



## Handwritten Notes

## On Salt Analysís



\* Salt Analysis × \* Deutification of Cation and anion in given Salt is called galt malys/s. For Ex1 Nac -> Nat + UD (cation) (anion) (Basic (Radical) (Radical) Salt Analysis Identification of acidic Radicos or anionic > I dentification of Basic - Radical or cation. by wet test. 1 by wet test 2 doug test 3 flame test \* By different test method coloure Pripsipate are formed specific ges is Produce, colour Complaxes are formed and some other observer changes are obtained \* Property bases analysis is called Qualitative For More PDFs Visit: LearningMantras.com

\* Enterfering Radical: There are some anions which act as interfericap Addical during the test of cations. because their Presence in aq. Solution does not gives test et correct informations about cations. So, that they are called interfering radical for 8x1 Poy, Boz, C204, FO \* Note = In salt Anaylais anions and identified because their are some anions which act as interfering undical. If any Interfering unadical is Present, they are must be nemoved before the intentification of Cations. \* classifications of anione? For More PDFs Visit: LearningMantras.com

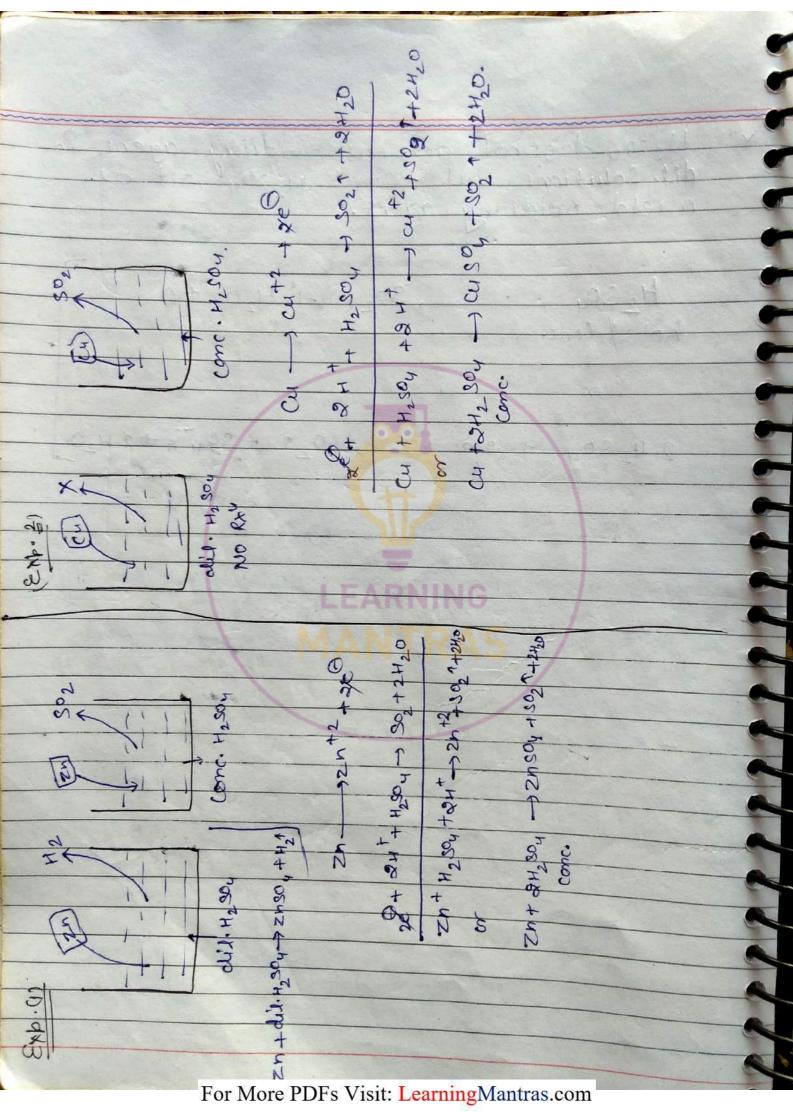
\* classifications of Anion 1 Anion Class-I Class-II which does not bradery Which Bodyce Volatile volatile Product with H259 Product with H2 Soy) > Subgroup-I (Identification by Subgroup -I Subgroup-1 PPt method) ( Concy. H2SOy) chil. H2SOU Soy-2, ASOY Poy -3, Croy -2 CO2 (carbonate) Ci chloride) Br Bromide) HCO2 (bicarbonate) f ⊖ (fod ide) > Sybgroup - II fo (floride) ( I den tified by Redox Sog-2 (Sulphite) HS03<sup>6</sup> (bi Sulphite) S203<sup>-2</sup> (thioSulphate) Rx4) C20y-2 (oxalate) Boz=3 (Borate) Mnoy , Croy-2 (yellow) S-2 (Sulphide) No2<sup>O</sup> (Nitrite) CH3COO<sup>O</sup> (acetate) (NOS (Nitrate) (Purple) Mnoy-2 cr207-2 (orange) green \* Some Labouratery Reagents? 1) Chemisty of H2 Soy ? Prepration of H2SOU by Contact Processo 3 + 02 burning Son 2FEST 102 Moasting Feros 1450 1 SFES2+ 11 02 Roasting frezog + 450, 4 For More PDFs Visit: LearningMantras.com

