**Fixed acidity:** acids are major wine properties and contribute greatly to the wine’s taste. Usually, the total acidity is divided into two groups: the volatile acids and the nonvolatile or fixed acids. Among the fixed acids that you can find in wines are the following: tartaric, malic, citric, and succinic. This variable is expressed in **g(tartaricacid)/dm3** in the data sets.

固定酸性度: 固定酸度ワインに含まれるほとんどの酸は不揮発性（すぐに蒸発しない）。

**Volatile acidity:** the volatile acidity is basically the process of wine turning into vinegar. In the U.S, the legal limits of Volatile Acidity are 1.2 g/L for red table wine and 1.1 g/L for white table wine. In these data sets, the volatile acidity is expressed in **g(aceticacid)/dm3**.

揮発性酸性度: 揮発性の酸度ワイン中の酢酸の量は、多すぎると不快な酢の味になる可能性があります。

**Citric acid** is one of the fixed acids that you’ll find in wines. It’s expressed in **g/dm3** in the two data sets. **Residual sugar** typically refers to the sugar remaining after fermentation stops, or is stopped. It’s expressed in **g/dm3** in the red and white data.

クエン酸: クエン酸が少量の場合、ワインに「新鮮さ」と「風味」を加えることができます。

**Chlorides** can be a significant contributor to saltiness in wine. Here, you’ll see that it’s expressed in **g(sodiumchloride)/dm3**.

塩化物

**Free sulfur dioxide:** the part of the sulfur dioxide that is added to a wine and that is lost into it is said to be bound, while the active part is said to be free. The winemaker will always try to get the highest proportion of free sulfur to bind. This variable is expressed in **mg/dm3** in the data.

遊離二酸化硫黄　微生物の成長とワインの酸化を防ぎます

**Total sulfur dioxide** is the sum of the bound and the free sulfur dioxide (SO2). Here, it’s expressed in **mg/dm3**. There are legal limits for sulfur levels in wines: in the EU, red wines can only have 160mg/L, while white and rose wines can have about 210mg/L. Sweet wines are allowed to have 400mg/L. For the US, the legal limits are set at 350mg/L, and for Australia, this is 250mg/L.

総二酸化硫黄:　 低濃度では、二酸化硫黄はワインではほとんど検出されませんが、50 ppmを超える遊離二酸化硫黄濃度では、ワインの香りや味に二酸化硫黄がはっきりと現れます。

**Density** is generally used as a measure of the conversion of sugar to alcohol. Here, it’s expressed in **g/cm3**.

水の密度は、アルコールと糖分の割合によって、水の密度に近くなります

**pH** or the potential of hydrogen is a numeric scale to **specify the acidity or basicity** the wine. As you might know, solutions with a pH less than 7 are acidic, while solutions with a pH greater than 7 are basic. With a pH of 7, pure water is neutral. Most wines have a **pH between 2.9 and 3.9** and are therefore acidic.

ほとんどのワインはpHが3-4の間です。7以下は酸性、7以上は中性、8から１１は弱アルカリ性、11以上がアルカリ性

**Sulfates** are to wine as gluten is to food. You might already know sulfites from the headaches that they can cause. They are a regular part of winemaking around the world and are considered necessary. In this case, they are expressed in **g(potassiumsulphate)/dm3**.

硫酸塩　抗菌剤および酸化防止剤として寄与することができるワイン添加物

**Alcohol**: wine is an alcoholic beverage, and as you know, the percentage of alcohol can vary from wine to wine. It shouldn’t be surprised that this variable is included in the data sets, where it’s expressed in **% vol**.

**Quality**: wine experts graded the wine quality **between 0 (very bad) and 10 (very excellent)**. The eventual number is the mean of at least three evaluations made by those same wine experts. **Some analysts might combine these levels to Low, Medium & High-Quality wines**.