

**MORTALITAS, KELAINAN JANTUNG, DAN DEFORMASI
CRANIUM EMBRIO IKAN WADER PARI (*Rasbora lateristriata*
Bleeker, 1854) YANG TERPAPAR NAPHTOL AS-OL**

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INTISARI

Sejak batik diresmikan oleh UNESCO menjadi produk kebudayaan milik Indonesia pada tahun 2009, jumlah industri batik meningkat cukup pesat di tanah air. Namun, meningkatnya industri batik tersebut tidak diimbangi sistem pengolahan limbah yang optimal. Sekitar 81% pelaku industri batik tidak memiliki sistem pengolahan limbah sehingga sebagian besar limbah hasil pengolahan batik dibuang ke badan sungai. Salah satu kandungan limbah batik adalah naphtol AS-OL. Naphtol AS-OL merupakan perwarna tekstil yang umum digunakan sebagai pewarna kain batik. Penelitian ini bertujuan untuk mengetahui dampak paparan naphtol AS-OL terhadap mortalitas dan deformasi *cranium* Ikan Wader Pari (*Rasbora lateristriata*). Metode yang digunakan yaitu deksriptif-kuantitatif. Hasil penelitian yang telah dianalisis menggunakan uji Regresi Probit dan *oneway* ANOVA didapatkan bahwa mortalitas LC_{50} *expected* sebesar 0,070 ppm ($\alpha \leq 0,005$, R^2 0,955), edema pada organ *heart* dan *yolk* ditemukan pada perlakuan 0,05 ppm dan 0,1 ppm secara visual. Selain itu, pengamatan terhadap *heartbeat* setiap 24 jam selama 96 jam menunjukkan perlakuan 0,0125 ppm, 0,025 ppm, 0,05 ppm, dan 0,1 ppm tidak berbeda nyata tiap variasi jamnya sedangkan perlakuan kontrol memiliki perbedaan nyata pada jam ke 24, 48, terhadap 96 namun ketiganya tidak berbeda nyata dibandingkan perlakuan jam ke-72. Hal ini diindikasikan adanya gangguan perkembangan jantung oleh naphtol AS-OL. Kemudian, hasil uji deformasi *cranium* menunjukkan bahwa parameter Mangle, M-Mlength, Pqlength, Pq-Pqlength, Pq-Mangle, dan Ch-Mlength memiliki signifikansi diantara perlakuan yang diduga disebabkan naphtol AS-OL mendisrupsi *condhrogenesis* selama perkembangan larva.

Kata kunci: naphtol AS-OL, LC_{50} , deformasi *cranium*, *Rasbora lateristriata*

**MORTALITY, HEART DEFECTS, AND CRANIUM
DEFORMATION IN YELLOW RASBORA FISH EMBRYO
(*Rasbora lateristriata* Bleeker, 1854) EXPOSED TO
NAPHTOL AS- OL**

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ABSTRACT

Since batik was inaugurated by UNESCO as a cultural product belonging to Indonesia in 2009, the number of batik industries has increased quite rapidly in the country. However, increasing those batik industry doesn't correlate in linear with waste treatment system. About 81% of batik industry players do not have a waste treatment system so that most of the waste from batik processing is disposed of into river bodies. One of the contents of batik waste is naphthol AS-OL. Naphthol AS-OL is a textile dye that is commonly used as a dye for batik fabrics. This study aims to determine the impact of AS-OL naphthol exposure on mortality and *cranium* deformation of the Wader Pari Fish (*Rasbora lateristriata*). The method used is descriptive-quantitative. The results of the study which were analyzed using the Probit regression test and one-way ANOVA found that the expected LC₅₀ mortality was 0.070 ppm ($\alpha \leq 0.005$, R^2 0.955), edema in the heart and yolk organs was found visually at 0.05 ppm and 0.1 ppm treatment. In addition, observations of the heartbeat every 24 hours for 96 hours showed that the treatments of 0.0125 ppm, 0.025 ppm, 0.05 ppm, and 0.1 ppm were not significantly different for each hour variation while the control treatment had a significant difference at 24, 48, against 96 hours but the three were not significantly different from 72 hours treatment. This might be indicated by the presence of impaired cardiac development by naphthol AS-OL. Then, the results of the cranium deformation test showed that the parameters Mangle, M-Mlength, Pqlength, Pq-Pqlength, Pq-Mangle, and Ch-Mlength had significance among the treatments which were thought to be due to naphthol AS-OL disrupting condhrogenesis during larval development.

Keyword: naphthol AS-OL, LC₅₀, *cranium* deformation, *Rasbora lateristriata*