

Solutions (aq)

Need ions to conduct a charge in solution.

$\text{NaCl} \rightarrow$ Bright

$\text{BaCl}_2 \rightarrow$ Very Bright

$\text{CuSO}_4 \rightarrow$ light

$\text{C}_6\text{H}_{12}\text{O}_6$
 covalent (Molecular) neutral
 \rightarrow Dark

School H_2O \rightarrow light

Distilled Deionized \rightarrow Dark

H_2O

Sep 27-8:02 AM

salt crystal \rightarrow true solid

$\text{Na}^+ \text{Cl}^- \text{Na}^+ \text{Cl}^-$
 $\text{Cl}^- \text{Na}^+ \text{Cl}^- \text{Na}^+$
 $\text{Na}^+ \text{Cl}^- \text{Na}^+ \text{Cl}^-$

NaCl neutral compound

dissociation into ions

NaCl (aq)

Sep 27-8:39 AM

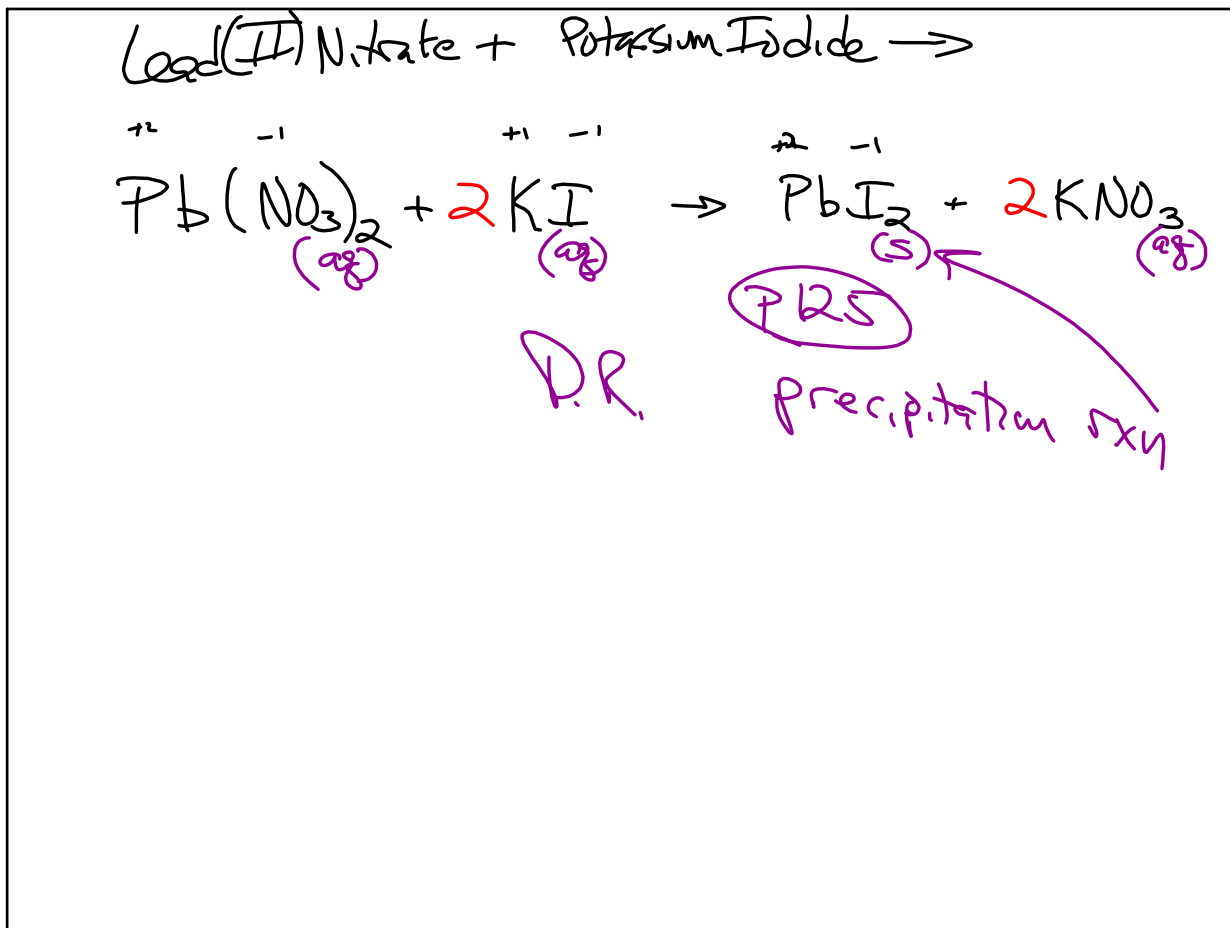
<u>SA</u>	<u>SB</u>
HCl, HBr, HI	Group 1 (OH)
HNO ₃ , H ₂ SO ₄	Group 2 (OH) ₂
HClO ₃ , HClO ₄	Ca (OH) ₂
Dissociate ≈ 100% good conductors	Ba (OH) ₂
	Sr (OH) ₂

Sep 27-8:52 AM

(P125) Solubility in H₂O chart.
 ↳ GIVEN!

(P141) Activity Series.
 Single replacement rxns.

Sep 27-9:00 AM



Sep 27-9:05 AM

Concentration of soln of ions in soln

M Molarity (M) = $\frac{\text{moles of solute}}{\text{l of solution}}$

m molality (m) = $\frac{\text{moles of solute}}{\text{Kg of Solvent}}$

Sep 27-9:12 AM

1.5 M NaCl(aq) → want 250ml
 — g NaCl needed.

Make 250ml of 1.5 M NaCl(aq)

Start off ^{TOTAL volume} less ≈ 150, then add (s), then top off to 250 ml

Use FLM

1.5 M → 1.5 mole NaCl / 1 l soln

1.5 mole NaCl	0.250 l	58g NaCl	= 21.75g NaCl
1 l		1 mole NaCl	

Sep 27-9:16 AM

Dilution

Moles start = Moles end
 $M \times l = M \times l$

~~$\frac{M}{l} = \frac{\text{Moles solute}}{\text{l solution}}$~~

Moles = $M \times l$

Sep 27-9:23 AM

12M HCl
Bottle cap.

Make 500ml
6M HCl

moles start = moles end

$$M \times m \ell = M \times m \ell$$

$$(12) (m) = (6) (500)$$

250ml 12M
+ 250ml H₂O } → 500ml
6M soln

Sep 27-9:25 AM

Want 250ml 3M NaOH
have 15M NaOH soln

moles start = moles end

$$M \times m \ell = M \times m \ell$$

$$(15) m \ell = (3) (250 \text{ml})$$

Need 50ml 15M NaOH
+ 200ml H₂O

Sep 27-9:28 AM

PS 4-1

Skip 17+24

Sep 27-9:33 AM