

ABSTRACT

The present invention discloses a clean method for preparing a D,L-methionine comprising the steps of: preparing a potassium cyanide solution using a crystallized mother solution containing potassium carbonate as an absorbing liquid to absorb hydrocyanic acid, then reacting the potassium cyanide solution with 3-methylthio propionaldehyde and an ammonium bicarbonate solution at 50-150°C for 3-15 minutes so as to obtain a 5-(β-methylthioethyl)glycolyurea solution, then bring the 5-(β-methylthioethyl)glycolyurea solution to a temperature of 140-220°C and subjecting to a saponification reaction for 2-5 minutes, after the completion of the saponification, reducing the temperature to 0-40°C, extracting with an organic solvent, neutralising the water phase with CO₂ and crystallizing, then filtering, washing, and drying to obtain an acceptable D,L-methionine product; bring the crystallized D,L-methionine mother solution from filtration to a temperature to 110-160°C to remove CO₂, which are all then circulated and used as a hydrocyanic acid-absorbing liquid. The process route of the present invention is a route suitable for a continuous and clean production, substantially without producing waste water and waste gas.