

# **THE STUDY OF SUSCEPTIBILITY OF HOME INDUSTRY POLLUTION OF METAL CASTING TO THE QUALITY OF GROUNDWATER (Cu,Zn,Pb) IN PASEREAN, ADIWERNA, TEGAL, CENTRAL OF JAVA, USING DRASTIC METHOD**

## **ABSTRACT**

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In Paserean, Adiwerna, Tegal, there is a home industry of metal casting. The solid waste is thrown in the ground immediately and there is no special treatment for it and it can cause groundwater pollution. The aim of this research are to know the quality and the pollution of groundwater caused by the industry of metal casting, to examine the aquifer's susceptibility (vulnerability) and groundwater in the research area and to know the distribution pattern of groundwater's quality and the suitable guideline of the environmental management

The methods used are survey method, laboratory analysis, and DRASTIC method. The parameters used for DRASTIC method are the depth of groundwater table, the total of *recharge*, the media of aquifer, the media of soil, topography, the influence of *vadose zone* media and the hydraulic conductivity. There are physical parameters (TDS and TSS) and chemical parameters (Cu, Zn and Pb) for laboratory analysis method based on the Regulation of the Minister of Health of the Republic of Indonesia number 492/Menkes/per/IV/2010,. This research is using purposive sampling technique.

the content of TSS and Pb exceed the quality standard from the entire samples which is taken. The high value of Pb is closely related with several children who have mental disorder. The susceptibility level of aquifer from pollution in the research area is included to the high susceptibility level with scoring 140 and 135. The groundwater quality in the research area has polluted with the direction to the north.

Keywords : Aquifer's Susceptibility, DRASTIC method, Polluti

