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Figure 1: Dry granulation process. Powder blend is compacted into a riblet and shredded to granules.

Data comes from a MSc thesis project and consists of 216 samples of granules in glass vials analysed by NIR. A downscaled dry granulation process was developed during the project and designed such that three quality attributes variances could be controlled:

* Model API concentration (Bovine Serum Albumin, BSA)
  + Six levels ranging from 2% to 15% w/w
* Particle size
  + Three levels, controlled by material mass used during compaction (1 g, 1.5 g and 2 g).
* Moisture content
  + Four levels, controlled using desiccators with relative humidity ranging from 11% to 62%.

Triplicates were produced of each attribute combination. Each sample was measured three times using a Bruker MPA II NIR equipment with resolution 8 cm-1, 64 scans and in the spectral range 11550 cm-1 to 3950 cm-1 for each measurement. The samples were measured before and after moisturization and two datasets were created. Both datasets are available:

1. Before moisturization:
   * Please see dataset called *Granules\_NIR\_data\_ambient\_moisture* and API references *Granules\_API\_reference\_ambient\_moisture*.
2. After moisture control using desiccators:
   * Please see dataset called *Granules\_NIR\_data\_moisture\_controlled* and API references *Granules\_API\_reference\_moisture\_controlled*.

The datasets contain the following classes:

* Batch ID (example: RH11p0\_API02p00\_RW1p0)
  + Consisting of RH (Relative Humidity); API (API concentration) and RW (Riblet wieght) attributes.
* Relative humidity [%]\*
* API concentraiton [%]
* Riblet mass [g]
* Solid fraction
* Desiccator\*

\*: Not relevant and therefore not included for the dataset *Granules\_API\_reference\_ambient\_moisture*.