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(54) Title: SLURRY PHASE POLYMERISATION PROCESS

(57) Abstract: Process for producing a multimodal polyethylene in at least two reactors connected in series, in which 20-80wt% of a first polymer is made in suspension in a first reactor and 80-20wt% of a second polymer is made in suspension in a second reactor in the presence of the first polymer, and a stream or slurry containing the resulting polymer is withdrawn from the second reactor and transferred to a flash tank operating at a pressure and temperature such that at least 50mol% of the liquid component of the slurry, or the non-polymer component of the stream entering the flash tank, is withdrawn from the flash tank as a vapour, wherein the concentration in the stream or slurry entering the flash tank of components having a molecular weight below 50 g/mol, Q_{lights} (mol%), satisfies the equation $C_{\text{lights}} < 7 + 0.07(40 - T_c) + 4.4(P_c - 0.8) - 7(C_{\text{H}_2}/C_{\text{Et}})$ where T_c and P_c are respectively the temperature (in °C) and pressure (MPa g) at the location where the vapour withdrawn from the flash tank is condensed, and C_{H_2} and C_{Et} are the molar concentrations in the flash tank of hydrogen and ethylene respectively.



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