

ANALISIS KUALITAS AIR SUNGAI PARANGAN AKIBAT PEMBUANGAN LIMBAH CAIR INDUSTRI TAHU DI KABUPATEN MAGELANG

Oleh :

Wiwik Widyaningrum

17/408929/GE/08472

INTISARI

Industri tahu di sekitar Sungai Parangan, Kabupaten Magelang membuang limbah cair tahu ke sungai tanpa pengolahan terlebih dahulu. Masuknya limbah cair secara terus menerus dapat menurunkan kualitas air sungai. Tujuan penelitian ini adalah (1) mengkaji kualitas limbah cair industri tahu menurut Perda Jateng No. 5 Tahun 2012; (2) mengkaji kualitas air Sungai Parangan menurut baku mutu air kelas II PP No. 82 Tahun 2001; dan (3) mengkaji status mutu dan beban pencemaran Sungai Parangan.

Penelitian ini menggunakan metode *purposive sampling* untuk pengambilan data. Identifikasi kualitas air limbah dan air sungai menggunakan pengukuran lapangan dan uji laboratorium kemudian dilakukan metode komparatif. Status mutu air sungai menggunakan metode indeks pencemaran dan penentuan beban pencemaran sungai menggunakan metode neraca massa.

Hasil yang diperoleh menunjukkan bahwa kualitas air limbah untuk parameter pH, suhu, COD, BOD, dan TSS telah melebihi baku mutu sedangkan parameter warna, bau, DHL, dan amonia memiliki nilai yang tinggi meskipun tidak diatur dalam baku mutu. Kualitas air Sungai Parangan untuk parameter COD dan BOD telah melebihi baku mutu. Status mutu air sungai pada titik 1 (bagian hulu) masih tergolong baik sedangkan pada titik 2, titik 3, dan titik 4 (bagian hilir) termasuk kategori cemar ringan. Beban pencemaran untuk parameter BOD telah melebihi daya tampung.

Kata kunci : Sungai Parangan, Kualitas Air, Limbah Cair Tahu, Indeks Pencemaran, Beban Pencemaran

**WATER QUALITY ANALYSIS OF THE PARANGAN RIVER DUE TO
THE DISPOSAL OF TOFU INDUSTRIAL LIQUID WASTE
IN MAGELANG REGENCY**

By :

Wiwik Widyaningrum

17/408929/GE/08472

ABSTRACT

Tofu industries near Parangan River in Magelang Regency dispose of their wastes into the river without prior treatments. Continued entry of liquid waste might deteriorate the river water quality. The research objectives were to (1) assess the qualities of liquid wastes from tofu industries based on Central Java Regulation No. 5/2012 and (2) assess the water quality of Parangan River as class II water per the Government Regulation No. 82/2001 and (3) investigate the water quality status and the effects of the liquid wastes on river pollutant load.

This research used purposive sampling method for data collection. Identification of the water quality of wastewater and river water using field measurement and laboratory tests then carried out a comparative method. The status of river water quality used the pollution index method and the determination of the river pollution load using the mass balance method.

The results showed that the pH, temperature, COD, BOD, and TSS levels of the liquid wastes had surpassed their maximum permissible levels while the parameters of color, odor, DHL, and ammonia have high values even though they are not regulated in the quality standard. Similarly, the river's COD and BOD contents did not meet the established quality standards. As a result, the water quality status at monitoring point 1 has good water quality whereas point 2, point 3 and point 4 was slightly polluted and BOD, a pollutant load indicator, had exceeded the total maximum daily load.

Keywords : Parangan River, Water Quality, Tofu Liquid Waste, Pollution Index, Pollution Load