SO2 + 1 02 V205 /Pt, SO3 SO3 + H2 SO4 oleum  $\frac{11}{10} + \frac{11}{10}$ \* So2 is starting Harterial for the Prepration of H2SO4 and is produced by Conbustion of Sulpher and rearting of Fe S2 (fool's gold) \* Soz wed in contact Brocess must be free from Empurity of An . So, that Hydrated Fearic Oxide (Fearings used for Puppere (It abiorhe Impusity of Ar.) \* Soz Broduce fogg Over the Surface of water. So that it does not disso/we in the 420 \* Soz dissour in H2 soy to Boduce oleum \* Properties! I Acidic Properties! H2 SOY is a strong Acid. So that a it react with basic galt, basic oxide, and amphetenic Oxide

metal on a - Ban'c. full refaillion fur Kare (D) CaloH)2 + H2SOY -> Casoy +2H2O (2) BOO + H2SOY -> BOSOY + H2O (3) ZNOT H2SOY -> ZNSOY + H2O 4) NO2 CO3 + H2SO4 -> NO2 SO4 + CO2 + H2O 5)2NOHLO3 + H2SOY -> NO2SOY +2CO2 T +2H2O 6)  $k_2 S O_3 + H_2 S O_4 \rightarrow k_2 S O_4 + H_2 S O_3 \rightarrow S O_1 + H_0 T$ ~ (7) N92S203 + H2SO4 -> N92SO4 + H2S203 -> D , SO2 ++ H20+54 turbitity 8) Fest H2Soy - fesoy + H2S 1 Motten egg smell 9) 2 ch3 coo Na + H2SOy -> NO2SOY +2CU3 COOH Vinegau smell A1012NO.NO2 + H2SOY - NO2SOY +241 NO2 (3HNO2 disproportionation HNOg + H20 +2N0) colousley 1+0, 1) 2 tcl + H2 SO4 -> K2SOy +2HCP 1 NO, Pungent Browngal conce. Emell. For More PDFs Visit: LearningMantras.com

(12) 2 NONO3 + H2SQ, >> PNO, SOY +24 NO3 comch (2HNO, A, 2NO, + H20 + 102) Brach fumes (2) Dehydrating property? H2Soy has great affinity for H20 So. it is good dehydrating agend (1) C12 H22 O11 Conci H2 SQ4, 12C cane sugar. - 11 H20 12C C6H, O6 Comet H, 504 6C glucose -6H20 2) (3) HCOOH Conc<sup>4</sup>. H2SO4 CO A formic acid - H2O 14) H2(204 Concn. H2SO4 CO + CO2 1 oxalle acid 3) Ocidising Property 5.76 For More PDFs Visit: LearningMantras.com

