



US006129843A

United States Patent [19]

[11] Patent Number: 6,129,843

Petty et al.

[45] Date of Patent: Oct. 10, 2000

[54] DEVICE FOR THE REMOVAL AND CONCENTRATION OF NEUTRAL MERCURY SPECIES FROM AND WATER

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[21] Appl. No.: 09/195,039

[22] Filed: Nov. 19, 1998

[51] Int. Cl.<sup>7</sup> B01D 63/06

[52] U.S. Cl. 210/321.78; 210/321.87; 210/644; 210/638; 423/109; 96/4

[58] Field of Search 210/500.36, 500.25, 210/643, 651, 500.23, 669, 634, 644, 641, 321.78, 321.87, 638; 95/44, 46; 423/210, 100, 109; 96/4; 75/388, 121

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[57] ABSTRACT

A device is provided for removing and concentrating neutral mercury species from air and water. The device includes a nonporous polymeric membrane, preferably in the form of a flattened tube, for capturing and removing the neutral mercury species from the environment and a sequestration medium contained within the tube for transforming the neutral mercury species captured by the tube into a stabilized mercury species. The sequestration medium can comprise an acidic oxidant for transforming the neutral mercury species into an ionic soluble mercury species or a complexing agent for transforming the mercury species into a complexed soluble mercury species. The nonporous membrane can be made of a number of different synthetic polymers including polyethylene. The device is ideally suited for the passive integrative sequestration of neutral mercury species from a wide variety of environments.

22 Claims, 1 Drawing Sheet

