

Set of glassware for laboratory experiments in biology

# LABOTRIX GLASSWARE B2

PRODUCT PASSPORT

Kyiv

2026

## 1. Basic product information

- 1.1. Product name — A set of utensils for laboratory experiments in biology.
- 1.2. Trademark — Labotrix.
- 1.3. Model — Glassware B2; full trade name — LABOTRIX GLASSWARE B2.
- 1.4. Manufacturer — Labotrix Group Limited, China.
- 1.5. Intended use: A set of laboratory glassware and supplies for individual student workstations in biology lessons. Using the set, students prepare and examine micropreparations, investigate the external and internal structure of plant and animal organisms, and also perform practical exercises in human physiology - test muscle strength, the eye's ability to accommodate, detect blind spots, and other indicators of their own body.
- 1.6. Design features: The glass elements of the set are made of heat-resistant glass; the mortar and pestle are made of porcelain, and the small parts of the accessories are made of metal and polymer. The set includes microscope slides (slide and coverslip) and a Petri dish for preparing micropreparations, a set of dissecting tools complete with a magnifying glass, as well as a laboratory tray with a wax coating. Practical exercises in human physiology are performed using a hand-held dynamometer for measuring muscle strength, an expander, a medical tourniquet, and cards - one for testing the eye's ability to accommodate, the other for detecting a blind spot. The components of the set can be used together with digital sensors for measurements; they are stored in a box with a molded insert-lodgement.
- 1.7. Digital learning support: The product includes access to an online teaching support course hosted in a learning management system (LMS) and designed for 70 academic hours of classes. The course is designed to meet the current curricula of secondary education institutions in Ukraine. The materials are grouped into research modules in the disciplines of physics, biology, chemistry, STEM, and each topic contains a lesson plan, a list of necessary supplies, an experiment scenario, step-by-step instructions for laboratory work with an explanation of the expected result, a video demonstration of work methods, interactive exercises and tasks for independent study, suitable for both individual and group work. All modules are designed for this equipment and tested on it, so the course works in a direct chain of "equipment → methodology → learning results". The course has an assistant built into it based on a language model with a search through the course knowledge base (Retrieval-Augmented Generation): based on the topic of the lesson, it selects relevant experiments, methodically describes the sequence of conducting the research, analyzes typical student errors and gives personal advice on how to get rid of them, changes the level of complexity to prepare for a specific class, and helps to write a research report and organize the conclusions. The assistant's knowledge base is localized and aligned with the Ukrainian curriculum. The license for the course and accompanying software is valid for 12 months from

the date of transfer of access; the content, interface, and assistant answers are provided exclusively in Ukrainian. Working with the course develops attention, logical and imaginative thinking, and creative abilities, and joint research tasks cultivate cooperation skills: students work on the material individually or in groups, gaining learning independence and experience of interaction.

## 2. Technical specifications

- Brand — Labotrix
- Model — Glassware B2
- The article is LTX-GLASSWARE-B2
- Product type - set of utensils and supplies for biology laboratory classes for one student seat
- Materials used to make components — heat-resistant glass, porcelain, polymers, metal
- Volume of laboratory beakers (milliliters) — 50, 100
- The size of the slide (millimeter) is 25 × 75, in a package of 50 pieces.
- Cover glass size (millimeter) — 24 × 24, 100 pieces in a package.
- Petri dish dimensions (millimeters) - diameter 90, height 20
- Diameter of mortar with pestle (millimeter) — 90, material of manufacture — porcelain
- Dimensions of the laboratory tray (millimeter) - 310 × 210 × 42, metal with wax coating
- Personal protective equipment set - safety glasses, latex gloves (3 pairs)
- Consumables and reagents in the kit - distilled water 250 ml, 5% iodine solution 20 ml, filter paper, gauze, cotton wool
- Packaging method - molded insert-lodgement in a storage box
- Operating conditions — premises of an educational institution, air temperature from +5 to +40 °C, relative humidity from 40 to 60 % without condensate
- Service life (year) — 5
- Digital learning support — online course in a learning management system (LMS)
- Course volume (academic hour) — 70
- Course subjects — physics, biology, chemistry, STEM
- Composition of the materials — research modules, experiment scenarios, step-by-step laboratory work instructions, video demonstrations, interactive exercises and tasks
- Compatibility of the materials with the equipment — full, along the chain "equipment → methodology → learning outcomes"
- Language-model-based assistant — built into the course, with retrieval over a localized knowledge base (Retrieval-Augmented Generation)
- Validity period of the license for the course and the software (month) — 12
- Language of the course, of the interface and of the answers of the assistant — Ukrainian

