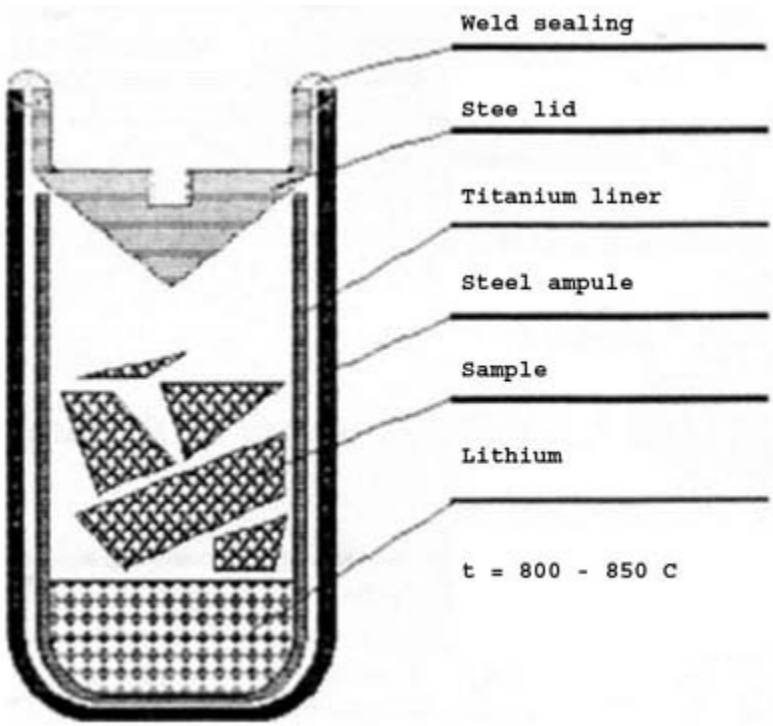
Benzene line: equipment, laboratory setup and staff training

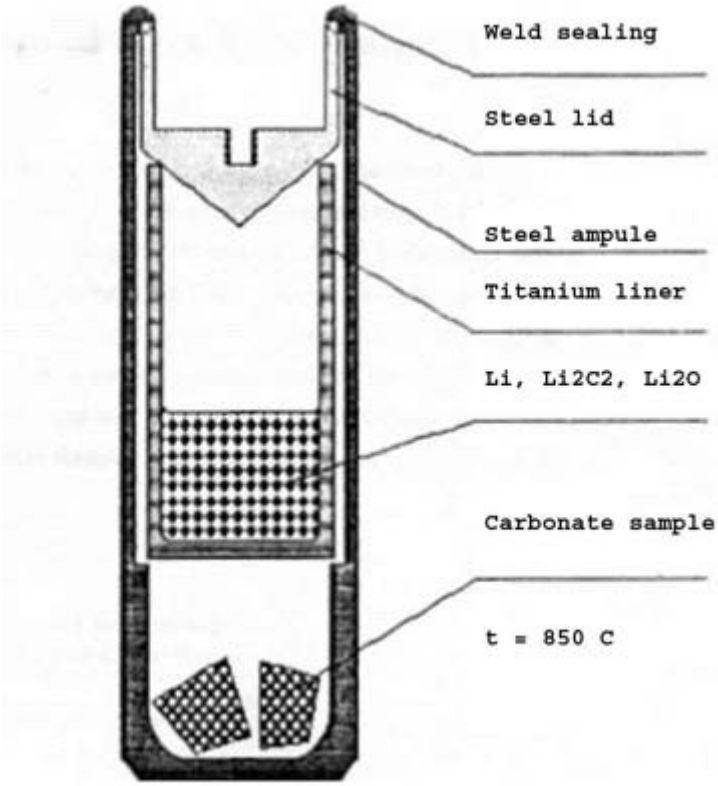
Benzene Line : Capsule Technology

Capsule technology was developed and published at 1996. The technology system was designed for direct obtaining of acetylene from very small samples of organic matter or carbonates. It allows producing benzene from very small quantities of acetylene (as low as 0.05 g) with the overall chemical yield higher than 92% for organic samples and higher than 96% for carbonates.



Scheme for direct reaction of small organic sample with lithium in stainless steel ampules to produce carbide

Capsule technology system is relatively inexpensive in operation and may fill the gap, arising between conventional radiocarbon techniques requiring samples containing more than (exceeding) 1 g of carbon and the AMS technique dedicated to milligram-sized samples.



Scheme for direct reaction of carbonate with lithium in stainless steel ampules to produce carbide of small samples

Advantages of capsule technology:

- Low cost;
- High chemical yield;
- High capacity.

Video set:

1. Capsule technology : benzene line : mount and how it looks like
2. Capsule technology : benzene line : hydrolysis from begining
3. Capsule technology : benzene line : remove residual acetylene
4. Capsule technology : benzene line : prepare (replace) catalyst
5. Capsule technology : benzene line : start of benzene synthesis
6. Capsule technology : benzene line : place lithium and sample
7. Capsule technology : benzene line : argon welding
8. Capsule technology : benzene line : place capsule to reaction vessel : beginning of synthesis

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