

- The metals have a lustrous surface; they can also be polished for obtaining a highly reflective surface. Metals are hard and strong in nature. Sodium and potassium are exceptions in this case as they can be cut by a knife. Metallic elements possess high melting and boiling points. They can vaporize too at high temperatures. Their density is also high. The metals are malleable and ductile that is they can be beaten into sheets or drawn into wires. They are excellent conductors of heat and electricity.
- On the other hand, non-metallic elements are bad conductors of heat and electricity, except graphite (an isotope of carbon) . They are neither malleable nor ductile. Non-metals possess low density and have low melting and boiling points. They are soft solids, except diamond which is the hardest substance known.

Chemical Properties of Metals and Non-Metals

- Metallic elements generally have 1,2 or 3 electrons in the outermost shell. Lesser the number of valence electrons more is the activity of the metal. They form cations by losing electrons. The molecule of metals in the vapour state is generally monoatomic. They generally form basic oxides. They ionize by losing electrons hence, they are known as reducing agents.
- Non-metallic elements generally have 5,6 or 7 electrons in their outermost shell. They form anions (negative ions) by gaining electrons to complete their octet. Their molecules are usually polyatomic in the gaseous state. They generally form acidic oxides. Non-metals ionize by the gain of electrons hence; they are known as oxidizing agents.

What Are Metals?

- Majority elements in the periodic table are metals. This includes alkali metals, transition metals, lanthanides, actinides and alkaline earth metals. Metals are separated by nonmetals on a periodic table through a zigzag line starting from carbon, till radon. The elements between the two are phosphorus, selenium and iodine.
- These elements and elements right to them in the periodic table are nonmetals. Elements present just to the left of the line are termed as semimetals or metalloids. These will have the combined properties of both metals and nonmetals.

What Are Nonmetals?

- Very few elements in the periodic table are non-metals. These are present on the right-hand side in the periodic table. Elements that come under non-metals are Sulphur, carbon, all halogens, phosphorus, hydrogen, oxygen, selenium, nitrogen and noble gases.
- In the periodic table, non-metals are located left of the halogens and to the right of the metalloids. Since noble gases and halogens are also non-metals, these elements are often referred to as non-metals.

Properties of Metals

Physical Properties of Metals

Some physical properties of metals are listed below.

- Shiny (lustrous) in nature
- Metal is a good conductor of electricity and heat
- Density and melting point are high
- Mouldable (Malleable)
- Ductile
- At room temperature, it is in solid form except for mercury
- Opaque

Chemical Properties of Metals

Some chemical properties of metals are listed below.

- Easily corrodible
- Can lose electrons
- Form basic oxides
- Have low electronegativities
- Good reducing agents

Properties of Non-Metals

Physical Properties of Non-Metals

Some physical properties of non-metals are listed below.

- Poor conductors of electricity and heat
- Non-Ductile metals
- Brittle solids

- Maybe solids, liquids or gases at room temperature
- These are not sonorous
- Transparent

Chemical Properties of Non-Metals

Some chemical properties of non-metals are listed below.

- The number of electrons in the outer shell is generally 4 - 8
- Easily gain or lose valence electrons
- Form acidic oxides whenever they come in contact with oxygen
- High electronegative elements
- Great oxidizing agents

Differences between Metals and Non-Metals

A reactivity series is a vital tool for chemists. It helps us to understand the properties of metals and the differences between them.

Metal	Non - Metal
These are solids at room temperature except mercury	These exist in all three states
These are very hard except sodium	These are soft except diamond
These are malleable and ductile	These are brittle and can break down into pieces
These are shiny	These are non-lustrous except iodine
Electropositive in nature	Electronegative in nature
Have high densities	Have low densities
<i>Differences between Metals and Non-Metals</i>	

Questions

What is Called Non-Metal?

Answer:

Non-metal or non-metal is a chemical element that does not have metal's properties. Some gases include hydrogen, helium, oxygen, nitrogen, fluorine, neon, or radon and many more.

What is Called Metal?

Answer:

Many chemical elements are referred to as metals. These are the bulk of the periodic table elements. Generally, such components have the following characteristics: these can conduct heat and electricity. They can be easily shaped.

What Are the Uses of Non-Metal?

Answer:

Oxygen is a non-metal that is used for breathing by plants and animals. It is essential to maintain our life. It is used in the process of fuel-burning in homes, factories, and vehicles for transport.

Which Non-Metal is Essential for Our Life?

Answer:

Oxygen is an essential non-metal for our life and it is inhaled during breathing by all living beings.

Which Non-Metal is Used as a Fuel?

Answer:

The non-metal used in the rockets is liquid hydrogen. They are separate hydrogen and oxygen tanks that combine and burn to start the rocket. Due to its high calorific value, hydrogen is used.