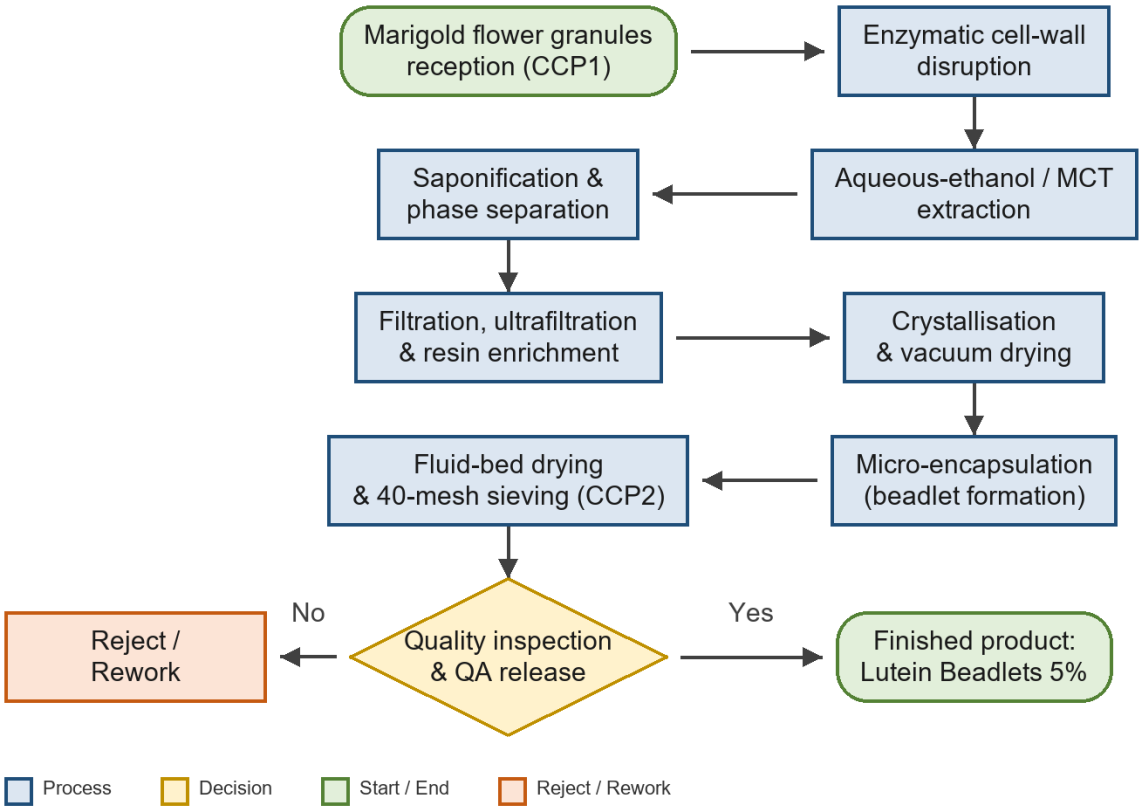
Chengdu PNP Biotech Co., Ltd.

No. 13, South Section 1, Second Ring Road
Suite 709, Wuhou District, Chengdu
Sichuan 610041, P.R. China
info@pnpbiotech.com
www.pnpbiotech.com

PROCESS FLOW CHART

Lutein Beadlets 5%

Lutein Beadlets 5% is produced from the flower of *Tagetes erecta*. Dried marigold granules are milled under yellow-safe light with antioxidant pretreatment and their cell walls are disrupted enzymatically. Lutein is extracted with aqueous ethanol and medium-chain triglycerides, the extract is saponified and the phases separated, then purified by filtration, ultrafiltration and macroporous-resin enrichment. The lutein is crystallised and vacuum dried, then micro-encapsulated into a beadlet with a food-grade carrier, fluid-bed dried and sieved through 40 mesh before quality inspection and QA release, giving an orange-red granule of not more than 5.0% lutein.



The process is operated under a HACCP-based food-safety plan and GMP; critical control points include raw-material acceptance (CCP1), the in-process checks marked on the chart, and the final quality inspection and QA release. Off-spec material is rejected or reworked.

Prepared by: Mia Yu Approved by: Charlie Wang Date: Nov. 19, 2026