

Physical and Chemical Properties

Physical Property:

Chemical Property:

Classify each of the following statements as describing either a chemical property or a physical property. Justify your answers. (Hint: Ask yourself if the chemical identity of the material is changing when the property is observed.)

Example: Copper compounds are often blue in color.

Was the substance chemically changed in order to observe the color? If the answer is *yes* then the statement describes a chemical property, if the answer is *no* then the statement describes a physical property.

Answer: You can observe the property of color without changing the chemical makeup of a copper compound. Color is a physical property of many compounds that is easy to observe.

1. Oxygen gas is needed to burn wood.
2. Pure metals have a shiny luster.
3. The surface of some metals become dull when exposed to air.
4. Nitrogen gas, N_2 , a fairly nonreactive element at room temperature, forms Nitrogen Oxide at high temperatures in automobiles.
5. Milk turns sour if you leave it at room temperature for too long.
6. Diamonds are hard enough to be used for drilling.
7. Metals are typically ductile, which means they can be bent and stretched.
8. Bread dough increases in volume if it is allowed to rise before baking.
9. Argon gas, Ar , is used to fill many light bulbs because it will not react with the metal filament inside of the bulb.
10. Generally, metals are better conductors of heat and electricity than nonmetals.