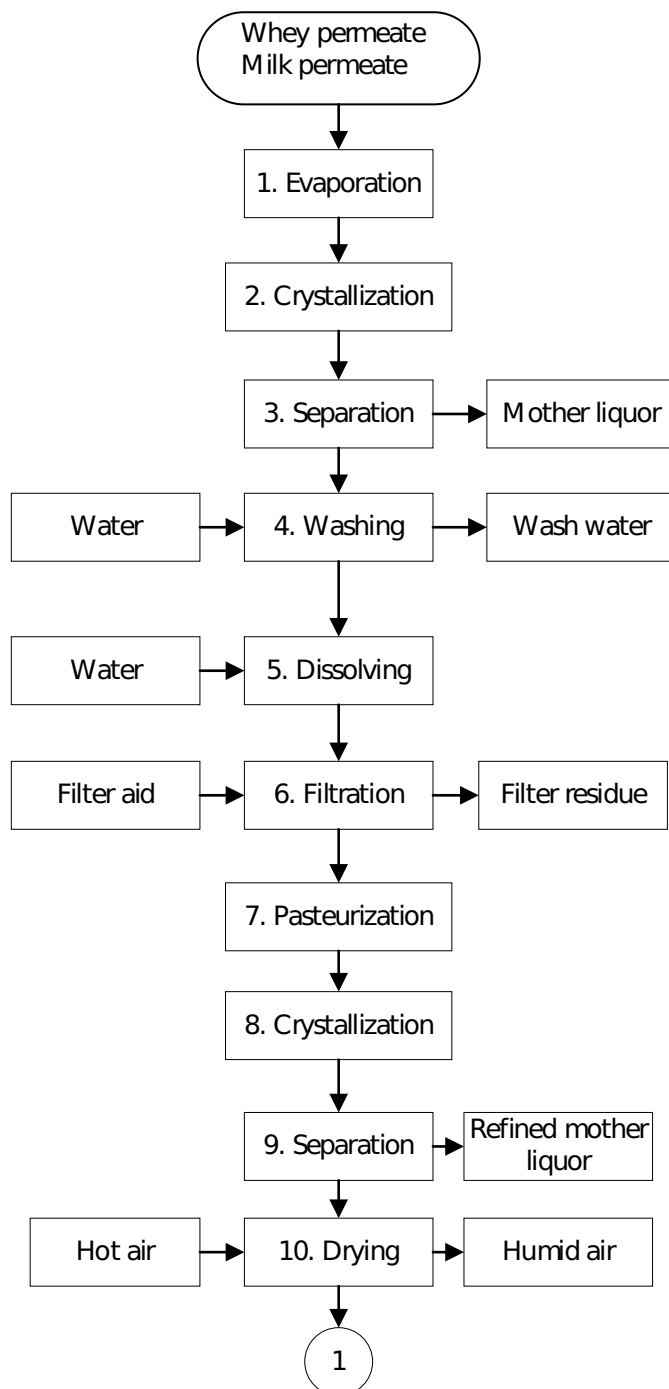


# Process Flow Sheet

Product group: Lactose  
 Brand name: Pharmatose® 200M  
 manufactured in NZ  
 Article code: 743728/ 29/31/32  
 Product description: Lactose monohydrate  
 Document No.: PD-0249 Page 1 of 2

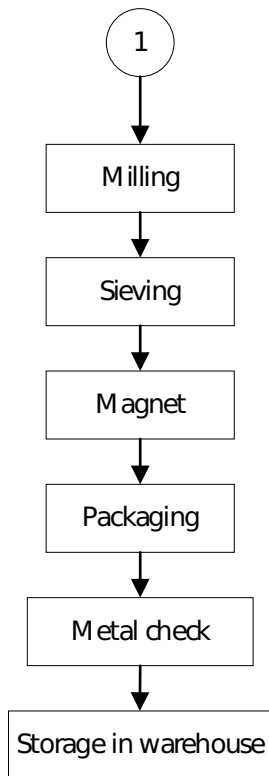


## Process description

1. Whey- and milk permeate are concentrated to an oversaturated lactose solution.
2. The oversaturated lactose solution is cooled. Lactose crystals are formed.
3. The lactose crystals are separated from the mother liquor by means of centrifugation.
4. The lactose crystals are washed with water.
5. The washed lactose crystals are dissolved to a concentrated solution at min. 90°C.
6. The solution is treated with a filter aid and activated carbon and filtered. During the filtration the solution remains for at least 15 minutes at min. 90,5°C.
7. The solution has to be held in the pasteurization holding tube to a min 82°C for 3 seconds.
8. The refined lactose solution is cooled and lactose crystals are formed.
9. The lactose crystals are separated from the refined mother liquor.
10. The refined lactose crystals are dried.

# Process Flow Sheet

Product group: Lactose  
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11. The dried lactose is milled to the desired mesh size and passes a 500 µm screen.
12. Before storage in silos the lactose crystals pass a magnet.
13. Just before packaging the product passes a 2000 µm screen and a magnet.
14. The product is packed in a multilayer paper bag with EVOH/polyethylene inner bag or big bags. Every packing is identified with product name, batch number, production date and expiry date.
15. Before palletizing every 25 kg paper bag is checked with a metal detector. Sensitivity of the metal detector: Ferrous 1,5 mm, non-ferrous 2,0 mm.

This statement substitutes all previous versions issued for the brand names mentioned above. We trust this information, which is made up to the best of our knowledge, will be helpful to you

**Name** : Teun Heijnen  
**Job title** : Operations & Supply Chain Director  
**Signature** :



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