Kandungan B-3 dalam limbah cair laboratorium di perguruan tinggi dan alternatif

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Abstrak

University laboratories are supporting facilities, which play an important role for implementation of education, research and public service activities. University laboratories which use chemicals might produce environmentally hazardous wastewater, when proper management effort is not undertaken.During implementation of a study carried out in august to december 1998, it was observed that laboratory of department of environmental engineering ITS produced 138 L concentrated wastewater and 23 m3 diluted wastewater from washing basins. Concentrated wastewater is classsified into 5 groups, namely acidic waste, basic waste, waste with heavy metal, organic solvent and organiz waste. Forst four groups are known as hazardous wastes. PH range of acidic waste is 0.54-1.86 and that of basic waste is 12-12.67. heavy metal wastewater contains 60.54 mg/L Ag (concentration variation between 0.05-243.23 mg/L); 37.84 mg/L (concentration variation between 0-50.58 mg/L) and 11,26 mg/L Cr (concentration variation between 0-32,17 mg/L). principal component of organic solvent waste is cloroform. Wastewater of washing basins has a PH range of 1.5-4.2 and contains 6.40 mg/L (variation concentration between 0.01-26.54 mg/L); 8.59 mg/L Hg (variation concentration between 0-20.12 mg/L); and 0.95 mg/L Hg (variation concentration between 0-2.27 mg/L). quality and composition of wastewater showed that laboratory should be supported with proper wastewater management system. Appropriate collection and treatment system of wastewater is proposed in order to minimize pollution of surrounding environment.