

Use of *Moringa oleifera* Lam. Seed and zeolite filter in the treatment of textile effluent from dye shops and laundries.

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Toritama is located in the semi-arid region of Pernambuco, where water is scarce. With about 15% of the national production of jeans, the textile hub of this municipality produces a large amount of effluents from the dye shops and laundries, polluting water resources, generating an environmental and public health problem. The objective of this work was to evaluate the use of *Moringa oleifera* Lam. seeds as a coagulant associated with the zeolite filter bed in the treatment of textile effluents, aiming to present a viable alternative of treatment with biodegradable natural coagulant, to reduce the pollution load of water resources in the region. Samples of the raw and conventionally treated textile effluent from a laundry were collected and analyzed previously. In the laboratory, the treatment of the raw effluent was carried out in two stages: (i) coagulation with *M. oleifera* Lam. seed in different concentrations (1400mg / L, 1800mg / L, 2200mg / L, 2400mg / L and 2600mg / L); (ii) filtration in two types of filter bed (sand and zeolite). It was realized analyzes of the parameters color, turbidity, iron, manganese and ammonia. The conventional treatment, carried out by the dyeing company, reduced 70.30% of the color, 92.31% of the turbidity, 85.50% of the iron, 0% of the manganese and 92.89% of the ammonia present in the raw effluent. The result of the first stage of treatment performed in the laboratory indicated greater efficiency in the concentration of 2400mg / L, removing 68.82% and 67.83% of the color and turbidity, respectively. At the end of the treatment of the second stage, there was a reduction of 83.31% and 92.83% of the color, 96.50% and 96.66% of the turbidity, 50.72% and 95.65% of the iron, 93.86% and 96.88% of manganese and 93.83% and 97.63% of ammonia, respectively in sand and zeolite filters. The use of the *M. oleifera* Lam. seed associated with the zeolite filter showed better efficiency in reducing color, turbidity, iron, manganese and ammonia, when compared to the conventional treatment, performed by the dye shop.

Keywords : *Moringa oleifera* Lam.; Water treatment; Coagulants; zeolite filter; dye shops.