

عنوان مقاله:

The in vivo effect of methyl tert-butyl ether on liver, gills and kidney tissues of *Rutilus caspicus*

محل انتشار:

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خلاصه مقاله:

This study was conducted to evaluate histopathological responses in liver, gills and kidney in *Rutilus caspicus* exposed to concentrations of 50, 100, 150 mg L⁻¹ of methyl tert-butyl ether, for 7, 14, and 21 days. The experiments were conducted in water temperature of 19±1 °C, dissolved oxygen of 7.6 ± 0.2 mg L⁻¹ and zero salinity. A total of 156 fish were studied in this experiment. In the first, second and third week of the experiment, three fish were taken randomly from each aquarium. To examine the tissues, the liver, gills and kidney were isolated and prepared for evaluation using standard histological techniques. Tissue damage in the liver includes: blood congestion, congestion of sinusoid, melano macrophage aggregation, hepatocyte hypertrophy, vacuolation, degeneration and cellular necrosis. Gill tissue damage includes: hyperplasia, degeneration lifting, telangiectasis, in secondary lamellae, blood congestion in primary and secondary lamellae, S formation of lamellae, reduction in length of secondary lamella, lamellar fusion and cellular necrosis. Tissue damage in the kidney includes: tubular shrinkage, blood congestion, melano macrophage aggregation, glomerular shrinkage, cellular necrosis, tubular degeneration, reduction in interstitial cells and interstitial hematopoietic tissue degeneration. The amount of tissue damages in high concentrations of pollutants was high, while gill, liver and kidney in the control group was observed in the normal outline. The results of this study showed that methyl tert-butyl ether (MTBE) can cause damage in vital tissues of *R. caspicus* and even, eventually lead to death.

کلمات کلیدی:

Gill, Histopathology, Kidney, Liver, Methyl tert-butyl ether, *Rutilus caspicus*

لینک ثابت مقاله در پایگاه سیویلیکا:

