Chemistry

Haber process

They haber process is an industrial process used to make ammonia NH3

What is the reaction

Nitrogen + hydrogen = ammonia

- Nitrogen comes from the air
- hydrogen is usually obtained from natural gas
- the reaction is reversible so Ammonia can also break down back into nitrogen and hydrogen

Condition used temperature about 450 degree Celsius pressure about 200 atmospheric and catalyst is Iron

Why are these conditions used

High pressure There are four molecules of gas on the left there are two molecules of gas on the right high pressure increases the amount of ammonia produced

Temperature a lower temperature would give a higher Ammonia Ye but the reaction would be two slow

a higher reaction makes the reaction fasted but gives the lower Ammonia yield

450 degree celsius is a compromise between compromise rate between yield