Chemical Manufacturing Process Data

**Description**

This data set contains information about a chemical manufacturing process, in which the goal is to understand the relationship between the process and the resulting final product yield. Raw material in this process is put through a sequence of 27 steps to generate the final pharmaceutical product. The starting material is generated from a biological unit and has a range of quality and characteristics. The objective in this project was to develop a model to predict percent yield of the manufacturing process. The data set consisted of 177 samples of biological material for which 57 characteristics were measured. Of the 57 characteristics, there were 12 measurements of the biological starting material, and 45 measurements of the manufacturing process. The process variables included measurements such as temperature, drying time, washing time, and concentrations of by–products at various steps. Some of the process measurements can be controlled, while others are observed. Predictors are continuous, count, categorical; some are correlated, and some contain missing values. Samples are not independent because sets of samples come from the same batch of biological starting material.

**Value**

ChemicalManufacturingProcess: a data frame with columns for the outcome (Yield) and the predictors (BiologicalMaterial01though BiologicalMaterial12 andManufacturingProcess01 thoughManufacturingProcess45

**Source**

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