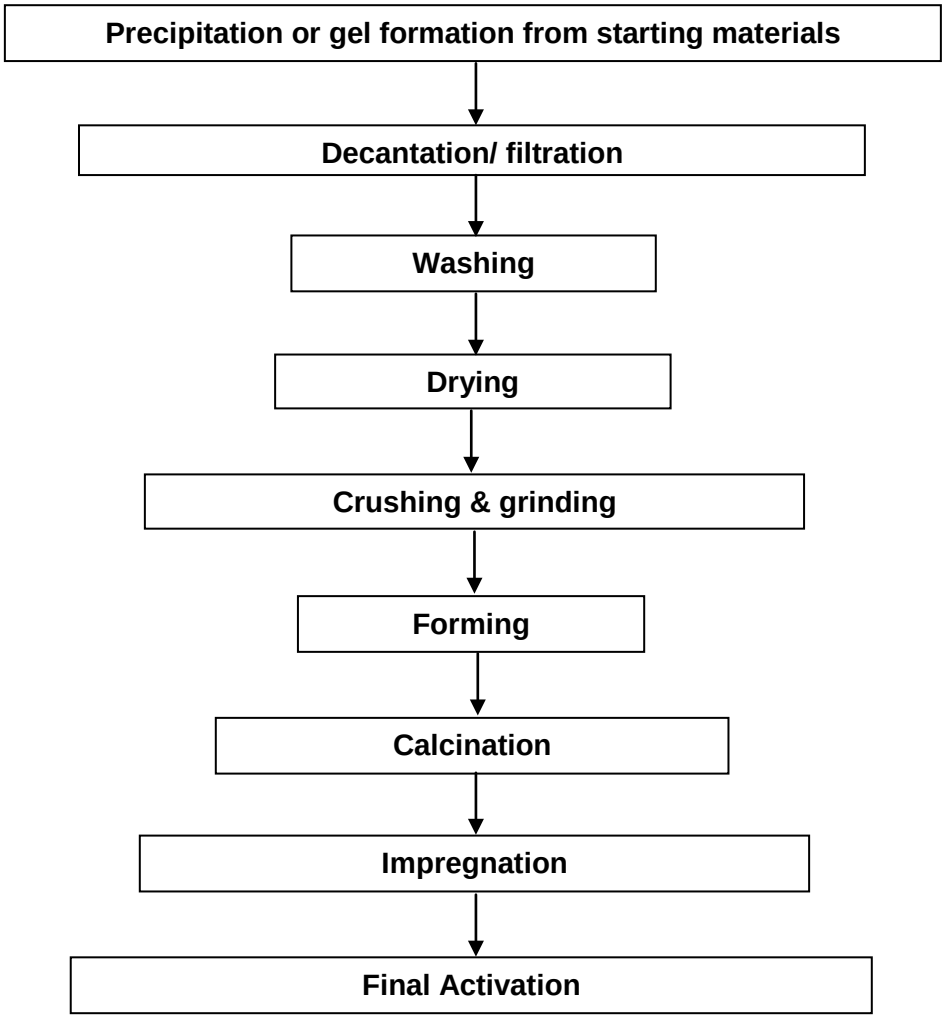

Fig. 1. Basic unit operations in solid catalyst preparation

Preparation of solid catalyst

The catalyst preparation methods can broadly categorized as follows :

1. Bulk preparation process:

   Bulk catalysts and supports are prepared by this method. Bulk preparation is mainly done by the following methods :

   a. Precipitation process
   b. Sol gel process

2. Impregnation process:

   Supports are first prepared by bulk preparation methods and then impregnated with the catalytically active material. The active materials can be deposited on the supports by various methods. Most of the methods involve aqueous solutions and liquid solid interface. In some cases, deposition is done from the gas phase and involves gas- solid interface.

3. Physical mixing :

   Mixed agglomerated catalysts are prepared by this method. These catalysts are prepared by physically mixing the active substances with a powdered support or precursors of support in ball mill. The final mixture is then agglomerated and activated.

Basic unit operations involved in preparation of solid catalyst is shown in Fig 1. Each step is discussed in detail in the following sections.

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