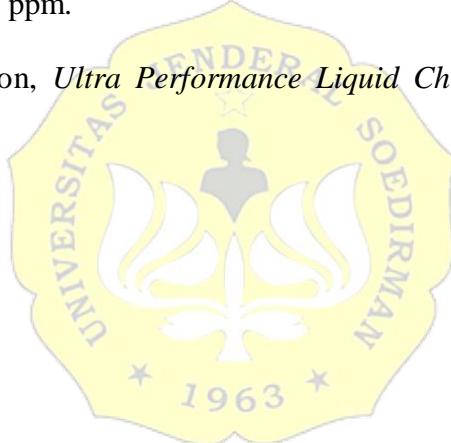


## ABSTRAK

Triadimefon adalah salah satu dari fungisida yang termasuk dalam golongan triazol. Senyawa ini umumnya digunakan untuk membasi penyakit embun tepung pada tanaman sayuran, buah dan pohon. Penelitian ini bertujuan menetapkan validasi metode *ultra performance liquid chromatography (UPLC)* pada penentuan triadimefon dan menentukan kadar triadimefon dalam sampel air sungai. Sampel berupa larutan triadimefon dianalisis menggunakan sistem *UPLC* pada kolom C<sub>8</sub> ukuran 15 cm × 4 mm dan sistem *UPLC* yang telah dioptimalkan yaitu pada kondisi komposisi fase gerak acetonitril:aquabides 70:30 (v/v), laju alir 0,3 mL/menit dan panjang gelombang 220 nm. Uji validasi metode dilakukan berlandaskan parameter linearitas, batas deteksi, batas kuantifikasi, presisi dan akurasi. Validasi metode *UPLC* menunjukkan hasil uji linearitas dengan koefisien determinasi ( $r^2$ ) sebesar 0,9996, nilai batas deteksi sebesar 3,5187 ppm, nilai batas kuantifikasi sebesar 11,7289 ppm, uji presisi diperoleh nilai KV sebesar 2,4886 % dan uji akurasi dengan nilai % *recovery* sebesar 103,5742 %. Kadar triadimefon dalam sampel air sungai sebesar 33,2481 ppm.

Kata kunci: Triadimefon, *Ultra Performance Liquid Chromatography*, Validasi Metode



## **ABSTRACT**

*Triadimefon is one of the fungicides including to the triazole group. This compound is used to eradicate powdery mildew on vegetables, fruit and trees. The purpose of the research is to determine method validation of ultra performance liquid chromatography (UPLC) and determine the concentration of triadimefon in river water sample. Sample in the form of triadimefon solution was analyzed to use UPLC system at C<sub>8</sub> column (15 cm × 4 mm) and UPLC system had been optimized is at mobile phase composition condition of acetonitrile:aquabides 70:30 (v/v), flow rate of 0.3 mL/minute and wavelength of 220 nm. The method validation test is carried out based on the linearity, limit of detection (LOD), limit of quantification (LOQ), precision and accuracy parameters. The result of UPLC method validation showed linearity test result with coefficient of determination ( $r^2$ ) of 0.9996, LOD value was 3.5187 ppm, LOQ value was 11.7289 ppm, precision test was obtained RSD value of 2.4886 % and accuracy test with recovery value of 103.5742 %. Concentration of triadimefon in river water sample was 33.2481 ppm.*

*Keywords:* Triadimefon, Ultra Performance Liquid Chromatography, Method Validation

