Sintesis dan pencirian kobalt sulfida menggunakan misel ester sukrosa dan kegunaan sebagai penjerap pewarna

ABSTRACT

Cobalt sulfide has been successfully formed using chemical precipitation method in the presence of 0.1% sucrose ester S1670s. X-ray diffraction (XRD) pattern of cobalt sulfide formed shows amorphous structure and EDX analysis shows atomic ratio for Co:S is 1:1.08 which is an evident of formation of CoS. Under the transmission electron microscope (TEM), CoS showed pores structure in the range of ~ 10 nm and the result is in agreement with the BET results. The formation of pores structure in the CoS material is due to the structure of sucrose ester micelle which has diameter of ~ 10 nm. Adsorption ability of CoS formed was tested using methylene blue as model dyes. The optimum absorption ability for CoS is 110mg/g while the most suitable pH for adsorption was greater than 6.

Keyword: Cobalt sulfide; Dye adsorption; Micelles; Sucrose ester