



Benzene line: equipment, laboratory setup

Benzene Line Specification: List of Equipment

Benzene Line for Chemical Preparation of samples for ^{14}C measurement by Liquid Scintillation Counting (LSC) includes:

| Description | Quantity |
|--|----------|
| Benzene Line | |
| 1 Charring equipment | |
| 1.1. A vertical furnace (1100 watt, 220 volt, up to 1250 °C) | 1 |
| 1.2. Stainless steel reaction vessels with cover (3 small, 2 middle, 1 large and 1 perforated). | 1 |
| 1.3. Thermo-destruction gas utilizing reactor. | 1 |
| 1.4. A mounting for cooling and holding reaction vessels. | 1 |
| 2 The equipment for lithium carbide production of any kind of sample material | |
| 2.1. A vertical furnace (1100 watt, 220 volt, up to 1250 °C) | 2 |
| 2.2. An easily discountable water-cooled hermetized head | 1 |
| 2.3. Stainless steel cylindrical reaction vessels (5 small , 8 middle and 2 large) | 15 |
| 2.4. Titanium liners | 10 |
| 2.5. Special metal stand with a holder for mounting a vacuum gauge with valves for vacuum, argon and carbon dioxide, with fast cooling system for reactor vessels and with seats for storing clean reactor vessels | 1 |
| 2.6. Stainless steel holders (15 of different sizes) and vacuum thermo-destruction technology | 15 |
| 2.7. An auxiliary equipment. | 1 |
| 3. The equipment for lithium carbide production of carbon dioxide and charcoal | |
| 3.1. CO_2 carbide reaction vessels (5 reactors) | 5 |
| 3.2. A holder for mounting a vacuum gauge with valves for vacuum, argon and carbon dioxide, with cryogenic-trap for carbon dioxide with quickly weigh system. | 4 |
| 3.3. An auxiliary equipment. | 1 |
| 4. The equipment for acetylene production. | |
| 4.1. A lithium carbide hydrolysis module large | 2 |
| 4.2. A lithium carbide hydrolysis module special for micro-samples | 2 |
| 4.3. The equipment for chemical purification and catching of acetylene | 1 |
| 4.4. The equipment for chemical purification and catching of acetylene, adopted for micro-samples. | 1 |

5. The equipment for benzene synthesis.

- 5.1. Benzene synthesis system (2 modules). The one module consists of: two vacuum manifolds with gauges, Teflon valves, cryogenic traps, reaction vessel with catalyst, heater-cooler system with temperature controller/ 2
- 5.2. The glass benzene recovery vials with Teflon caps for refining and storage of benzene (70 vessels of different sizes) 1

6. The equipment for benzene purification by sublimation.

- 6.1 One vacuum manifolds with gauges, Teflon valves and cryogenic traps. 1
- 6.2. System for fast remove of the Radon 1

7. Vials for long time precise measurement

- 7.1. 1,5 ml, 3 ml, 7ml. Each vial consists of Teflon ampoule, titanium holder, titanium spring, Teflon cap with pin valve. 30

8. Sets of manuals in English 1

9. On-site installation of equipment and training to the end-user staff.

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An Offer: [Benzene line: equipment, technology, Set-Up & Staff training.](#)

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