.

The chemical symbol for lead is an abbreviation from the Latin word plumbum, the same root word as plumbing, plumber and plumb-bob still commonly used today. Two different interpretations are associated with the word plumbum, namely “soft metals” and “waterworks”.

No-one knows who discovered lead, the metal having been known since ancient times. Archaeological pieces from Egypt and Turkey have been found dating to around 5000 BC. Lead is also mentioned in the book of Exodus in the Bible. The Hanging Gardens of Babylon were floored with soldered sheets of lead, while there is evidence to suggest the Chinese were manufacturing lead around 3000 BC. Some reports suggest that lead was probably one of the first metals to be produced by man, and this is likely so given its worldwide occurrence and its relative ease of extraction. In alchemy, lead was considered the oldest metal and was associated with the planet Saturn.

Lead makes up ~0.0013% of the earth’s crust. It is rare that metallic lead occurs naturally. Lead is typically associated with zinc, copper and silver bearing ores and is processed and extracted along with these metals.

When freshly cut pure lead is a bluish-white shiny metal that readily oxidises in air to the grey metal that is more typically known. It is dense, very soft, highly malleable (able to be hammered into sheets), ductile (able to be drawn into wire) and is corrosion resistant.

Our knowledge about the health effects of lead and its compounds has increased dramatically over the last 100 years. Lead is a cumulative poisonous metal. Lead and its compounds can cause severe damage to the central nervous system, impaired mental performance, organ failure, and in extreme cases death. Lead can affect almost every organ and system in the body, and exposure can occur through inhalation, ingestion and dermal contact. Care needs to be exercised when working with lead.

The largest preindustrial producer and user of lead is considered to be the ancient Romans. It is now widely thought that the Romans use of lead for building, plumbing and kitchen/eating utensils may have contributed to the disintegration and eventual collapse of the empire.

Increased awareness and understanding of environmental and health issues associated with lead in recent decades has seen its usage change dramatically. For example there has been a reduction and in some cases virtual elimination in the use of lead in petroleum, paints, pottery glazes, glasses etc.

Provided by the element sponsor Ashley Townsend

ARTISTS DESCRIPTION

My husband, a chemist, explained to me that it was lead that actually caused the downfall of the Roman Empire. The Romans, master plumbers, used lead for their pipes. This eventually poisoned the people to the extent that they went mad.

KERRY LAMB