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## STUDY OF OCCUPATIONAL ACCIDENTS RESULTING FROM CONSTRUCTION ACTIVITIES REFERRED TO YAZD DEPARTMENT OF SOCIAL AFFAIRS (2011-2014)

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Accidents resulting from construction activities as one of the main reasons causing disability or death in the developing and developed countries has been and identify the factors that are involved in creating the events of the main measures to control and reduce the risk is considered. In this study, all workers were employed in construction jobs during the years 2011 to 2014 employment accident and managing events in Yazd labor and Social Affairs has been recorded in the study have been recorded with the Check list of required information and data were then analyzed. Mean age of 34 years of study, the majority of subjects were male, and lower education levels than victims of associate degrees, Most time the incident was 13-7, the most injured part of the hands and feet, the most important event foul in or between objects and machines and building more factories owned (private) and cause lack of control the employer has happened. Using the correct and efficient programs, health education and greater emphasis on compliance with existing regulations could be more professional construction accidents could be prevented.

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## AMOXICILLIN ADSORPTION ON MICROWAVE PREPARED ACTIVATED CARBON FROM ARUNDO DONAX LINN: ISOTHERMS, KINETICS, AND THERMODYNAMICS STUDIES

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Microwave- assisted KOH activation of renewable biomass *Arundo donax* Linn was adopted for preparation of activated carbon (KAC) with high capacity for amoxicillin antibiotic (AMX). The characteristics of KAC were examined by proximate and pore structure analyses, scanning electron microscopy (SEM) and Fourier transforms infrared spectroscopy (FTIR). The ash and moisture contents of KAC were 5.5 and 0.5 % compared to 2.2 and 2.1 % for raw biomass. The BET surface area and total pore volume were identified to be 1065.3 m<sup>2</sup>/g and 0.643 cm<sup>3</sup>/g, respectively. The best preparation conditions in terms of KAC yield and AMX uptake were reported as 10 min radiation time, 620 W radiation power and 2 g/g impregnation ratio resulted in 9.1 % yield and 196.9 mg/g AMX uptake. Experimental equilibrium data for AMX adsorption were analyzed by Langmuir, Freundlich, and Sips isotherms. The results showed that the best fitting was achieved by Sips isotherm with high adsorption capacity of 345.4 mg/g on KAC compared to 75.8 mg/g on precursor. Also, kinetic data were correlated by pseudo-first order, pseudo-second order, and intraparticle diffusion models with well-fitting to pseudo-second order model. Thermodynamic analysis showed that adsorption enthalpy of AMX was 17.7 kJ/mol which revealed endothermic and physisorptive nature under examined conditions.

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