

5 Process for producing hydrogen sulfide in a circulating catalytic bed reactor

ABSTRACT

10 The subject of the present invention is a process for producing hydrogen sulfide from hydrogen and elemental sulfur, comprising the following steps:

(a) bringing the sulfur into contact with a solid catalyst comprising at least one metal, chosen from metals from groups VIB and VIII of the Periodic Table of the Elements, in metal sulfide form, at a temperature ranging from 120°C to 160°C;

(b) circulating the mixture of sulfur and catalyst resulting from step (a) in a reaction zone, in which said mixture is brought into contact with hydrogen, the reaction zone having a temperature at the inlet point of the catalyst of greater than or equal to 150°C and a temperature at the outlet point of the catalyst of less than or equal to 300°C, and a pressure of less than or equal to 3 bar;

(c) separating the catalyst and the gaseous effluents containing hydrogen sulfide; and

25 (d) recycling the catalyst to step (a).

[Fig. 2]