

(57) Abstract: A process is presented for the purification of 1,3 butadiene. The process is for treating a butadiene stream from an oxidative dehydrogenation unit, where a butane stream is dehydrogenated, generating a butadiene rich stream. The butadiene rich stream is fractionated and passed through a butadiene recovery unit. Additional C4 compounds recovered from the fractionation bottoms stream are further processed for increasing yields of butadiene.