

Removal of Chromium from Waste Water of Tanning Industry Using Bentonite¹

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Abstract

Tanning industry is considered as one of the oldest industries in the World. which produces solid and liquid wastes, where the Chromium-containing liquid wastes are considered to be as the main liquid pollutant to the environment.

In this research, a new method is applied to remove the chromium from the industrial water wastes, which are produced by tanning industry using the Aleppo Bentonite.

The experiments on laboratory- prepared samples and collected samples from some tanning factories in Damascus have proved that chromium removal from tanning waste water is very effective for solution of 85-98 %. Moreover, the optimal conditions for the treatment process of tanning waste water by Aleppo Bentonite have determined and found to be (pH = 4, Bentonite concentration = 20g l⁻¹ when chromium concentration is 0.8 g l⁻¹, solution temperature = 30°C, and Bentonite particle size < 90 μm). However, the proposed method can be considered to be an environmental solution for the treatment of tanning industrial wastes in Syria.

Keywords: Tanning industry, bentonite, chromium, waste water.

¹ For the paper in Arabic see pages (51 -74).

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