H2Soy does not act as Decidising agent in dil. Solutions. But conc H2Soy act as × mield oridising agent. , SO2 (1) + H20 TO H2Sq. hot & conc. or 2H2SOU + 20 , SO, + + SOU + 2H2O. V. For More PDFs Visit: LearningMantras.com



ote: A A Metal Place about Ht in Reactivity series, Broduce Hydrogen ges and metal emphate with dil. H2007 2) All the metal React with conc. H2Soy, their Boduce Metal Sulphate + SO2 Except, Au, pt. 3) Non-metals are oxidised by conc. H2 SOy and Produce 'ic' acid and so2 (S-> SO2) AAA Write the Balance RAY of Nace, NABT & Nas A-Awith Conc. H2 Soy Respectively. Hdig, NOU + H2SOY -> NO HSOY + HC/1 pungant conc Nacl + Concr H2S04 2Br -> Bry + 20 Brz 20+2H++H2S04 - 1 SO2 + 2H20 Brown 232 + 24 + + H2SO4 - Br2 1+ SO2 1 NO Br-+ +2+1,0 conch. H2S ay 111119 For More PDFs Visit: LearningMantras.com

fretall on AU Races quel thered Q10-112+200 Violet Vapour 2/0+2H + H2SOY - SO2 + 2H20 20 + 2 x + + 200 - 1 I2++ 502 1 = Nal Conc. +24,0 TITI Conc. H2 SO4 Reducing for Calker < 10 Strength 444 Note · Oxidising strength of Conc. Hosoy A is sufficient to goin e from ID and Br but not sufficient to goin & from CP. So that salt of ID Br, CP fraduce I2, Br, and HCl mespectively with conc. Hosoy (FD) HF \* chemistry of HNOZ : [Nitric acid]: 1) Barkeland Eyde Proces: N2 + 02 Electric 2NO start 2NO + 02 - 2NO2 2NO2 + H20 - HNO2 + HNO2

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mether base Ity stable SHNO2 disproportionation HNO3 +2NO + H20 Ostward Amminia Process: 2NH3 +302 Pt/Rh (atalyst) 2NH3 +302 Pt/Rh 2NO +3H20 NH3 # 72NO + 02 -> 2NO2 RNO2 + H20 -> HNO3 + HNO2 3 HNO2 - disproportionalin HNO3+ 2NO + H20 \* Properties of HNO3 = [] Acidic Property! 1) KOH + HNO3 -> KNO3 + H20 (2) Cu0 +2HNO3 → CU (ND3)2 + H20 (Cuphric Black colour) (3) fe203 +6HNO3 → 2Fe (NO3)3 +3H20 14) ZNO +2HNO3 -> ZN (NO3)2 + H2U 15) P50 + 2HNO3 ->Pb(NO3)2 + 420 (6) P502 + HNO3 -> 171Na2 CO3 +2HNO3 -2NANO3 + CO2 + 7 H20

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N20 D (8) NOHCO3 + HNO3 - NON03 + CO2 1 + H20 \* Oxidising Property? \* HNOZ is a strong onidising agent. its oxidising Strongth increases with concu. and temp. \* Redox Product of HNO3 depends om i) concentration ii) Temp. (iii) Types of Redusing Agent. V. dilo HNO3 metal ni brate + NH3 (6%) (NH4) (NHy NO3) dil. HNO3 metal nihate + N20 204. [Nimus 0 Metal -[ Metal Place in ( Nimus Oxide) (Lablyhing gas ) Reachivity inseries Metals have tour SRP) Concy HNO3 retal Nitrate + NO2 70.1. - (Nibrogey d'oxid) V. dil· MNO3 X dil. HNOZ metal minimate + NO Metal metal Place below in reaching series or Metals which have conce. HNO3, metal nitrate + NO2 the SRP) for Ep: cu, Hgi Agada For More PDFs Visit: LearningMantras.com

NHA >> NHYNON \* Non metals/ metalloids: + HNO3 - , 'ic' + NO2 (onc") \* Exceptions! D Aulpt does not search with HNO3 (2) Aller do not dissolved in Conc<sup>4</sup>. HNO2 due to formation of Passe or Prochectedlayer on Sulface (including fet HNO2 -> X (Prochected Boy. (ayer of ortale Fezos (3) Mg/Mn +HNO3 - + H2 + Hg(NO3)2/Hh(NO3 (14.0724.) MIRX of PS with HNO3 are similar to cu V. dil HNO3 SA(NO3)2+ NHYNO, 5 SA dil. HNO3, Sn (NO3)2 + NHy NO3 Sn. Concu HNO3 H2 Sn 03 + NO2 (meta stawicacid) ( water insoluble)

