This dataset is related to red and White variant of the Portuguese “Vinho Verde” wine. It describes the quality depending on the amount in liters of its different components. The output is a score from 0 to 10 made by wine experts.

**Input variables (based on physicochemical tests):**

 1 - **Fixed acidity** (Quantitative variable)

Combination of volatile acidity and citric acid what determines the final taste of a wine. Mainly tartaric acid.

Units: grams

 2 - **Volatile acidity** (Quantitative variable)

Measure of steam distillable acids present in a wine. Our palates are quite sensitive to the presence of volatile acids and for that reason their concentration might be as low as possible. Mainly, acetic acid.

Units: grams

 3 – **Citric acid** (Quantitative variable)

Total concentration of titratable acids and free hydrogen ions present in a wine. Mainly, citric acid. Units: grams

 4 - **Residual sugar** (Quantitative variable)

 Sugar remaining after fermentation.

Units: grams

 5 – **Chlorides** (Quantitative variables)

 Amount of salt in the wine

 Units: grams

 6 - **Free sulfur dioxide** (Quantitative variables)

 Related with the oxidation of wine.

 Units: milligrams

 7 - **Total sulfur dioxide** (Quantitative variables)

 Over 50ppm affects the taste and the smell of wine.

 Units: milligrams

 8 – **Density** (Quantitative variables)

 Units: grams

 9 - **PH** (Quantitative variables)

Measurement of the strength of the acids present in the wine.

No Units

 10 – **Sulphates** (Quantitative variables)

 Contribute to sulfure dioxide levels.

Units: grams

 11 – **Alcohol** (Quantitative variables)

 Percentage of alcohol.

 Units: % by volumen

 12 – **Variant** (Qualitative variable [red, white])

 Show if the wine is White or red.

 No units

13 – **Taste** (Qualitative variable [Sweet, Light-Bodied, Balanced, Low acid, Very low acid])

Depending on the pH level, the taste of the wine is different

 **Output variable (based on sensory data):**

 14 - **Quality** (score between 0 and 10): where 0 is for very bad wines and 10 for very excellent.

Source: [https://archive.ics.uci.edu/ml/datasets/Wine+Quality](https://archive.ics.uci.edu/ml/datasets/Wine%2BQuality)