

SOLUBILITY (POLAR VS. NONPOLAR) Name _____

Generally, "like dissolves like." Polar molecules dissolve other polar molecules and ionic compounds. Nonpolar molecules dissolve other nonpolar molecules. Alcohols, which have characteristics of both, tend to dissolve in both types of solvents, but will not dissolve ionic solids.

Check the appropriate columns as to whether the solute is soluble in a polar or nonpolar solvent.

SOLUTES	SOLVENTS		
	POLAR Water	NON-POLAR CCl ₄	Alcohol
1. IONIC NaCl	✓		
2. NON-POLAR I ₂		✓	✓
3. ALCOHOL ethanol	✓	✓	✓
4. NON-POLAR benzene		✓	✓
5. NON-POLAR Br ₂		✓	✓
6. IONIC KNO ₃	✓		
7. NON-POLAR toluene		✓	✓
8. IONIC Ca(OH) ₂	✓		

ELECTROLYTES

Name _____

Electrolytes are substances that break up (dissociate or ionize) in water to produce ions. These ions are capable of conducting an electric current.

Generally, electrolytes consist of acids, bases and salts (ionic compounds). Nonelectrolytes are usually covalent compounds, with the exception of acids.

Classify the following compounds as either an electrolyte or a nonelectrolyte.

Compound	Electrolyte	Nonelectrolyte
1. NaCl	✓ (STRONG)	
2. CH ₃ OH (methyl alcohol)		✓
3. C ₃ H ₅ (OH) ₃ (glycerol)		✓
4. HCl	✓ (STRONG)	
5. C ₆ H ₁₂ O ₆ (sugar)		✓
6. NaOH	✓	
7. C ₂ H ₅ OH (ethyl alcohol)		✓
8. CH ₃ COOH (acetic acid)	✓ (WEAK)	
9. NH ₄ OH (NH ₃ + H ₂ O)	✓ (WEAK)	
10. H ₂ SO ₄	✓ (STRONG)	