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AMINES AND UREA 09-05-2020 (Lecture-7) Deg-I (H&S)

Topic - Properties & Uses of Urea

PHYSICAL PROPERTIES

- * Usea is a non-toxic, coloubless, constalline solid.
- * Melting point = 132°c
- * It is soluble in water and alcohol but insoluble in non-hydroxylic solvent such as ether, chloroform or

CHEMICAL PROPERTIES

1. SALT FORMATION

$$H_2N - U - NH_2 + HNO_3 - H_2N - C - NH_2 = 0 - H_2 + C - NH_2 = 0 - H$$

$$\left(\begin{array}{c} + & 0 & 0 \\ + & 0 & 0 \\ + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - & - & - \\ \end{array} \right) = \left(\begin{array}{c} + & 0 & 0 \\ - &$$

2. Reaction with the Thionyl Chloride.

2.

$$H_2N - \overset{\circ}{\mathbb{L}}_{-NH_2} + Sod_2 \longrightarrow H_2N - C \equiv N + SO_2^{+HQ+}$$
Urea

Cyanamide H_2O

3. Reaction with Hydrazine

$$H_2N - U_{-NH_2} + U_{-N-NH_2} \rightarrow H_{2N-U-NH_2} \rightarrow H_{2N-U-NH_$$

4. Reaction with Acid chloride

USES OF UREA

Urea is used :-

Properties & Uses
Of Urea Completed.

- 1. In agriculture as a fertilizer.
- 2. As a protein supplement in Cattle feed
- 3. In the manufacture of barbiturates.