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(71) Applicant: **SASOL TECHNOLOGY (PROPRIETARY) LIMITED** [ZA/ZA]; 1 Sturdee Avenue, Rosebank, 2196 Johannesburg (ZA).(72) Inventors: **VENTER, Denise, Louissette**; 55 Hattingh Street, 1948 Vaalpark (ZA). **BRIGMAN, Natasha**; 58 La Paradiso, 107 River Road, 1911 Vanderbijlpark (ZA). **MCKNIGHT, Tyrone**; 13 Olive Street, SE3, 1911 Vanderbijlpark (ZA). **BLANN, Kevin**; 8 Whydan Park, Meyersdal, 1452 Alberton (ZA). **EVANS, Stephen, John**; No. 14 Fish Eagle, Forrest Oaks Avenue, Eagle Canyon Golf Estate Bl, Blueberry Road, Honeydew Manor Ext 24, 2170 Roodepoort (ZA).(74) Agents: **VAN DER WALT, Louis, Stephanus** et al.; Adams & Adams, PO Box 1014, 0001 Pretoria (ZA).

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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

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(54) Title: SEPARATION OF COMPONENTS FROM A MULTI-COMPONENT HYDROCARBON STREAM

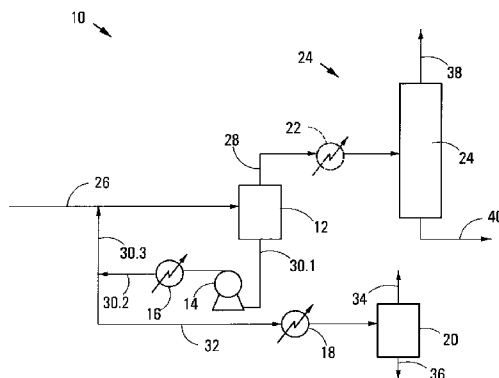


FIG 1

(57) **Abstract:** A process (10) to separate a multi-component hydrocarbon stream (26) comprising ethylene, at least one polymer and other components includes flashing the multi-component hydrocarbon stream in a first flash stage (12) from an elevated pressure of more than 30 bar(a) and an elevated temperature in the range of 150°C to 185°C to a flash pressure in the range of 10 bar(a) to 30 bar(a), producing a first ethylene-containing vapour overheads product (28) at a pressure in the range of 10 bar(a) to 30 bar(a) and a first flash stage bottoms product (30.1) which includes some ethylene, the at least one polymer and some of the other components. The flash pressure and the elevated temperature of the multi-component hydrocarbon stream (26) are selected such that the first flash stage bottoms product (30.1) has a concentration of the at least one polymer of less than 5% by mass to render the viscosity of the first flash stage bottoms product (30.1) at the temperature of the first flash stage bottoms product (30.1) in the first flash stage (12) at less than 1000 cP at a shear of 1 per second. At least a portion of the first flash stage bottoms product (30.1) is heated to a temperature in excess of 150°C to form a heated first flash stage bottoms product (30.2). A recycle portion (30.3) of the heated first flash stage bottoms product (30.2) is combined with the multi-component hydrocarbon stream (26), which is at a temperature less than 150°C before combination with the recycle portion (30.3), thereby to heat the multi-component hydrocarbon stream (26) to the elevated temperature in the range of 150°C to 185°C. At least a portion (32) of the first flash stage bottoms product and the first ethylene-containing vapour overheads product (28) are withdrawn from the first flash stage (12).



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