\* Note: At metal / Non- metal / compound/ ketalloids + Conc. HNO5-> NO, 1 (always) Que vouite the Balance Kx" of Q U En + V.dil. HNO2 3) ZA + CONC. HNO2 . 4) Cu + conc. HNO2 -5) Ag + dil HNO3 LEARNING 6) P+ Conc. HNO3 7) Sn + Conc. HNO3 D un 2n - 2n+2 + 20 8 C + 8 H + + HNO3 - 1 NH3 + 3 H20 42n+8nt + 4NO3-1 42n+2 + MNH3+3H20 ON 421 + 10 HNO3 - ) 421 (NO3) + NH4NO3 + 3260 For More PDFs Visit: LearningMantras.com

-) z n+2 + 20 xy (2) Zn 8+ + + + + + + NO2 - + N20 + 5H20 UZNT8HT T2HN03+ > 42n+2+N20+540 42n+ 10HN03 -1 42h (NO3)2+N20 75420  $zn - jzn^{+2} + ae$ 3 JEFHT+MNO2 -> NO2 + H20 72 Zn + 2H++ + 2HNO, -> Zn++ 2NO, +2H,0 OU LEADNING 2n+4HNO, -> 2n (NO3), +2NO, +2M Cy -, Cy +2 - 20 9 2× + ++ ++ ++NO3 - 1 NO2 + H20 CUTQUT + 2HNO3 - CUT2 + 2NO2 + 2H20 Cy + YHNO2 - 1 CU (NO3)2 + QNO, + 2M,0

15) Ag - Ag + P ) × 3 30+ 34+ + HNO3 - NO +240. 3Ag+3H++ HNO3 -> 3Ag+ + NO+2H20 as 3Ag+ 9HN03 - 3Ag(NO3) + NO +2420 \$ ( + @ + 4 + HNO3 - ) NO2 + H, O P+ 5+ NO3 - 1+3 POy + 5NO2 - + H20 ) 37 A Sn - ) H2 Sn 03 + 4H + 40 4 & + + + HN 03 - > NO2 + H20, Sn+ 4HN03 - H2 Sn 03 + 4N02 + H20 For More PDFs Visit: LearningMantras.com

JA Que + Drite the Rxy of Hy with (i) dil. HNO3 VII) Conc. HNO2 dij. HNO2 Concu. MNO3 2Hg+2 R.A. > +19+2 +19 Hg NO2 No Note : (0.A) dil. HNOZ R.A 52 re Bre Br2 Soy-2 80,2/502 5 ( 388) H25/52 Fe+3 # Fet 2 NO For More PDFs Visit: LearningMantras.com

\* chemistry of 152Cr of " (Rottessium dichoronate)  $k_2 cr_2 o_7 =) 2p^{+} + cr_2 o_7^{-2}$ hybad3s 0/10 0/11 00 0/10 0/11 00 Trepration from chromite ore : feo. cr203 feo. Croz = chromite cra = chromate cra by -2 = dichromate \* chromite Process'-Feo. cr203 fused with Na, co3 + 02 fejoz + Nazcroy 1.021 + wate T fe200 Sel" of Naz Cray (Yellow) of of uble residue For More PDFs Visit: LearningMantras.com

Soly of Na (roy (Yellow) Soluble feros Conch. H2SO4 Cem Naz (2 07 + Nazsoy (orange) AKO K2Cr2071ag) + Nocl (P.P.t) ( arronge) filterate off 1 cm , cooling K2 Cr207(S) Orange crystal, Note: In above Process Nazons is used but not K2 CO3 because Solubility of K2 Cr207, on Na soy is almost equal k2 cm of does not obtained in Rule form In labouratory standard dol" of \$200, is used because Nazeroz absorved moisture mpor feus se stil concu. HNO3 added in Keray sol they A) Cr is oxidised to crt7 B) or is reduce to cr +3 Cr2072 and the one Broduce d) cr207 2 and cr+3 are Produce For More PDFs Visit: LearningMantras.com

medium elcid dichsomate K2 Croy + HNO3 Conc! Ph76 acidic JCB Oy PhLY Znt => (r20-2040 orange Soly augu Yellow Soly of Cro-2 of cr, 072 0 0 0 2HO 120 00 at PH-4 to 6 chromate and dichromate ions aue exist in eq3. but in strongly cicidic medium orange cr207<sup>2</sup> ions exist in doly In albyline median relions croy 2 ions exist In sellow sal' of chromost Can be Converted into dichromate by the addition of non redusing acid lite H2SO4, HNO2, Heloy and Chiscoot. For More PDFs Visit: LearningMantras.com

