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(54) Title: METHODS AND APPARATUS FOR CLEANING AND/OR TREATING A SUBSTRATE USING CO_2

(57) Abstract: According to method embodiments of the present invention, a method for cleaning a microelectronic substrate includes placing the substrate in a pressure chamber. A process fluid including dense phase CO_2 is circulated through the chamber such that the process fluid contacts the substrate. The phase of the CO_2 is cyclically modulated during at least a portion of the step of circulating the process fluid.