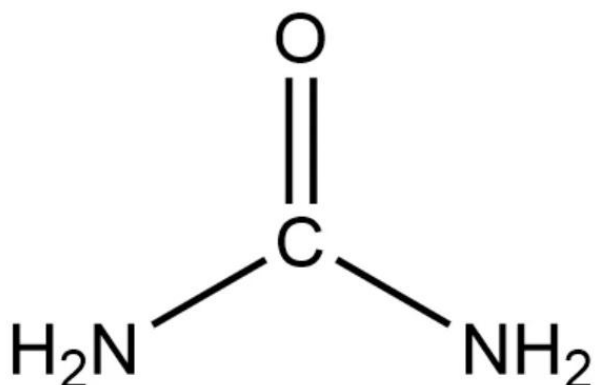


Nitrogen fertilizer urea



Nitrogen fertilizer urea



Physical property:

Nitrogen fertilizer urea is easily soluble in water. At 20 °C, 105 G can be dissolved in 100 ml of water. The aqueous solution is neutral. There are two kinds of urea products. Crystalline urea is white acicular or prismatic crystal, with strong moisture absorption. After moisture absorption, it agglomerates, and the moisture absorption rate is 12 times faster than that of granular urea. [1] Granular urea is a translucent particle with a particle size of 1 ~ 2mm, with smooth appearance and obvious improvement in moisture absorption. At 20 °C, the critical moisture absorption point is 80% relative humidity, but at 30 °C, the critical moisture absorption point drops to 72.5%, so

urea should not be stored open in the humid climate in midsummer. When paraffin wax and other hydrophobic substances are added in urea production, its hygroscopicity is greatly reduced.

Chemical property:

Nitrogen fertilizer urea can react with acid to form salt. Hydrolysis. Condensation reaction can be carried out at high temperature to produce biuret, biuret and cyanuric acid. It is heated to 160 °C and decomposed to produce ammonia and turn into isocyanate at the same time. Because this substance is contained in human urine, it is named urea. Urea has 46% nitrogen (n), which is the highest nitrogen content in solid nitrogen fertilizer.



The speed of nitrogen fertilizer urea conversion mainly depends on the quantity and activity of urea, which is affected by many factors as follows:

- 1、 The pH of soil and the transformation rate of urea in neutral soil were significantly higher than those in acidic or alkaline soil; Neutral environment is more suitable for the requirements of microbial activities.

2、 The fertility of soil. Because the content of urease in fertile soil is higher than that in barren soil, the transformation rate of urea in fertile soil is fast.

3、 Soil temperature, soil temperature has obvious effect on the transformation rate of urea.

According to the data, when the soil temperature is 10 °C, it takes 7-10 days for all urea conversion; 4-5 days at 20 °C; If the soil temperature reaches 30 °C, it can be completely transformed in only 2 days.

In short, according to the characteristics that urea needs to be transformed after being applied into the soil, in order to give better play to fertilizer efficiency, it should be applied 3-6 days in advance according to specific conditions, so as to be transformed into ammonium nitrogen in time for crop absorption and utilization.