section of reduced liquid velocity; reducing the liquid velocity leads to inefficient catalyst utilisation.

It has now been found that by a modification of the packed bed reactor it is possible to approximately double the effectiveness of the catalyst. This can be used to give a higher quality product and may make it possible to dispense with the finishing reactor. Even if the finishing reactor is maintained there will still be a reduction in plant and catalysts costs thereby improving the economics of the process.

According to the present invention there is a provided a liquid/gas reactor comprising:

(a) a bulk catalyst bed and means for supplying fresh feed and recycled at least partially converted liquid product stream to said bulk catalyst bed;

(b) means for collecting an at least partially converted liquid product stream from said catalyst bed and recycling at least a portion thereof to step (a);

(c) a mirror catalyst bed extending substantially vertically through the bulk catalyst bed and means for supplying recycled at least partially converted product stream only to said minor catalyst bed; ~~and~~

(d) a separating wall between said bulk and said minor catalyst bed~~.~~;

(e) a means for supplying gas to the reactor; and

(f) a means for collecting a product stream from said minor catalyst bed.

Gaseous reactant and fresh liquid feed are generally supplied to the bulk catalyst bed in step (a).

The reactor of the present invention will generally be suitable for use with an exothermic or endothermic reaction

With the arrangement of the present invention, the minor catalyst bed is supplied only with feed which has already been subjected to the reaction and therefore will be at least partially coverted. Thus the stream exiting the minor catalyst bed will provide a more-fully converted final product than in a reactor without the minor catalyst bed.

The minor catalyst bed may be in any suitable location in the bulk catalyst bed but may, in one arrangement, be located such that it is central thereto such that the bulk catalyst bed forms on annulus therearound.