

Part Four: **INCOMPATIBILITY**

Rx

Zn sulphate	4	- White ppt of Zn polysulphides due to reaction between ZnSo ₄ and sulfurated potash
Sulfurated Potash	4	
Water ad.	100	- Intentional incompatibility
Calomel	0.3	- ppt of (Hgo + Hg) due to reaction between Znco ₃ and Ca(OH) ₂
Glycerin	2.0	
Lime Water	90.0	- Intentional incompatibility
Sodium phenobarbital	gr vi	- ppt of phenobarbital due to acidity of the elixir
Elixir lactated pepsin	f I	- Unintentional incompatibility
Atropine sulphate	0.006 g	- The physician intended that the prescription divided into 12 doses but he wrote the wrong direction
Phenobarbital	0.360 g	
Ft. Caps i mitte	XII	- <u>Call him to correct by dividing on 12 for each capsule</u>
Sig Caps i t.d.s.		
Codeine Phosphate	15 mg	- The physician intended to write q 4 h (improper frequency)
Ammonium Chloride	500 mg	- <u>it must be a dose every 4 hours not every hour</u>
Ft. Caps i mitte	XX	
Sig Caps ii q h for cough		
Benemid	500 mg	- <u>Antagonistic combinaion between probenecid and aspirin</u>
Aspirin	300 mg	ie: <u>ineffective prescription</u>
Ft. Caps, mitte	XX	- <u>Consult the physician to correct (change one of them)</u>
Sig Caps / a day for gout		
Sulphadiazine	250 mg	- <u>Contraindicated combinaion, urinary acidifiers as amm chloride cause pptn of sulpha drugs in kidney ie: renal stones</u>
Sulphamerazine	250 mg	
Ammonium chloride	500 mg	
Ft. Caps i mitte	XXX	- <u>consult the physician to change the acidifier</u>
Sig: Caps ii q 4 h for cough		
Acetophenetidin	2.5 gm	- <u>partial dose of affeine added to overcome (antagonise) the cereberal depression action of acetophenetidin</u>
Acetyl salicylic acid	3.5 gm	
Caffeine	0.5 gm	- <u>intentional incompatibility</u>
Terpin hydrate	3.0	- <u>Terpin hydrate is insoluble in simple syrup</u>
Simple syrup ad	120	- <u>half of the syrup (the vehicle) is replaced by alcohol</u>
Phenol	2%	
Sod. Sulphate	5%	- phenol will salted out by sod sulphate
Distilled water to	120	- dissolve the phenol in 10%(w/w) glycerin and add Na ₂ So ₄ as dilute solution
Ft. Solution		

Tr Nux Vomica 10
Amm. Chloride 7
Distilled water to 90
Ft. Solution

-Tincture is extract by alcohol so the extracted matter will pptate when mixed with water
-Altration of vehicle is the solution

Aminopyrine gr v
Codiene sulph gr 0.25
Belladonna extract gr 1/6
Acetyl salicylic acid gr iii
Ft. Caps i mitte XII
Sig Caps i m.d.u.

-Liquefaction (eutaxia) appears within few days due to interaction between aspirin and aminopyrine also green colour appear due to intensification of the extract color as it became wet
- add adsorbent as Kaolin or $MgCO_3$

Mg Carb. 3.75
Sod. Bicarb. 7.50
Citric acid 7.55
Distilled water to 250
Ft. Solution

-The amount of citric acid is insufficient to neutralize and solubilize both carbonates so if sod bicarb. Is reactor first with the acid some mg carb. Will be insoluble and suspension will result
- the order of mixing is important so mg carb. Is first solubilized by citric then na bicarb is added

Terpin hydrate 2 gm
Alcohol 15 ml
Glycerin 20 ml
Wild cherry syrup QS 60 ml
Ft. Solution

- Crystals of terpin hydrate will pptate as the alcohol content is not enough to hold all that amount in solution
- increase the alcohol content to 40% to obtain clear soln
- **NB:** terpine hydrate dissolve in at least 40% alcoholic soln

