



# Chemical Elements in Everyday Life: Unveiling Their Importance

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## DESCRIPTION

Chemical elements, the fundamental building blocks of matter, play an integral role in our everyday lives, even if we're not always aware of their presence. From the air we breathe to the water we drink, the materials we use, and the technologies we rely on, elements are all around us, shaping the world we inhabit. This article explores the significance of chemical elements in our daily existence, shedding light on their vital contributions.

The very act of breathing, a fundamental and subconscious part of life, relies on the presence of specific chemical elements. Oxygen, the element with the atomic number 8, is essential for respiration. In the air, oxygen molecules make up about 21% of the atmosphere, supplying our bodies with the oxygen required for cellular respiration, which produces energy. Similarly, nitrogen (atomic number 7) constitutes roughly 78% of the atmosphere and plays a crucial role in the nitrogen cycle, essential for the growth of plants and food production. Water, the elixir of life, is composed of two hydrogen atoms and one oxygen atom, forming the chemical compound water. Hydrogen (atomic number 1) and oxygen (atomic number 8) combine to create a substance vital for all living organisms. Beyond hydration, water serves as a solvent for many substances, facilitating chemical reactions within our bodies and enabling countless industrial processes. The materials we interact with daily are often composed of various chemical elements. Carbon (atomic number 6) is the backbone of organic compounds, forming the basis of all living matter, from dna to the food we consume. Iron (atomic number 26) is a foundational element in the construction of infrastructure, from bridges and buildings to cars and machinery, due to its strength and durability. Silicon (atomic number 14) is a key component in electronic devices,

making up the semiconductors that drive our smartphones, computers, and the digital age.

The technologies we rely on rare earth elements, rare earth elements are a group of 17 chemical elements, including cerium, neodymium, and europium. Despite their name, they are found in many everyday technologies. Neodymium, for example, is used in the powerful magnets in headphones and hard drives, while europium plays a role in the production of red phosphors for television screens. These elements are critical in modern electronics and clean energy technologies, including wind turbines and electric vehicle batteries.

Beyond the elements our chemical world, chemical elements are the foundation of the chemical world we inhabit, but their importance extends far beyond the basics. They shape the molecules and compounds that drive the myriad processes of life, industry, and technology. From the importance of carbon in organic chemistry to the role of silicon in semiconductors, chemical elements are indispensable to our daily existence.

The understanding of these elements and their properties has led to incredible advancements in science and technology, touching every aspect of our lives. By unveiling the importance of chemical elements in our everyday existence, we gain a deeper appreciation for the world around us and the incredible role chemistry plays in our lives.

## ACKNOWLEDGEMENT

None.

## CONFLICT OF INTEREST

Authors declare no conflict of interest.

<b>Received:</b>	30-August-2023	<b>Manuscript No:</b>	IPACRH-23-18190
<b>Editor assigned:</b>	01-September-2023	<b>PreQC No:</b>	IPACRH-23-18190 (PQ)
<b>Reviewed:</b>	15-September-2023	<b>QC No:</b>	IPACRH-23-18190
<b>Revised:</b>	20-September-2023	<b>Manuscript No:</b>	IPACRH-23-18190 (R)
<b>Published:</b>	27-September-2023	<b>DOI:</b>	10.21767/2572-4657.7.3.25

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**Citation** Tatiana M (2023) Chemical Elements in Everyday Life: Unveiling Their Importance. Arch Chem Res. 7:25

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