

ABSTRACT

The present invention concerns a process and apparatus for cracking ammonia gas at super-atmospheric pressure in catalyst-filled reactor tubes in a furnace. The tubes each have an upstream layer of a first catalyst and a downstream layer of a second catalyst, the first catalyst
5 being more active than the second catalyst. Having the more active catalyst upstream reduces the temperature of the outer walls of the tubes in the region of the burner flames and the temperature of the inner walls of the tubes in the region with the highest mole fraction of ammonia. Nitriding of the metal of the tubes in this region is thereby reduced.

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(Abstract to be published with Fig. 3)