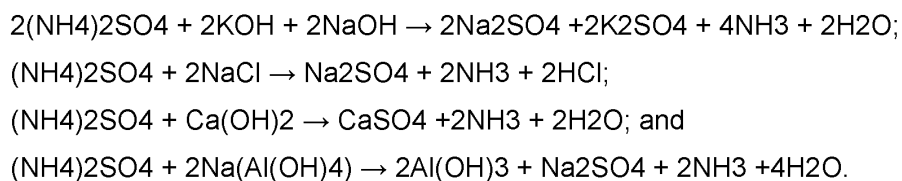


CLAIMS

What is claimed is:

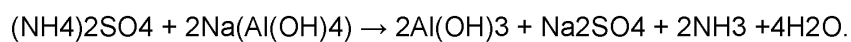
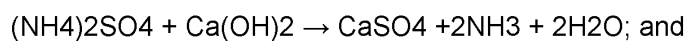
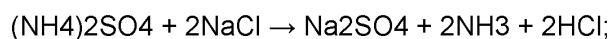
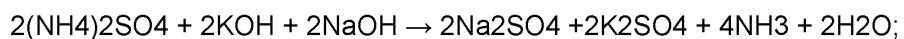
1. A system for production of ammonia, comprising:
a reactor adapted to receive therein through a first input of the reactor sulfate ammonia and a reacting agent through a second input of the reactor, wherein the reactor is heated to a temperature not to exceed a predetermined temperature to create a chemical reaction between a sulfate ammonia and the reacting agent; and
a purifier adapted to accept ammonia from the reactor and perform a purification process to purify the ammonia to a predetermined degree of purification.
2. The system of claim 1, wherein the reacting agent is any one of: a metal oxide and a hydroxide.
3. The system of claim 2, wherein the metal oxide is NaCl.
4. The system of claim 2, wherein the hydroxide is at least one of: NaOH, KOH, Ca(OH)₂, and Na(Al(OH)₄).
5. The system of claim 1, wherein the predetermined temperature is 250°C.
6. The system of claim 1, wherein the temperature is in the range of 70°C to 100°C.
7. The system of claim 1, wherein the reactor further contains therein water (H₂O).
8. The system of claim 1, wherein the chemical reaction is one any of:
$$(NH_4)_2SO_4 + 2NaOH \rightarrow Na_2SO_4 + 2NH_3 + 2H_2O;$$
$$(NH_4)_2SO_4 + 2KOH \rightarrow K_2SO_4 + 2NH_3 + 2H_2O;$$



9. The system of claim 1, wherein the system is a mobile manufacturing unit.
10. The system of claim 1, wherein the system is further adapted to provide at least one of: gas ammonia, and liquid ammonia.
11. A method for producing ammonia, comprising:
 - providing sulfate ammonia and a reacting agent to a reactor;
 - heating the reactor to a predetermined temperature to create a chemical reaction between the sulfate ammonia and the reacting agent;
 - providing the ammonia produced in the reactor to an ammonia purifier; and
 - purifying the ammonia to a predetermined level of purity.
12. The method of claim 11, wherein the reacting agent is any one of: a metal oxide and a hydroxide.
13. The method of claim 12, wherein the metal oxide is NaCl.
14. The method of claim 12, wherein the hydroxide is at least one of: NaOH, KOH, Ca(OH)₂, and Na(Al(OH)₄).
15. The method of claim 11, wherein the predetermined temperature is 250°C.
16. The method of claim 11, wherein the temperature is in the range of 70°C to 100°C.
17. The method of claim 11, further comprising:

adding water (H₂O) to the reactor.

18. The method of claim 11, wherein the chemical reaction is any one of:



19. The method of claim 11, further comprising: providing gas ammonia.

20. The method of claim 11, further comprising: providing liquid ammonia.