\* roperties of K2 (m2 07 = Oxielising Roperty: C C C C C C C C T T T T T T Cr207-2 act as oxidising agent in acidic medium 60+ 14H+Cr20-2 2(8+3+7H20 aronge green O.A tG. Cr20-2/H€ (orange) 20 NOS XC X, Soy-2 02 -2 503-2 Soy Soy-2 502 S ( \$ 58) H25152 S203-2 504-2+5 fet2 Bro P2 Brz - Snty NOD. Cn Looy ch3-ch2 ion cr +3(green)

Q. White the balance kpy of k2 (rga p with soz det that + 0r 07 -2 -) 2(r+3 + 740 ) 240+ Soz - 3 Soy + 44 + 12 2H++ (r2012+3502 - 2Cr+3+3304-2+H20 orange. Quer cohad happen when H202 added in Acidic medium of 120207. Oz H202/H® standing +3 dark blue HØ Cr. 01 -2 green Cr05 (cr0(02)2 orange -10 +2 -10 +1 +6. 34/6 20+ Cr2 03-2 - 32(r05+ 100+6+0+80) 20 + 24 -+H202 - 12H20 + HOD JXY Cr2072+ 2H++4H202 -> 2(ros + 5H20 For More PDFs Visit: LearningMantras.com

7 minuel Effect the s place. Reading \* When orange sold of K2 Cr2 of treated with H202 in acidic meetium it Produce down colocir comp. cros \* (rog is unstable so it decomposed on Steinding and it broduce green self of cyt3 and 02 \* on addition of Priplane THF, anylaichohol (CH3-CH2-CH2-CH2) Stabalised The darp blue colour of green colour starting ×2(×05 - (×203 +202 (green colour) Substeince Cr203+6H - 12Cr +3+3H,0 (green Soly). ( Kmno, (Potessium magnitate): Dur! Mno, + KOH Ausedwith Black eir@ KNO3 Product what is colour of Product? D violet (A) Black (B) Brown Product = K2Mnoy ( Potassium les magnete) For More PDFs Visit: LearningMantras.com

Breforaxation ( from fysoloite): Mno2 + KOH + 102 Furdat K2 Mnoy + H20 Conversion of Mng<sup>-2</sup> to Mnoy Delectrolytic Method Mnoy electrolyte Hnoy + e D By Ozone Mnoy 03, Mnoy 0+02-(2 kgmnay + H20+03 -J2rmag + 2kon + no 3 By cl2! 2k2 mnoy + Cl2 - 12 km hg + 2kcl (molten form) Properties of Kmnoy ! KHNOY is a strong osidising agent is labouratory. It is used in many oxidation It is used in diff-diff. medium as q Oxidising agent. 50 tont + MNOy acidic Mn+2 + 4420 Burple Sort Light pill colonned

50 FUNT TMNOG Banc MNO, + 21,0 + 4000 poly m 2 (Tyon) cino BE + 2n,0 + Mnou Basic Mno2 + 4000 Pulple Let Brow prt. 5 & + Hnof stringly Hnq-2 basic sold green KMnoy is audic sol ( Oxidising property). Mno 14 (O.A)  $C_{2}$ , X $C_{2}$ ,  $Q_{1}^{-2}$ , ( $S_{3}^{-2}/S_{2}^{0} \longrightarrow S_{4}^{-2}$   $H_{2}S/S^{2} \longrightarrow S_{4}^{-2} \longrightarrow S_{4}^{-2}$   $S_{2}^{-2} \longrightarrow S_{4}^{-2} \longrightarrow S_{4$ x0 - 1 K2 (K2=C12, 18r2, 12) fe +2 - fet3 Not Noz Sn+2 ---- Sn+4 M3C-CM2 - S CM3 Coon M201 - 02 +2 Mn For More PDFs Visit: LearningMantras.com

