

A process for the synthesis of urea from ammonia and carbon dioxide with the formation of ammonium carbamate as intermediate wherein: the reaction step (a) is carried out in two distinct zones, communicating with each other and maintained essentially at the same pressure, of which the first operates at temperature of between 170 °C and 230 °C with the formation of the first liquid mixture and a second prevalently gaseous mixture containing ammonia, water, carbon dioxide and optionally inert gases, and the second zone operates at a lower temperature than the first, so that at least 5% by weight of the second prevalently gaseous mixture, with respect to the weight of the above first liquid mixture is transferred from the first to the second zone, with the subsequent formation, in the latter, of a further liquid mixture containing, ammonia, ammonium carbamate and, optionally, also urea, which is again transferred from the second to the first reaction zone.