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Lab 5.2

Research Question: What behavior do ionic and covalent compounds exhibit when they are combined as a mixture?

Introduction: Water is a polar covalent compound and its chemical formula is H_2O. Oil on the other hand is a nonpolar covalent compound.

Procedure: The procedure is the same as in the book.

Results: In the water the salt dissolved and made the water a little cloudy. In the oil the salt did not dissolve and was evenly distributed throughout. The salt is ionic (metal + non-metal chemically bonded) and has the chemical formula NaCl.

This is the oil with salt in it.

This is the water with the salt in it.

Conclusion: The salt dissolves in the water because the charges interact and pull on each other. Oil has no charges so the salt did not dissolve because there is no attractive force between the salt and oil molecules. We learn that ionic and polar covalent will dissolve, polar and polar

covalent will dissolve, two nonpolar will dissolve, and nonpolar is incompatible with polar and ionic is incompatible with nonpolar. This experiment demonstrates that like dissolves like.

Ionic Compound – A compound formed by ions

Covalent Compound – A compound formed by atoms that share electrons

Polar Covalent Compound – A covalent bond in which the electrons are shared unequally between the atoms involved

Nonpolar (purely covalent) covalent compound – A covalent bond in which the electrons are shared equally between the atoms involved

Mixture – A substance that contains different compounds and/or elements

Immiscible - The property where two substances are not capable of combining to form a homogeneous mixture

Suspension - A heterogeneous mixture in which the solid particles do not dissolve, but get suspended throughout the bulk of the solvent, left floating around freely in the medium.