

ON-SITE MANUFACTURE OF ULTRA-HIGH-PURITY HYDROGEN PEROXIDE

ABSTRACT

Provided is a novel on-site system and method for providing ultra-high-purity reagents including H_2O_2 to a point of use. The subsystem includes: (a) a tank connected to receive aqueous H_2O_2 and to provide a flow of H_2O_2 therefrom; (b) an anionic exchange bed and a cationic exchange bed connected to receive the flow of H_2O_2 from the tank, and to produce therefrom a purified H_2O_2 flow with a reduced level of ionic contaminants. The cationic exchange bed is preconditioned with acid and the anionic bed is preconditioned with bicarbonate ions; (c) a filter downstream of the anionic exchange bed and the cationic exchange bed; and (d) piping which routes the aqueous H_2O_2 from the filter to the point of use. The inventive system and method have particular applicability in semiconductor fabrication, for supplying ultra-high-purity hydrogen peroxide and hydrogen peroxide-containing reagents to a point of use, such as a wafer cleaning/etching stations.

Figure 1