

ABSTRACT

REGENERATION AND STABILIZATION OF DEHYDROGENATION CATALYST

A method and associated apparatus for regenerating and/or stabilizing catalyst used in dehydrogenation of alkylaromatic hydrocarbons is disclosed. The alkylaromatic hydrocarbon (1) and steam (2) are combined to form feedstream (3) and pass into reactor (50). The ensuing product stream (4) is reheated in heater (52) to restore the heat lost and passed as partially converted reactant stream (5) into second reactor (54) and leaves as stream (6) comprising the dehydrogenation product. Restoration and/or stabilization of catalyst is accomplished by an alkali metal compound which is fed into feedstream (2) and/or product stream (5) via supply means (46 and 66), respectively. The amount of alkali metal compound entering the reactor(s) is monitored by means (42 and 62) which may in turn be coupled to activating means (44 and 64) to signal and activate the supply means. This method and apparatus permit the restoration and/or stabilization of the catalyst to be performed without interrupting the dehydrogenation reaction.

(figure 1)