RISK ANALYSIS HEAVY METAL CR AND CD CONTAINS FROM EFFLUENT TEXTILE INDUSTRY ON CIVILIAN'S WELL IN SAWAHAN AND SEMBUNGAN VILLAGES, JATEN AREA, KARANGANYAR DISTRICT (CASE STUDY)

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ABSTRACT

Effluent Waste product which produced by textile industry contains chemicals derivatives including heavy metal. Effluent Textile industry waste product run to rivers and paddy's field and then absorbed to civilians well in Sawahan and Sembungan Villages, Jaten Area, Karanganyar District. There are four steps in risk analysis research. There are hazard identifications, exposure assesment, toxicity assesment, and risk characterization. Hazard identification on Cr and Cd heavy metal parameter show that maximal effluent concentration of waste product textile industry for Cr is 1,24 mg/l and Cd = 0,007 mg/l. Exposure assesment step show that Cr concentration in Sawahan Village in five to seven sample point more than maximal concentration which tolerate according to PP No.82 Tahun 2001 is about 0,05 mg/l and according to EPA is about 0,1 mg/l. Cd concentration in Sembungan Village in one, eight, nine and ten sample point more than maximal concentration which tolerate according to PP No.82 Tahun 2001 is about 0,01 mg/l. Toxicity assesment show that intake Cr heavy metal on man and woman in Sawahan Village in five to seven sample point more than maximal intake which tolerate according to PP No.82 Tahun 2001 is about 0,0014 mg/kg.day and according to EPA is about 0,0028 mg/kg.day. Intake Cd heavy metal on man and woman in Sembungan Village in one, eight, nine and ten sample point more than maximal intake which tolerate according to PP No.82 Tahun 2001 is about 0,00028 mg/kg.day. Risk characterization result show that in point five to seven sample in Sawahan village Cr and Cd value is more than one. That means the wells is danger to consume. In Sembungan village, the value risk Cr and Cd in point one, eight, nine and ten is more than one. That means the wells is danger to consume too.

Key words: effluent textile industry, Cr and Cd heavy metal, risk analysis, hazard identification, exposure assesment, toxicity assesment, and risk characterization.