Ponavljanje- soli

1. Objasni pojmove!

KATIONI\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ANIONI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SOLI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

HIDRATNE SOLI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.Kem. jednadžbom prikaži pirolizu modre galice:

CuSO4 • 5H2O

Soli koje sadrže vodu zovu se soli,

npr: FeSO4 • 7H2O želeljezov (II) sulfat heptahidrat = zelena galica

CaSO4 • 2H2O kalcijev sulfat dihidrat =gips

MgSO4 \* 7H2O magnezijev sulfat heptahidrat

3. Imenovane spojeve ispravno zapiši kemijskim formulama. Odredi valenciju metala i kiselinskog ostataka:

a) Aluminijev fosfat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b) Natrijev nitrat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) Kalijev sulfat \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d) Kalcijev klorid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) Željezov(III) sulfit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f) Bakrov(I) klorid \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Popuni tablicu!

|  |  |  |  |
| --- | --- | --- | --- |
| **FORMULSKA JEDINKA** | **KATION** | **ANION** | **IME SOLI** |
| NaBr |  |  |  |
|  | K+ | NO3 - |  |
| CaSO4 |  |  |  |
|  |  |  | magnezijev nitrat |
| ZnCl2 |  |  |  |
|  | Na+ | HCO3- |  |

5.Napiši disocijaciju (razlaganje na slobodne ione) i imenuj produkte.

a) H2SO4

b) H3PO4

c) Ca(OH)2

d) NaOH

e) Na2SO4

f) CaSO4

g) K3PO4

h) NaNO3

i) CaCO3

6. Navedi kemijske reakcije kojima možemo dobiti soli!

1)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. **Dovrši** jednadžbekemijskih reakcija, te **imenuj** produkte.

a) \_\_CaO + \_\_HCl 🡪 \_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) \_\_Zn + \_\_H2SO4 🡪 \_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) \_\_Mg(OH)2 + \_\_HCl 🡪 \_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) \_\_Fe + \_\_S 🡪 \_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e)NH4OH + HCl → \_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f)Ca(OH)2  + H2SO4 →\_\_\_\_\_\_ + \_\_\_\_\_\_\_NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

g)Cu + HNO3 →\_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

h)KOH + H3PO4 → \_\_\_\_\_\_ + \_\_\_\_\_\_\_ NAZIV PRODUKATA:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.razvrstaj spojeve: NaOH, CaO, Al2O3, CuCl2, Al(OH)2, H2SO4, LiOH, H3PO4, Ba(OH)2, Na2SO4

oksidi:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

soli:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

hidroksidi:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

kiseline:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Kiselost otopini daju \_\_\_\_\_\_ ioni, lužnatost otopini daju \_\_\_\_\_\_\_\_\_\_ ioni. Odredi kakve su slijedeće otopine.

OH-  < H3O+

OH-  > H3O+

OH- = H3O+

10. Napiši slijedeće kemijske jednadžbe. U jednadžbama piši agregacijska stanja

a) žarenje vapnenca\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) vezanje žbuke\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) dobivanje sumporne kiseline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) dobivanje kalcijevog hidroksida \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) nastajanje špiljskih ukrasa(siga) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f) Dokazivanje ugljikova dioksida u izdahnutom zraku pomoću vapnene vode\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.Kemijskom analizom nepoznatih uzoraka Matija je dobio sljedeće rezultate:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **UZORAK** | **DOKAZANI KATION** | **DOKAZANI ANION** | **FORMULSKA JEDINKA** | **NAZIV SPOJA** |
| **1.** | Na+ | PO43- |  |  |
| **2.** | K+ | SO32- |  |  |
| **3.** | Fe3+ | NO3- |  |  |

Matija je ubrzo nakon otkrivenih iona riješio formulske jedinke i imenovao spojeve koji su bili u uzorcima. Rješenja nadopuni u tablici!

Uzorak broj 1 dobiven je reakcijom metala i kiseline. Napiši odgovarajuću jednadžbu kemijske reakcije za dobivenu sol 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Uzorak broj 2 dobiven je reakcijom lužine i kiseline. Napiši odgovarajuću jednadžbu kemijske reakcije za dobivenu sol 2:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kako se zove karakteristična reakcija kojim je dobiven uzorak 2? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Uzorak broj 3 dobiven je reakcijom metalnog oksida i kiseline. Napiši odgovarajuću jednadžbu kemijske reakcije za dobivenu sol 3:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Matija je otkrio da se u sva tri uzorka radi o karakterističnoj skupini spojeva. O čemu je riječ i zašto?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_