Perchlorate has become a concern to drinking water utilities due to its presence at low concentrations in many raw drinking water sources. In the last few years a number of effective treatment methods have been employed for removal of this contaminant from raw water, and amongst the most useful is biological treatment. However, biological treatment of drinking water is not readily accepted in the United States. Whereas some countries are focused on production of biologically stable water and distribution of this water with no secondary disinfectant, the approach in the United States has been to provide a secondary disinfectant and essentially ignore biological stability of the water. Each approach has strengths and weaknesses, but little has been done to quantitatively measure the value and understand the risks and benefits of each approach. In the case of biological treatment of perchlorate, this results in a reluctance to use an effective treatment method. This and the fact that the treatment method is anaerobic only compounds acceptance concerns, especially that associated with possible carry-over of pathogens into the distribution system. Separately, water utilities in the United States are also addressing disinfectant by-product (DBP) formation and concerns associated with increased regulatory focus on DBPs. Formation of DBPs in the distribution system would be minimized if biologically stable was present in the distribution system, and at least partly for this reason there has been some growing interest in the use of biologically active filters in the U.S. For biological treatment of potable water to gain wider acceptance, a generally understood and widely accepted set of tools needs to be developed to allow for measurement and management of biological treatment and biologically stable water in a wide variety of circumstances, including perchlorate treatment. The prime technical issues and state of knowledge associated with biological treatment of perchlorate will be presented, as well as research activities to better understand and address these concerns.