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Aim :→

To detect the presence of extra element nitrogen in the given sample (urea).

Reference :→

Dr. Jain K.S. Dr Miniyal, P.B "A Practical book of pharmaceutical organic chemistry, Nirali Pub.

Requirement :→

(a) Glassware :→ Beaker, test tube holder, Glass rod.

(b) Chemical :→ Urea, Water.

Theory :→

The behaviour of the compound towards various solvent like water. Dilute caustic soda, dilute HCl and conc. H_2SO_4 also reveals its nature. Take 0.1g or 0.2 ml (2-5) drop of the substance and dry to dissolve in 3 ml of the solvent and its solubility.

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Observation Table.

S.No.	Experiment	Observation
1.	Physical state	Solid
2.	Colour	White
3.	Odour	Odourless
4.	Solubility test	

1.	Sample + Cold water	Partially dissolved
2.	" + Hot "	easily "
3.	" + Conc. H_2SO_4	Partially "
4.	" + hot conc. H_2SO_4	easily "

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	Observation	Inference
→	Soluble in hot water and solution is acidic to litmus.	Salt of aromatic bases lower aliphatic acid hydroxy acid or Polly hydrogen Phenol.
→	Soluble in cold water and solution in neutral.	Carbohydrates or ~~alt~~ alcohol.
~~→~~	~~Soluble in hot cold dilute $NaHCO_3$ with effervescence~~	~~Starch~~,
→	Solute in hot water and solution in neutral.	Starch,
→	Soluble in cold dilute $NaHCO_3$ with effervescence	Carboxylic acid, (strongly acidic)
→	Soluble in cold dilute NaOH	Carboxylic acid or Phenol.
→	Soluble in cold conc. H_2SO_4	Aromatic hydrocarbons or Phenol
→	Soluble in hot conc. H_2SO_4 and charring occur.	Carbohydrates accident ketone or ~~Phenol~~ hydroxy acid.

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Procedure :-

i) Take a clean and dried test tube and beaker.

ii) After that 1g gm urea put in each test tube accurately.

(iii) Now heated water in beaker with the help of a heating mantle.

iv) After that we put 3 ml hot water with pipette in one ~~that~~ test tube and mark up test tube as it is with hot water.

v) After observing first reaction we done 2nd with 3 ml cold water it one gram of urea and mark that as cold one and observe it.

Result :-

The given sample of urea was observed in different sample successfully.

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