

Question #77599, Chemistry / Other

Mass of 1 atom of hydrogen is

Solution:

From the periodic table we know that mass of 1 mol of hydrogen atoms is 1.00794 g. 1 mole of atoms is 6.022×10^{23} atoms. Now, calculate:

6.022×10^{23} H atoms weight 1.00794 g

1 H atoms weight m grams.

$$m = \frac{1.00794 \text{ g} \times 1 \text{ atom}}{6.022 \times 10^{23} \text{ atoms}} = 0.1674 \times 10^{-23} \text{ g} = 1.674 \times 10^{-24} \text{ g}$$

Answer:

$1.674 \times 10^{-24} \text{ g}$

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