

Kualitas Air Sumur di Pemukiman Kawasan Industri Tepung Aren Desa Daleman, Kecamatan Tulung, Kabupaten Klaten, Jawa Tengah

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ABSTRAK

Limbah cair dan padat dari industri tepung dapat menyebabkan pencemaran. Hal tersebut karena limbah akan mengeluarkan air limbah yang dapat meresap ke tanah dan masuk ke air tanah yang akan mencemari air sumur. Maka, perlunya untuk mengetahui kualitas limbah cair dan padat, kualitas sungai, kualitas sumur warga yang terdampak limbah pati aren, serta tingkat pencemaran air sungai dan air sumur di Desa Daleman, Kecamatan Tulung, Kabupaten Klaten tahun 2024. Penelitian menunjukkan kualitas pada limbah cair industri tepung aren yaitu parameter suhu, TSS, BOD, COD, pH melebihi standar baku mutu. Parameter Limbah padat yaitu kalium, fosfat (PO_4) juga memiliki kandungan yang tinggi. Kualitas air sungai 2 yaitu suhu, TSS, TDS, BOD, pH, total fosfat (sebagai P) melebihi standar baku mutu sedangkan, kualitas sungai 1 hanya COD yang melebihi standar baku mutu. Kualitas air sumur di 10 sumur yaitu kandungan COD melebihi standar baku mutu dan BOD melebihi standar baku mutu kecuali sumur 2, 4, 8, 10 serta parameter total fosfat (sebagai P) di sumur 6, 8, 9 melebihi standar baku mutu. Status mutu air di sungai 1 menunjukkan cemar ringan dan sungai 2 menunjukkan cemar sedang. Status mutu air sumur menggunakan metode STORET menunjukkan cemar sedang di semua sumur kecuali di sumur 2, 4, 10 cemar ringan.

Kata Kunci : industri tepung aren, limbah padat, limbah cair, porositas, permeabilitas, metode STORET

Water Quality of Wells in the Palm Flour Industrial Area of Daleman Village, Tulung District, Klaten Regency, Central Java

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ABSTRACT

Liquid and solid waste from the flour industry can cause pollution. This is because the waste will release wastewater that can seep into the ground and enter groundwater which will pollute well water. So, it is necessary to know the quality of liquid and solid waste, the quality of rivers, the quality of wells of residents affected by palm starch waste, and the level of pollution of river water and well water in Daleman Village, Tulung District, Klaten Regency in 2024. The research shows that the quality of liquid waste from the palm starch industry, namely temperature, TSS, BOD, COD, pH parameters, exceeds the quality standard. Solid waste parameters namely potassium, phosphate (PO_4) also have a high content. The water quality of river 2, namely temperature, TSS, TDS, BOD, pH, total phosphate (as P) exceeds the quality standard, while the quality of river 1 is only COD which exceeds the quality standard. Well water quality in 10 wells, namely COD content exceeds quality standards and BOD exceeds quality standards except wells 2, 4, 8, 10 and total phosphate parameters (as P) in wells 6, 8, 9 exceed quality standards. The water quality status in river 1 shows mild contamination and river 2 shows moderate contamination. The water quality status of wells using the STORET method shows moderate pollution in all wells except wells 2, 4, 10 which are lightly polluted.

***Keywords:* palm flour industry, solid waste, liquid waste, porosity, permeability, STORET method**