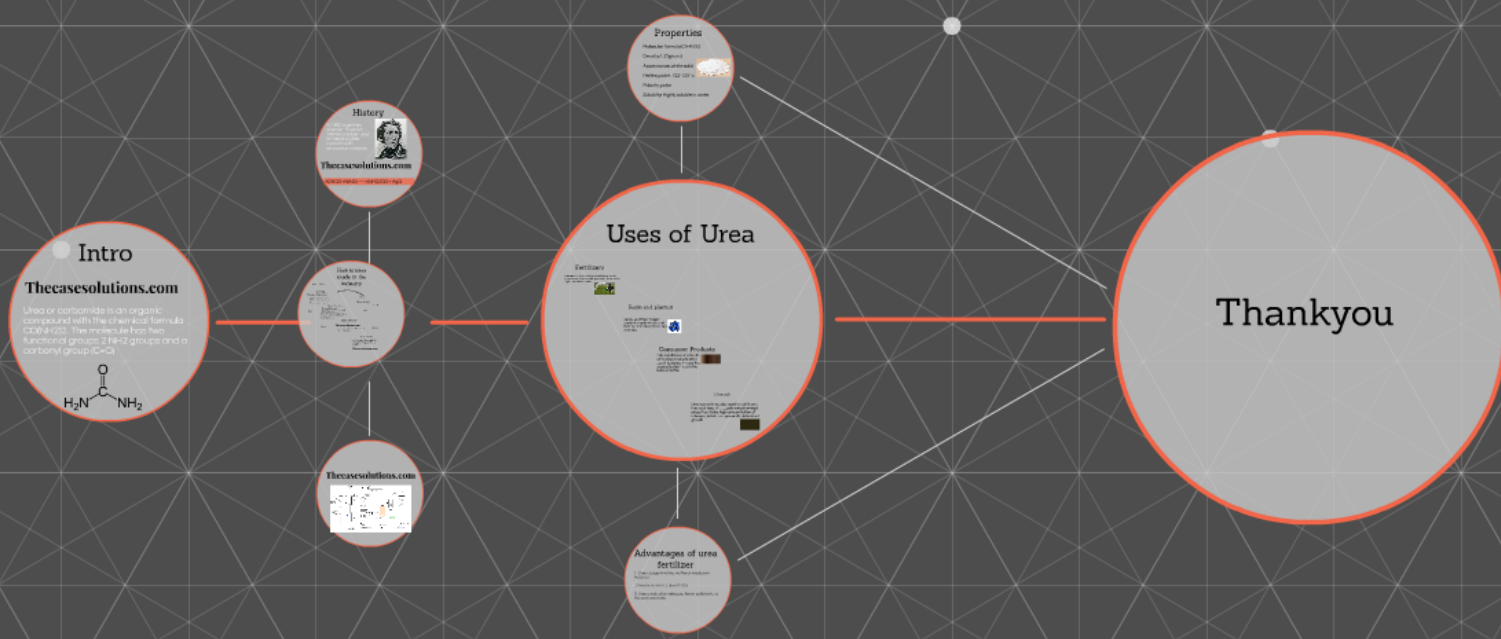


Saskferco Products Inc.

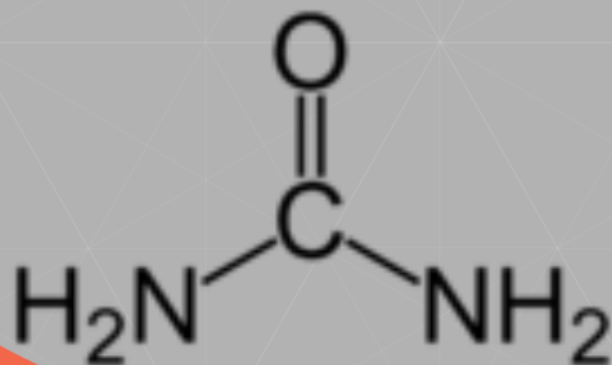
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Intro

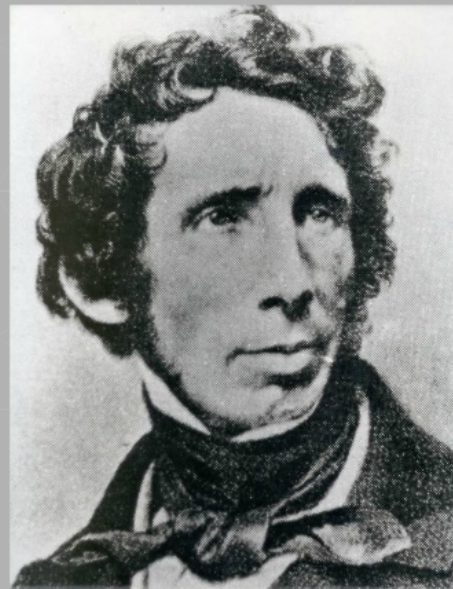
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Urea or carbamide is an organic compound with the chemical formula $\text{CO}(\text{NH}_2)_2$. The molecule has two functional groups 2 NH_2 groups and a carbonyl group ($\text{C}=\text{O}$)

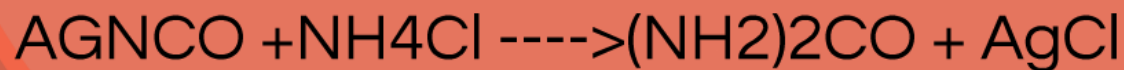


History

In 1828 a German chemist Friedrich Wohler created urea by treating silver cyanate with ammonium chloride



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Synthesis

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- carbon dioxide and ammonia are compressed at 240 atm
- 72% of the CO₂ is converted into urea
- the gases are put into a second reactor at 50 atm
- 60% of the remaining CO₂ is converted

Decompo

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2 is converted

Decomposition

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- water and any unused reactants are impurities at the decomposition stage.
- purification happens in 3 stages.
- each stage occurs at a lower pressure, 17 atm to less than 1 atm in the final stage. The carbon dioxide and ammonia escape when they become gaseous.
- These are then recycled

Conce

e final stage. The carbon
escape when they

d

Concentration

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- Urea is then heated under vacuum increasing the concentration
- Some urea crystallizes

Granu

The final product are

Granulation

- The final product are urea granules
- They're formed by spraying concentration solution onto seed granules

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