



# Gasification of waste

**The kinetic reaction terms were introduced into the right-hand side of the continuity equations as the result of work on the gasification of waste.**

The medium includes several solid phases, some of which are the seat of heterogeneous reactions (pyrolysis, combustion, and gasification), a single-component liquid phase and a gas phase with 15 chemically-reactive elements. In this phase, the reactions are homogeneous and kinetically controlled. The choice fell on a global homogenization of the bed.

The transition to simulation, intentionally two-dimensional in this case, required eliminating a number of numerical difficulties related to the specificities of the problem: industrial dimensions, large number of coupled PDEs, highly reactive terms locally associated with high temperatures.