MACROBRACHIUM AMAZONICUM: ACUTE TOXICITY TO NITROGEN COMPOUNDS

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The Amazon River shrimp *Macrobrachium amazonicum* is widely distributed throughout South America, is amply exploited by artesian fisheries, and shows elevated potential for aquaculture investment: To establish the lethal critical concentration of total ammonia and nitrite after 96 h (LC₅₀-96 h). Adult shrimps were collected from the Rio Grande River, state of Minas Gerais, Brazil, near the Água Vermelha Dam. Individual shrimps (N=10) were exposed to 7 concentrations of ammonium chloride (30, 60, 120, 170, 200, 250 or 300 mg.L⁻¹) for 96 h or 5 concentrations of sodium nitrite (20, 30, 40, 50 or 60 mg.L⁻¹). Six replicate experiments were performed. The LC₅₀ after 96 h exposure was calculated using a Probit analysis, and was adjusted employing a linear regression (P≤0.05). The LC₅₀ calculated after 96 h exposure of *M. amazonicum* was 54.27 mg.L⁻¹ total ammonia or 30.75 mg.L⁻¹ nitrite. Based on these findings we recommend a safe level of 5.427 mg.L⁻¹ total ammonia and 3.075 mg.L⁻¹ nitrite for aquaculture production. Intraspecific genetic and physiological variation among *M. amazonicum* populations may explain the difference in LC₅₀-96 h seen between the shrimp population cultivated in the Rio Grande River and those cultivated at other facilities.

Keywords: acute toxicity; ammonia; nitrite; *Macrobrachium amazonicum*.

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