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(54) Title: PROCESS FOR THE PURIFICATION OF OLEFINICALLY UNSATURATED NITRILES

(57) **Abstract:** A process for the recovery and purification of olefinically unsaturated nitriles from a process stream produced by the ammoxidation of a hydrocarbon feedstock comprising contacting the process stream comprising olefinically unsaturated nitrile with an aqueous quench liquid in a quench apparatus to produce a gaseous quench effluent comprising olefinically unsaturated nitrile; contacting the gaseous quench effluent with a liquid comprising water in an absorber apparatus to form an aqueous mixture comprising absorbed olefinically unsaturated nitrile; withdrawing from the absorber apparatus a side-draw stream comprising water and a bottoms stream comprising olefinically unsaturated nitrile; introducing the bottoms stream to a first distillation column where the bottoms stream is distilled in an extractive distillation to form a top fraction comprising olefinically unsaturated nitrile, and directing the sidedraw stream comprising water to the upper portion of the first distillation column to assist with the extractive distillation of the olefinically unsaturated nitrile in the first distillation column.



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