Simulation of Multitubular Reactor with Pool Boiling Water Cooling

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One-step DME synthesis from syngas in a shell and tube type fixed bed reactor is strongly exothermic. Beside Catalysts can be irreversibly deactivated once exposed to above certain temperatures. Therefore, the control of reactor temperature is very critical. Use of pool boiling was simulated by means of controling maximum reactor temperature. The simulated results were compared with one by counter current heat transfer.