AAAA! a prite the Balance 200 of pm noy with oxidic action 50+840 + pmnoy acidic Mn+2+4P120 ] ×2 5x { (204 -2 202 + 20 16H++ 2Mn0y + 5020+2 60'C, 2Mn+2 8H207 Mn+2 10002 certalyst A favorable temp. for the rxy b/w Hnow us croy 2 60's so that initially heating is required for communitation of rxy But ence rxy is completed no further heating is required because hxy is catalyse by Hn+2 (seef Catalise rxy For More PDFs Visit: LearningMantras.com

Learn state group eterno A. when the neget with altypine such of times it body (11) Kmnoy in Basic mediums Mnog DHO \_\_\_\_\_\_, to, O \_\_\_\_\_ CM2 - CM2 H2C=CH2 in on \_\_\_\_\_, S202 -> So\_-2-Mno, but in acidic som HNO 0/HO mnth Note! 99. solu of kmnoy is stored in dark coloured Bottle to Brevent sun light secause Emnay sol" is decombore to mnoz and oz end Rx" is catalysed by sunlight Mno nr Hno2 + 02 so that standard son of knnoy is used in labouratory in many Polymatric titration Rry. For More PDFs Visit: LearningMantras.com

(A) Block Qui what happen when Kmnoy gold is bailing. in excess amount of boll or strongly albyla medium. ++6 +7-Ang: boiled with kott > Dark green KMNOU / KOH K2mnq Purple lexcess stable in quel When Kmnoy Sol" is boiled in strongly allegen Solution it Produce don't green colour solution due to fermation of K2m noy and evaluation of 02 A when knng del' is boild in strongly alkyly soly it boduce dark green colour compound kampen kampa is stable only strongly alough sol". So that on addition of water or on addition of acid or less Bassic medium, Keming is disproportuate to Kmnoy and mnog Ombortant Mnoy -> mnoy + e ]x2 20 + (4+0) + HNO4 -2 - 1 MNO2 + 24/0 + 40+0 4H20 BHINDy -2 + 2H20 Less Basic sell' 2400 6+ 400, +400 disproportionation Rx4 For More PDFs Visit: LearningMantras.com

Kenthy effert due: Why crystall of princy is not added in concu. H2 Soy ms: - Yellow oil dig. > mn207 (explosive) kmnay (s) Conch. H2Soy 2KM noy to H2 Joy -2KH Soy 2H MNOY Permanic 6 Per magnic quid 2HMDy -H20 Mh207 -H20 ( Mhydried of ) Permagnic acid ! Q: write the heating effect of ( F2Cr207 2 k 2 Cr 2 07 - 12 k 2 Cr 04 + Cr 2 3 +3 12 02 ( orange) (Vellow) (green) (lacic modium) 2 rmnoy -A K2MNOy FMNO PO2 (green) (black) dar Pulple almest black) , H, O Kmnoy For More PDFs Visit: LearningMantras.com

Proportant ~ ( Trothermic Brocess) +6 (3) (NHy)2 (r201 - A, N217+ Cr 03 +4H20 Amonium ( orange ) Dichromate ( solid) green Rowdert This Rr" is used for making artificial volcano (4) NH4ND, 1 N12 + 2H20 15) NHY NO3 - N20 +2H20 \* Chemistry of NOOM : (costic Joda) HC (Sadium hydroseide) Na \* Prepration of NaOH: Castnes pellnes cell? graphite anado 1.2 rcl2 NataB H+ OHO 1, +12 5- 420 19 Coduado => NOOH (92) -49(2) 5 Pump Hay

non metar + Audri Soluble of Manneeras at Cathode (-) =  $2NO^{\dagger} + 2e^{\Theta} \longrightarrow 2NO$ 2NO + 2Hg  $\longrightarrow 2NO - Hg$ 2 Na - Hg +2H20 - 2Nam + 2Hg + H2 T Loam \* hoperties of Naby-O Basic Property -D 2Noion + Co2 - Na2 CO3 + H20 Base: audic Sod. carbonate (Soluble) (Soluble) 2) 2Naon + soz , Nazsoz + 1/20 Bare gaid Sod-surphite (Soluble) (Soluble) 32 NOOH + H2SOY Base acid = Na2 SOY +2H20 Sed- Swphatt (Soluble) U) gNaon +2no base Campho.) -> Ng22002 +H20 sod. zincate (Na2[zh (0H)4] \_\_\_\_ Na22no, +2120)

