
TUTORIAL SERIES N°1- CHAPTER 1

Q.1. Classify the six underlined properties in the following paragraph as chemical or physical:

“Fluorine is a pale yellow gas that reacts with most substances. The free element melts at $-220\text{ }^{\circ}\text{C}$ and boils at $-188\text{ }^{\circ}\text{C}$. Finely divided metal burns in fluorine with a bright flame. Nineteen grams of fluorine will react with 1.0 gram of hydrogen.”

Q.2. A solid sample of a pure substance was heated in the open atmosphere, and a white solid resulted that weighed only 84% of the original sample. Re-heating produced no further change. Is the change physical or chemical? Explain your answer.

Q.3. Para-dichlorobenzene PDCB is sold in the market as mothballs. It is used to kill moth larvae, in closed closets, and thus preventing those larvae to damage clothes. PDCB is popular because of its quick sublimation. Does this sublimation produce a physical or chemical change?

Q.4. Underline the significant digits in each of the following measurements. If a digit is uncertain, let it be known with a question mark.

1.00 cm 0.00342 cm 100 cm 2.05 cm 3.42×10^{-6} cm

Q.5. The density of mercury Hg is $1.36 \times 10^4 \text{ kg/m}^3$. Will a 114 kg block of lead Pb measuring 50.0 cm by 20.0 cm by 10.0 cm float in mercury?