
Molarity in physical chemistry

Number of moles of solute dissolved per litre of solution

Expression of molarity in physical chemistry

$$\text{Molarity} = \frac{\text{Number of moles of solute}}{\text{Volume of solution in litre}}$$

Derivation for expression for relation of gram per litre with molarity

- $$\text{Molarity} = \frac{\text{Number of moles of solute}}{\text{Volume of solution in litre}}$$
- $$\text{Molarity} = \frac{\frac{\text{Weight of solute in gm}}{\text{Molecular weight of solute}}}{\text{Volume of solution in litre}}$$
- $$\text{Molarity} = \frac{\text{Weight of solute in gram}}{\text{Volume of solution in litre}} \times \frac{1}{\text{Molecular weight of solute}}$$
- $$\text{gmL}^{-1} = \text{Molarity} \times \text{Molecular weight}$$

Expression for relation of gram per litre with molarity

- $$\text{gmL}^{-1} = \text{Molarity} \times \text{Molecular weight}$$

Expression for relation of weight in terms of molarity if volume is given in mili litre

- $$W = \frac{MmV}{1000}$$

Expression for molarity if volume is given in cubic centimetre

- $$M = \frac{1000 \times n}{V}$$

Expression for molarity in terms of density and percentage weight by weight in physical chemistry

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$$M = \frac{\%(\frac{w}{W}) \times sp.gr \times 10}{\text{Molecular weight}}$$