**Abstract**

In India chromium is widely used in all electroplating industries. Chromium in electroplating industrial effluent has been shown to inhibit many enzymes at different segments of metabolism. Chromium especially inhibits pyruvate oxidases system and phosphatases. The present study was undertaken to evaluate the effect of effluent chromium on phosphatases on exposure to sub-lethal concentration (0.25%) for a period of 24, 48, and 72 h and 15 d. Activity levels of acid phosphatase and alkaline phosphatase decreased significantly in the gill and air bladder tissues of experimental catfish, *Mystus cavasius*, when compared with that of controls.