Ephedrine sulph 0.18
Terpin hydrate 3.00
Elixir phenobrbital to 60 ml
Ft. Solution

-The alcohol content of the elixir is (12%-15%) which insufficient to dissolve terpin hydrate
- Replace most of the elixir with alcohol and add phenobarbital to adjus the dose

Mercuric iodide gr iii
Thymol gr v
Water QS I
Ft. Solution
Sig: to be pplied to the knee

- Mercuric iodide is water insoluble also thymol has poor water solubility
- This preparation for external use so it is permissible to call the physician and replace the water by alcohol as vehicle or add KI(small amount) and decrease the amount of thymol without changing the vehicle

Ephedrine sulph 0.25 g
Menthol 0.02 g
Light mineral oil to 30 ml
Ft. Solution

-Ephedrine sulphate (alkaloidal salt) is oil insoluble
-replace the salt by anhydrous ephedrine base (oil soluble) and adjust the dose to 0.33 gr

Codiene sulph gr iii
Terpin i
Olive oil i
Ft. Solution

- The same incompatibility as the previous example
- Use the alkalodal base which dissolve in olive by gentle heating and adjust the dose then cool before addition of terpin

Strychnine HCl	0.15	- Strychnine will pptate in presence of bromides or iodides if alcohol content is less than 12% which is the case here
Sod. Bromide	5	
Alcohol	20	- Reduce the amount of vehicle to half of the directed volume to raise the alcohol ratio in the prescription to the desired ratio and use also half dose
Syrup	20	
Water to	300	
Ft. Solution		

Sod. Bicarb.	10 gm	- Solubility of sod citrate is 1/1.5 (it will be soluble here) while solubility of sod bicarb is 1/10 ie: it requires 100 ml vehicle to dissolve not 60 ml
Sod. Citrate	5 gm	
Peppermint water to	60 gm	- Increase the volume of ppepermint water to 100 ml and the dose will be one dessertspoonful not teaspoonful
Ft. Solution		
Sig: i t.d.s.		

Amm. Chloride	2 gm	- Codiene sulphate + amm. Chloride in small portion of water (water in syrup) will give ppte of codiene tannate (tannic acid from cherry)
Codiene sulph	4 gm	
Syrup of wild cherry QS	60 ml	-Dissolve both drugs in separate portions of syrup then add to fluid ounce of glycerin (as co solvent) then adjust the volume with syrup.
Ft Solution		

Sod. Citrate	iv	- On mixing sod. citrate react with Ca bromide forming insoluble ca citrate
Ca bromide	iii	
Syrup	I	-Use sod. bromide as substitute for ca bromide and adjust the dose to 2 g
Peppermint water to	iii	
Ft. Solution		

Sod. Salicylate	15 g	- Aspirin will pptate in the acidity produced bt lactated pepsin
Elixir lactated pepsin ad	120 ml	- Change the media to alkaline or neutral or add alcohol (as cosolvent) or replace the lactated pepsin by lactated elixir
Ft. Solution		

Amm. Carb.		- Gas evolution (CO ₂) will occur due to reaction between amm. Carb. and acetic acid
Amm. Chloride		- Here there is definite amount of reacting ingredients so add carbonate to the acid in wide-mouth jar and allow the reaction go to completion then add chloride and complete the volume with syrup
Dil acetic acid		
Syrup of cherry to		
Ft. Solution		

Bi sub nitrate	10 gm	- Bi sub carbonate liable to hydrolysis producing nitric acid which react with sob. Bicarb giving Co2 which my rupture the container
Sod. Bicarb,	5 gm	
Cerium oxalate	5 gm	- Here the hydrolysis rate is very slow and the it is impossible to let it go to completion during preparation so Bi sub nitrate must be replaced by Bi sub carbonate which not hydrolyze
Essence pepsin to	90 ml	