

**EVALUATION OF DYEING AND PRINTING
EFFLUENT AND ITS TOXICITY ON FISH (*Tilapia nilotica*)
BY BIOASSAY**

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ABSTRACT

The strength of effluent from indigenous textile dye effluent was evaluated. Some basic physico-chemical parameters were determined by use of standard methods for examination of water and wastewater (American Public Health Association). Metal concentrations were determined by use of Atomic Absorption Spectrophotometry. Trivedi and Dubey method was adopted for acute toxicity to fish by bioassay to determine the LD₅₀ acute toxicity of the effluent on *Tilapia nilotica* as a means of estimating the median tolerance limit (TL_M) of the effluent on the fish. The result revealed that the effluent would have adverse effect if discharged raw into surface waters because of high pollutant concentration levels relative to FEPA standards. Out of the eight dilutions worked upon on toxicity of the effluent to fish, only three dilutions had survivals after 24hrs. Fish behaviour was noted before and after death. The experiment was replicated twice and the average value noted. The effluent diluted hundred times was still found to be lethal to *T. nilotica*. Hence, the effluent is highly toxic and it is recommended that effluent should not be discharged into the immediate environment in the raw state. Further research on economically feasible "adire" effluent treatment is also suggested.

Keywords: Acute toxicity, bioassay, effluent, *Tilapia nilotica*