

Video « General information about gas chromatography »

Time	Text
00 :09	In this video, I will present a gas chromatography device.
00 :14	In this device, the different chemical constituents of a sample will flow in a gas stream, which is the mobile phase, and will be separated in the chromatographic system.
00 :25	In gas chromatography, one important component in the injector. It allows to introduce the sample in the chromatographic column.
00 :32	The samples could be gaseous or more generally they could be volatilized by reaching a high temperature. In that case, the injector is warmed around 250°C, so, obviously, for safety it is recommended to avoid touching it. The liquid sample is introduced in the injector using a syringe equipped with a needle, which is here.
00 :53	In the injector, the compounds are volatilized due to the high temperature. Then, they are swept by the carrier gas through the chromatographic column. The compounds are separated in this narrow tube. The column is placed in an oven in order to separate the components according to their boiling point but also according to their interaction with the stationary phase.
01 :23	At the exit of the column, the separated compounds will enter in the detector. This device will record a signal proportional to the quantity of each separated molecule. Then, you get a chromatogram on the computer, which is easy to recognize due to its chromatographic peaks. The surface of one peak is proportional to the quantity of the related compound of the sample which has been separated by the chromatographic system.
01 :51	The analysis of this chromatogram will give information about the quantity of each component of the sample by using the area of the different peaks. Then, thanks to a more informative detector, it is possible to get a spectrum which allows to identify the separated molecules.