What is claimed is:

1. A method for producing vinyl acetate, comprising a vinyl acetate synthesis process, a vinyl acetate refining process and a separation process of vinyl acetate and ethyl acetate; the vinyl acetate synthesis process mainly comprising an ethylene recovery tower (117), an acetic acid evaporator (103), an oxygen mixer (106), a vinyl acetate synthesis reactor (107), a first gas separating tower (108), a second gas separating tower (112) and a recycling gas compressor (101), all of which are sequentially connected, wherein the first gas separating tower (108) and the second gas separating tower (112) are connected with a degassing tank (113) and then sequentially connected with a recovered gas compressor (114), a water washing tower (115), an absorption tower (116) and a desorption tower (122); the vinyl acetate refining process mainly comprising an acetic acid tower (201), a crude VAC tower (202), and a fine VAC tower (203) which are sequentially connected, an aldehydo-ester concentration tower (204) and an acetaldehyde tower (205) which are sequentially connected to one branch at a top of the crude VAC tower (202), and a water phase receiving tank (207) and a dehydration tower (206) which are sequentially connected to one branch at a top of the acetic acid tower (201) and the other branch at the top of the crude VAC tower (202); and the vinyl acetate and ethyl acetate separation process mainly comprising an extracting and rectifying tower (401), an extracting and rectifying tower condenser (402), an extracting and rectifying tower supercooler (403), and an extracting and rectifying tower phase separator (404) which are sequentially connected, and an ethyl acetate tower (405), an ethyl acetate tower condenser (406), an ethyl acetate tower supercooler (407) and an ethyl acetate phase separator (408) which are sequentially connected to a kettle of the extracting and rectifying tower (401), wherein an extracting and rectifying process is adopted for the separation process of the vinyl acetate and ethyl acetate;

a stream containing acetic acid, vinyl acetate, water and ethyl acetate, which is extracted from the acetic acid tower (201) at sidelines, enters a middle of the extracting and rectifying tower (401), and the acetic acid is adopted as an extractant to be fed on an upper portion of the extracting and rectifying tower (401); and overhead vapor of the extracting and rectifying tower (401) mainly consists of vinyl acetate and water and also contains a trace amount of ethyl acetate not completely removed, condensate condensed by the extracting and rectifying tower condenser (402) enters the extracting and rectifying tower supercooler (403) to be further cooled and then fed to the extracting and rectifying tower phase separator (404) for phase separation, an oil phase part obtained after phase separation refluxes, the rest part is

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extracted and fed to the acetic acid tower (201) of the former system for treatment, and a water phase is fed to the dehydration tower (206) to recover organic matters therein.

2. The method according to claim 1, wherein the extracting and rectifying process is adopted for the separation process of the vinyl acetate and the ethyl acetate, main equipment comprises the extracting and rectifying tower (401), the ethyl acetate tower (405), the extracting and rectifying tower condenser (402), the extracting and rectifying tower supercooler (403), the extracting and rectifying tower phase separator (404), the ethyl acetate tower condenser (406), the ethyl acetate tower supercooler (407) and the ethyl acetate tower phase separator (408); a top of the extracting and rectifying tower (401) is sequentially connected with the extracting and rectifying tower condenser (402), the extracting and rectifying tower supercooler (403) and the extracting and rectifying tower phase separator (404); two branches are arranged an oil phase outlet of the extracting and rectifying tower phase separator (404) and return to the extracting and rectifying tower (401) and the acetic acid tower (201) of the former system respectively, and a water phase outlet is connected with the water phase receiving tank (207); a tower kettle of the extracting and rectifying tower (401) is connected with the ethyl acetate tower (405), a top of the ethyl acetate tower (405) is sequentially connected with the ethyl acetate tower condenser (406), the ethyl acetate tower supercooler (407) and the ethyl acetate tower phase separator (408), a water phase outlet of the ethyl acetate tower phase separator (408) is connected with the ethyl acetate tower (405), and materials at an oil phase outlet are fed out of the system; and two branches are arranged at an outlet of a tower kettle of the ethyl acetate tower (405) and connected with the extracting and rectifying tower and the acetic acid tower (201) of the former system respectively.

3. The method according to claim 2, wherein a mixture containing ethyl acetate, a small amount of water and acetic acid in the tower kettle of the extracting and rectifying tower (401) enters the ethyl acetate tower (405) for rectifying; overhead vapor of the ethyl acetate tower (405) mainly consists of ethyl acetate and water and also contains a trace amount of vinyl acetate, condensate condensed by the ethyl acetate tower condenser (406) enters the ethyl acetate tower supercooler (407) to be further cooled and then fed to the ethyl acetate tower phase separator (408) for phase separation, a water phase obtained after phase separation refluxes, and an oil phase is discharged out of the system as an ethyl acetate impurity stream; and a main component in the tower kettle of the ethyl acetate tower (405) is acetic acid, one part returns to the extracting and rectifying tower (401) as the extractant, and the rest part returns to the acetic acid tower (201) of the former system for feeding.

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4. The method according to claim 1, wherein the acetic acid is adopted as the extractant in the separation process of the vinyl acetate and the ethyl acetate by adopting the extracting and rectifying process, and the extractant is added from the upper portion of the extracting and rectifying tower (401).

5. The method according to claim 4, wherein a ratio of mass flow of the extractant of acetic acid to mass flow of feed extracted from the acetic acid tower (201) at the sidelines is 0.2-2: 1.

6. The method according to claim 5, wherein the ratio of mass flow of the extractant of acetic acid to mass flow of the feed extracted from the acetic acid tower (201) at the sidelines is 1.2: 1.

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