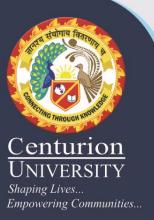


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TETHODS OF EXPRESSING CONCENTRATION

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- The methods of expressing concentration are based upon chemical formula or combining power, The word "Concentration" is frequently used as a general term referring to a quantity of substance in a defined volume of solution.
- 1. <u>Molarity(M)</u>: The molarity of a solution expresses the number of moles (gram-molecular weights) of solute dissolved in 1000 ml (1 Litre) of solution.
- **2. Molality**(**m**) : The molality of a solution expresses as the **number** of moles of a solute dissolved in 1000 gm of a solvent.

the number of equivalents (gram- equivalent weight) of the solute in one litre of solution.

4. Formality (F) : Formality may be defined as the number of gram formula weight (GFW) of the solute dissolved per litre of solution. Formality (F) = GFW/Litres of solution .

USVERETCENT w/w (%w/w) - (%weight in weight) expresses the number Shapping Lives... Empowering Communities... of grams of solute in 100 gm of product. e.g. H2SO4 98.0% w/w; CH3COOH 33% w/w etc.

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- Percent w/v (%w/v) (% weight in volume) It expresses the number of grams of solute in 100 ml of product. (i.e. 100 ml of solution). e.g. H2O2 solution 5-7% w/v.
- 7. Percent v/v (%v/v) (% volume in volume) It expresses the number of millilitres of solute in 100 ml of product. e.g. Alcohol 95% v/v.



<u>3. Percent v/w (%v/w)</u> - (% volume in weight) It expresses the number of millilitres of solute in 100 gm of product.

<u>9. Parts per million (ppm)</u> - When the concentration of a solution is expressed as parts per million (ppm), it means weight in weight , unless otherwise specified. PPM- the number of grams of solute contained in 106 gm of solution. e.g. In the limit test of chloride 25 ppm of cl.



THANK YOU