Saturated Solution

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A solution in which no more substance can be dissolved at that temperature is called a saturated solution. A saturated solution contains the maximum amount of substance which can be dissolved in it at that temperature.

For example: A maximum of 36 grams of salt can be dissolved in 100 grams of water at 20° C, so a saturated solution of salt at 20° C contains 36 gram of salt dissolved in 100 grams of water.

Solubility

Solubility the maximum amount of a substance which can be dissolved in 100 grams of water at a given temperature, is known as the solubility of that substance in water. Solubility of a substance refers to its saturated solution. Solubility of a substance depends on temperature.

The same quantity of water can dissolve different amount of different substances. The solubility of a substance in water increases on increasing the temperature. Larger amount of a substance can be dissolved in a given amount of water on heating it. The solubility of a substance decreases on lowering the temperature. Lesser amount of a substance will dissolve in a given amount of water on cooling it.









solution

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Effect of heating and cooling on saturated solution

If a saturated substance at a particular temperature is heated to a higher temperature, then the solubility of substance increases and more of substance can be dissolved in it.

If the saturated solution of a substance at a particular temperature is cooled to a lower temperature, then the solubility of the substance decreases and some of the dissolved substance will separate out in form of solid crystals.

Hot water will dissolve more substance whereas cold water will dissolve less substance.

