

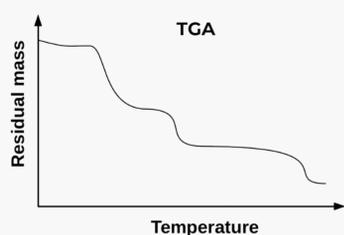
## Context

- Designed and developed by CHEMLYS to overcome the limitations of Gas Chromatography (GC) analysis duration when coupled with a gas emitting system
- Fully automated solution with its own user-friendly web-software<sup>1</sup>
- Enables the storage of up to 16 gas fractions in 500  $\mu$ L loops

## Principle of operations (through the example of a TGA-GC MS coupling)

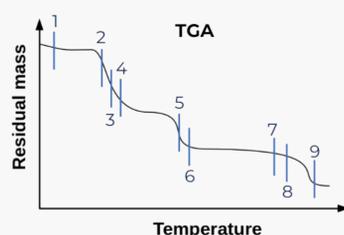
1

Standalone TGA analysis



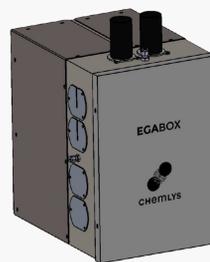
2

Storage times determination



3

Sequence table filled in via the web-software



4

Automated analysis of up to 16 samples by GC(MS)



## Technical specifications

- Temperature-controlled (between 30°C and 200°C)
- 16 storage loops, 500  $\mu$ L each  
*Boosted sensitivity*
- Available in a fully inert version  
*Preserved sample integrity*
- RSD (area) < 0.5 % for any given loop<sup>2</sup>
- RSD (area) < 0.3 % between the different loops<sup>3</sup>
- Includes two self-heating transfer lines  
*No cold spots from the sample source to the analyzer*
- Possibility of using the GCMS and TGA independently  
*Uncoupling takes less than 5 minutes*
- Automated loop cleaning
- Optional: integrated sampling system ensuring all the loops are injected at atmospheric pressure  
*Repeatable amount of gas injected in the analyser*



## Wide range of applications

- Comparative study of materials
- Analysis of VOCs and other gas emissions from materials
- On-line analysis of a catalytic reaction
- Only a couple of seconds required to fill a loop  $\rightarrow$  perfect to monitor even the fastest reactions' kinetics
- Can be coupled to an existing system regardless of the GC/TGA provider & Safe to use with a hydrogen matrix

## Limitations

Compounds with a boiling point over 200°C cannot be stored in this system.

## Contact information

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<sup>1</sup> no internet access required  
<sup>2,3</sup> results were observed on N<sub>2</sub>/CH<sub>4</sub> separation on a Shimadzu GC 2030, equipped with a SPL injector and a capillary TCD  
<sup>3</sup> to account for the length variation of the handmade loops.