

LO: Students will explore the concepts of Henry's Law and Enthalpies of Solutions

DOL: Students will correctly apply Henry's Law and Enthalpies of Solutions at least 4/5 times.

Immiscible is the term used to describe two liquids that are not soluble in each other

-nonpolar substances such as oils, fats, and greases will not dissolve in a polar substance such as water.

Miscible is the term used to describe substance that will freely dissolve in one another in any proportion

ex: ethanol and water

Gasoline is composed of mainly nonpolar hydrocarbons, so it is an excellent solvent for fats, oils, and greases.

Oil based paints require paint thinner to remove wash them from your hands, if you don't have paint thinner, gasoline will also work (caution, do not smoke while doing this)

Mar 8-8:41 AM

Effects of Pressure on Solubility

Pressure has very little effect on dissolving solids or liquids in a liquid. However, gases dissolved in liquids is effected.

Higher Pressure = More Dissolved Gases
in a Liquid

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Henry's Law

The solubility of a gas in a liquid is directly proportional to the partial pressure of that gas on the surface of the liquid.

Example - soft drinks. The "air" in a sealed bottle of coke is essentially pure carbon dioxide. It is this pressure that allows more of the CO₂ to be dissolved in the liquid.

Effervescence is the rapid escape of a gas from a liquid in which it is dissolved

Mar 9-9:36 AM

Effects of Temperature on Solubility

Increase in temp decreases solubility of a gas

Increase in temp often increases solubility of solids

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Enthalpies of Solutions

As solutions form, energy is either gained or lost. This change is due to changes in the intermolecular forces associated with the molecules.

The net amount of energy absorbed as heat by the solution when a specific amount of solute dissolves in a solvent is called the **enthalpy of solution**.

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Negative enthalpies represent heat is lost
(exothermic)

Positive enthalpies represent heat is gained
(endothermic)

Mar 9-9:53 AM