Amphokuic oxide 1 Beo, 2no, Al203 1850, Pbo, Sno, Snoz, Gazoz, Gazo prid ampino and nyoh and Some ox ide of As and Auchinony(Sb) (Cr203 , Mhoz - Na, P50, +24,0 5) 2NOON + eb(Delle ----(sod plumbite base ( ampho.) Naz [Pb(on)y] 2 Ball acid Sof chromate DNOON + NHUCH > Nacl + M20+NM2 + Ease salt lungent smell B) NOON + PHyf NOIT + HOU + PH3(T) Ban bet Sotten fish asmell a) 2NOON + A1203 -2NG Alo + H20 base (ampho. ) FARSod. meta aluminate \$ Olyble A. All Amonium and Phosphium salt Produce amonig and that phile the respectively with except of Noor - and ton strong Base like waan & KOH torrally with galt: @ Saltwhich hoduce PPt with encer of Naon D Cusoy tonan - Culonz + + Nazsoy light blue PPt CACCEL For More PDFs Visit: LearningMantras.com

buff- light Auto 2 NI(NO3)2 + 2NOON - NI(OH)2 + +2NON03 green Ppt Loxcen of X (3) Mnsoy +2NOON -> Mn(on)2 + Na2soy light Pink Buff. PPt Lexcess of >X (9) CdSOy +2NOON -red (or)24 + Na2 Soy dirty coluite ppl Lencess of > X (5) MgBrz FINDON - mglon), J. +2NaBr Ouise prt Lencest of X (B) Feels +3 Nader - fe (OH)3 & P3 Nad Raddish Brodon PDI Nam day X. For More PDFs Visit: LearningMantras.com

(ii) salt do not boduce Pet of excess of Naor or Salt which Body ce ppt with little amount of NOOH Bect Soluble of in excess of Noon U ALCIZ + BNADH -> AICOH )31, + BNACL (Dhite PPt AI (OH)3 + NOON -> NO(AL (OH)4]/NO Alo2 + 2H20 Soluble excess Sod mety ( Colourley) Aluminate 2) 2nsoy +2NaOH -> Zn(OH), J + NO, SOY White ppt Zn(0H)2 +2Naon - Na2ZnO2 +2H,0 excess goluble sod · zincat (3) Pb(NO3) 2 +2NOON -> Pb(on/2 + +2NONO2 White PP1 PO(DH), +2NGM - NO, POO, +24,0 excess sod. Plymbile Soluble ( coloulen) (4) Crcl z BNOON -> Cr(OH) + +3NOCO green Ppt cr (on)3+Naon -> Na [cr(oH)4] excepts green soly

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\$ Snch +2NOON - Sn(ON), 1 - FING CP white PPI Sn(on)2 +2Ngon -> Ng25h02 + 21/20 Creen Sod. Stanite Soly 600 colour less 3) yetal ions conich Boduce osciale ppt with NOCH D 2 Ag Noz + PNOON - PAJOH + 2 NO NOZ & AgoH - 3 Ag 204 + H20 unstable Brown (Hydroxide) Brown ppt (D) Hgcl2 tanaon - Hg(oH)2 +2Nach Hg(OH)2 - Hgo 4 - + H20 Yellow () Hg2 (NO3)2 +2NGON -> Hg201 +H20+2NGN03 Black Pet. Reactions with Non-metaly-D Py + 3NOOH +3H20 dispropertionation -3 Ry -BNOH, Po, Sod. hypophophile

(2) 45 + 6Naon (91) 2N925 + N925203 +3H20 sod. sod. sulphite this sulphat 3 ×2 + Naon  $\rightarrow X^{\ominus} + X^{\ominus} (X_2 = cl_2, Br_2, \mathbf{F}_2)$ r cold/du.) Nace + Naoce " EKA: CD + NOOM x0+ x00 4 X2 + Naon -1 thof (concu.) 5 Rry with metals = hetal which form amphateric oxide search with Naon to Produce 1/2 gas and soluble sett of metal - TN + 2NO ON (av) ~ NO2 ZNO2 - + H2(T) Soch zincate Sn +2Naon + H2O - INa2 Sn D3 +2H2 1 Sod. Stannate AI + NOA + H20 - NO Albo +3H, 1 god mety Aluminate Pb+2Naon+ 420 - Na, Pbo3 +2H, 1 Jod · Plumbate