- Language of marking and operating documentation — Ukrainian
- Product marking — trademark, model and a space for the inventory number
- Documentation supplied — product passport with warranty card and operating manual
- Method of storing the kit: in a box at the student's workplace or in the laboratory room
- Surface care - metal and porcelain elements can be wiped with a dry or slightly damp cloth
- User requirements - the student works with the set under the supervision of a biology teacher or laboratory assistant
- Ready to use - comes fully assembled, no pre-assembly required
- Warranty period (month) — 12

### 3. Equipment

- Low laboratory beaker with scale and drain spout, heat-resistant, glass, 50 ml — 1 pc.
- Low laboratory beaker with scale and drain spout, heat-resistant, glass, 100 ml — 1 pc.
- Spatula spoon, metal, 150 mm — 1 pcs
- Pasteur pipette, polymer, 3 ml — 1 pcs
- Pasteur pipette, polymer, 5 ml — 1 pcs
- Stirring stick, glass, 200 mm — 3 pcs.
- Safety goggles, plastic — 1 pcs
- Protective gloves, textured latex — 3 pair
- Brush for laboratory glassware, d=13 mm — 1 pcs
- Brush for laboratory glassware, d=20 mm — 1 pcs
- Set of dissection instruments with magnifying glass, 10 items — 1 set.
- Microscope slide, ground edges, 25x75 mm, 50 pcs/pack — 1 pack
- Cover glass, 24x24 mm, 100 pcs/pack — 1 pack
- Petri dish, d=90 mm, h=20 mm — 1 pcs
- Mortar with pestle, porcelain, d=90 mm — 1 pc.
- Filter paper, d=90 mm, 100 pcs/pack — 1 pack
- Gauze, 1 m — 1 pack
- Medical cotton wool, 25 g — 1 pack
- Laboratory tray, metal with wax, 310x210x42 mm — 1 pcs
- Medical tourniquet, 450x25 mm — 1 pcs
- Hand exerciser — 1 pcs
- Hand dynamometer — 1 pcs
- Card for determining the accommodation of the eye — 1 pcs
- Card for detecting the blind spot — 2 pcs
- Distilled water, 250 ml — 1 pcs
- Iodine, 5 %, 20 ml — 1 pcs
- Foam insert — 1 pcs

- Sticker — 1 pc.
- Storage box (plastic container for sets) — 1 pcs
- Methodological manual for the teacher and the student - 1 pc.
- Product Passport and Warranty Card — 1 pcs
- Individual transport packaging — 1 pcs
- Right of access to the online course with a language-model-based assistant (license) — 1 pcs

The set is accompanied by a methodical manual describing the purpose of each component. Replacement of damaged items is carried out separately upon order.

## **4. Safety measures**

### **4.1. General requirements**

- Before first use, read this passport and familiarize yourself with the safety rules.
- Students work with the kit only under the supervision of a biology teacher or laboratory technician who has conducted a safety briefing.
- Inspect dishes and glassware before each use for cracks, chips, and other defects.
- Remove damaged dishes and glasses from circulation and place them in a special place for disposal.
- Wash dishes with warm water without using abrasive materials.

### **4.2. Safety when working with glass and preparation instruments**

- Hold slides and coverslips by the edges, avoiding contact of fingers with the work surface.
- Clean up broken glass immediately wearing protective gloves to avoid cuts.
- Pass dissecting instruments to each other with the handle facing forward and do not point the blade at other students.
- After use, immediately put sharp tools back into the kit to avoid accidental injuries.

