

Exercise 1.20

- (a) Read the following description of the element zinc and indicate which are physical properties and which are chemical properties.



Zinc melts at 420 °C. When zinc granules are added to dilute sulfuric acid, hydrogen is given off and the metal dissolves. Zinc has a hardness on the Mohs scale of 2.5 and a density of 7.13 g/cm³ at 25 °C. It reacts slowly with oxygen gas at elevated temperatures to form zinc oxide, ZnO.

- (b) Which properties of zinc can you describe from the photo? Are these physical or chemical properties?

Solution

Part (a)

Zinc melts at 420 °C—physical property.

When zinc granules are added to dilute sulfuric acid, hydrogen is given off and the metal dissolves—chemical property.

Zinc has a hardness on the Mohs scale of 2.5 and a density of 7.13 g/cm³ at 25 °C—physical property.

It reacts slowly with oxygen gas at elevated temperatures to form zinc oxide, ZnO—chemical property.

Part (b)

You can tell the appearance (shiny silver) and the physical state (solid) of zinc. These are physical properties.