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Chemistry

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Lab 5.2

Research Question- What behaviour do ionic and covalent compounds exhibit when combined as a mixture?

Procedure- 1. Put enough salt into each test tube to cover the bottom of each. Put in enough so that it is easy to see that the salt is there, but do not put too much.

2. Fill one of the tubes with 3/4 of the way with water and the other 3/4 of the way with vegetable oil.

3.Cover the tubes with your thumbs and shake them vigorously for several minutes.

4. Allow them to stand for about a minute.

5. Hold the test tubes up to a light and look through them. In the one that you filled with water, the salt should have dissolved into the water. What about the one with the veggitable oil, however? If you look closely, you should still see all of the salt either lying at the bottom of the tube or suspended in the oil. None of it disolved.

Vocabulary-

Ionic- ionic things have something to do with ions, or charged molecules.

Covalent compound- made when two or more nonmetal atoms bond by sharing valence electrons.

Polar covalent compound- two atoms share a pair of electrons unequally because of differences in their electro-negativities.

Nonpolar (purely) covalent compound- covalent molecules made of only one type of atom.

Immiscible- those which won't mix to give a single phase.

Mixture- a combination of two or more substances in any proportions.

Suspension- a heterogenous mixture of a finely distributed solid in a liquid.

Obsevation-

The salt disolved in the water, but the salt in the vegitable oil stuck to the sides of the test tube and didn't disolve.

Conclusion- Salt is ionic, its formula is NaCI. Na is the metal sodium and CI is the nonmetal chlorine. Water is polar covalent. Both compounds are held together by positive and negitive charges and they will be attatched to eachother. Water seperates the salt molecules, you see that the salt is disolved. Oil is nonpolar covalent It has no charges so, it is not attatched by charges to ionic or covalent compounds. Thus, it did not dissolve the salt. This experiment demonstrates that "Like Disolves Like"

1. Polar covalent componds and ionic compounds are compatible

2. Polar covalent and polar covalent componds are compatible

3. Nonpolar and nonpolar are compatible