

Process for preparing formic acid by reaction of carbon dioxide with hydrogen

Abstract

5 A process for preparing formic acid by reaction of carbon dioxide (1) with hydrogen (2) in a hydrogenation reactor (I) in the presence of

- a catalyst comprising an element of group 8, 9 or 10 of the Periodic Table,
- a tertiary amine comprising at least 12 carbon atoms per molecule and
- 10 - a polar solvent comprising one or more monoalcohols selected from among methanol, ethanol, propanols and butanols and also water,

to form formic acid/amine adducts as intermediates which are subsequently thermally dissociated, with work-up of the output (3) from the hydrogenation reactor (I) in a
15 plurality of process steps, where
a tertiary amine-comprising stream (13) from the work-up is used as selective solvent for the catalyst, is proposed.

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(Figure 1)