

## Non-metals definition and their Properties, Uses | carbon metal

### Introduction to Non-Metals:



Non-metals are those which lack all the metallic attributes. They are good insulators of heat and electricity. They are mostly gases and sometimes liquid. Some they are even solid at room temperature like, Carbon, sulfur and phosphorus.

### Physical Properties of Non-Metals:

Ductility is the property of the material to be stretched into wires but non metals are not ductile except for carbon, as carbon fibers finds uses in a wide variety of industries including sports and music equipments. Another property characteristic to metals is absent in non-metals called malleability. They can't be drawn into sheets are they are brisk and break on applying pressure.

They are not lustrous as they do not have any shiny appearance.

They are not sonorous and do not produce a deep ringing sound when they are hit with another material. They are also bad conductors of heat and electricity except for graphite.

### Chemical properties:

**Reaction with water:** Non-metal does not react with water but it is usually very reactive in air, which is why some of them are stored in water. For example, one of the highly reactive non-metals is phosphorus and it catches fire when exposed to air that is why it is stored in water to prevent its contact with atmospheric oxygen.

**Reaction with acids:** None of the non-metals are known to react with acids.

**Reaction with bases:** The reaction between non-metals and bases is a very complex one. Reaction of chlorine with bases like sodium hydroxide gives products like sodium hypochlorite, sodium chloride as well as water.

**Reaction with oxygen:** Oxides of non-metals are formed when it reacts with oxygen. The oxides of non-metals are acidic or neutral in nature.

When sulfur reacts with oxygen, we get sulfur dioxide.



When sulfur dioxide reacts with water it forms sulphurous acid.



Uses:

1. For the preparation of ammonia, nitric acid and fertilizers, nitrogen is used.
2. For the purification of water, chlorine is used,
3. Hydrogen is very useful as a rocket fuel.
4. Carbon can be used to make pencils when it is in the graphite form.
5. Sulphuric acid is prepared using sulphur.

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