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(54) Title: METHODS FOR PROCESSING CHEMICALS

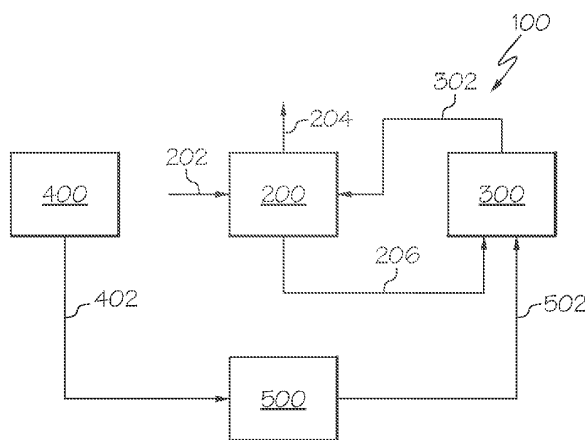


FIG. 1

(57) Abstract: According to one or more embodiments of the present disclosure, a method for processing chemicals may include reacting a feed stream in the presence of a catalyst to form a product stream, passing the catalyst to a regenerator, removing olefins from a supplemental fuel stream to form an olefin depleted supplemental fuel stream, passing the olefin depleted supplemental fuel stream to the regenerator, combusting the olefin depleted supplemental fuel stream in the regenerator to heat the catalyst, and passing the heated catalyst to the reactor. The supplemental fuel stream may include at least 90 mol.% of the combination of hydrogen, methane, and nitrogen. The supplemental fuel stream may include from 0.1 mol.% to 10 mol.% olefins. The olefin depleted supplemental fuel stream may include less than or equal to 50% of the olefins present in the supplemental fuel stream prior to the olefin removal.

[Continued on next page]

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