

A milk factory sited at Boudouaou (40 km from Algiers) rejects a great quantity of effluent which contains soft whey. 8,000 l are treated twice a week and are rejected into a river which supplies drinking water to the town population. Some analyses have shown an increase in the water acidity and both the BDO (biological demand of oxygen) and CDO (chemical demand of oxygen) attained 40,000 and 1,800 respectively. This is due to the presence of the lactose coupled with some organic matter. In this work, the purification of water is attempted by ultrafiltration using both gamma alumina and TiO₂ membranes. Commercial mineral supports were used and their performance was compared to other supports elaborated from a natural Algerian clay (attapulgite). The results obtained have shown a good retention of lactose and total proteins giving rise to a pure water with a BDO of 90 and a DCO of 62. Moreover, the study of the influence of the pressure and the variation of the water flux has shown an improvement of the process through the use of the local clay support. Thus, this is appropriate for an economical and safe treatment of this water. Moreover, it combines a recovery of a valuable matter, which is the whey