

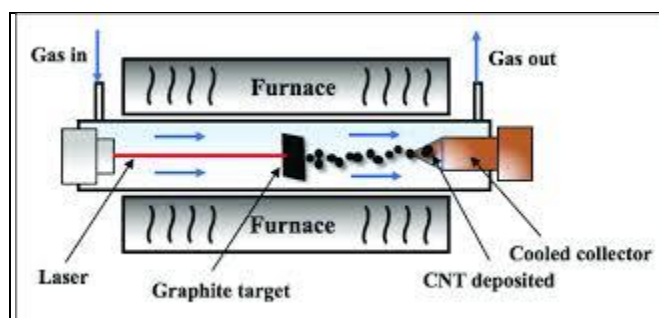


## Laser ablation Method

In laser ablation technique, high power laser pulse is used to evaporate the material from the target. The Stoichiometry of the material is protected in the interaction.

The total mass ablated from the target per laser pulse is called as ablation rate.

This method involves vaporization of target material containing small amount of catalyst (nickel or cobalt) by passing an intense laser beam at a high temperature to about 120 °C in a quartz tube reactor. Simultaneously an inert gas such as argon or helium is allowed to pass into the reactor to sweep the evaporated particles from the furnace to the colder collector.



**Laser Ablation Chamber**

### Uses

- Nano tubes having a diameter of 10 to 20 nm and 100 $\mu$ m can be produced by this method.
- Ceramic particles can be produced.
- Other materials like silicon, carbon can also be converted into nano particles by this method.

### Advantages of laser ablation

- It is very easy to operate.
- The amount of heat required is less.



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- It is eco friendly method because no solvent is used.
- The product obtained by this method is stable.
- This process is economical.