### **4.3. Safety when working with reagents and accessories for physiology**

- Apply iodine solution carefully, avoiding contact with skin, mucous membranes, and clothing; if necessary, rinse immediately with water.
- Apply a medical tourniquet only for a short time and under the supervision of a teacher; do not apply it to students with contraindications.
- When working with the expander and dynamometer, do not apply excessive force to avoid stretching the muscles.
- Use personal protective equipment (goggles, gloves) during all work with reagents.

### **4.4. It is strictly forbidden**

- Use cracked or damaged glassware, Petri dishes, and other utensils from the kit.

- Pointing dissection instruments at other students or using them for purposes other than their intended purpose.
- It took too long or too long to tighten the medical tourniquet, and it was also applied repeatedly without the teacher's permission.
- Taste or inhale the reagents directly, as well as taste the test preparations.
- Take reagents, slides, and collection tools outside the biology room.

## **5. Preparation for work**

- 5.1. Unpack the kit and check the completeness according to section 3. We recommend that you keep the packaging for further storage of the product.
- 5.2. Rinse the glass components thoroughly with warm water and allow them to dry on a clean cloth or rack.
- 5.3. Review the methodical guide with a description of the components of the set and their purpose for the correct selection when preparing for the lesson.
- 5.4. Prepare the workplace by arranging utensils and equipment so that they are convenient for work, but protected from falling.
- 5.5. To prepare micropreparations, prepare slides and coverslips, as well as a laboratory tray for laying out small parts.
- 5.6. Make sure a first aid kit is available in case of minor cuts while working with glass.
- 5.7. Before physiology exercises, check the serviceability of the dynamometer and expander and the integrity of the medical tourniquet.

## **6. Procedure**

### **6.1. Preparation for the lesson**

- Select the required kit components according to the topic of the laboratory work.
- Rinse the glass elements thoroughly with running water and then with distilled water.
- Dry the glass with a clean cloth or leave to dry at room temperature.
- Check the integrity of the slides and coverslips and the absence of chips on the Petri dish.

### **6.2. Preparation and examination of microslides**

- Apply the material to be examined to a slide and, if necessary, add a drop of distilled water or iodine solution for contrast.
- Carefully cover the preparation with a coverslip, avoiding the formation of air bubbles.
- Use the set of dissecting instruments with a magnifying glass for fine dissection of plant and animal tissue samples.
- Place prepared samples for long-term observation in a Petri dish on a flat surface.

### 6.3. Practical exercises in human physiology

- Measure your hand grip strength with a hand dynamometer, comparing the results of your right and left hands.
- Use an expander to assess muscle endurance under the supervision of a teacher.
- Apply a medical tourniquet for a short time and only under the supervision of an educator to demonstrate the change in blood supply to the limb.
- Determine the accommodation of the eye and identify the blind spot using the appropriate cards according to the methodical manual.

### 6.4. Completion of work

- Disassemble the slides; wash suitable slides and coverslips for reuse.
- Record the results of your observations and physiological measurements in your workbook.
- Clean and dry used dishes and utensils, and arrange them in the nests of the lodge.
- Check the completeness of the set before placing it in the storage box.

### 6.5. Working with an online course

- Obtain an account at the educational institution and activate the right of access to the course; the validity period of the license is counted from the date on which access is transferred.
- Select the topic of the lesson in the course list: every topic is accompanied by a plan, a list of equipment, an experiment scenario, a step-by-step instruction, a video demonstration and interactive tasks.
- Formulate a query to the assistant on the topic of the lesson — it will suggest appropriate experiments, set out the sequence of actions, examine typical errors and advise how to correct them.
- Set the level of difficulty of the tasks to match the preparation of the class; on the basis of the results of the work the assistant will help to draw up the report and to organize the conclusions.

## 7. Care, maintenance and possible malfunctions

### 7.1. Cleaning

- Wash dishes immediately after use with warm water.
- For stubborn dirt, use a soft laboratory glassware brush.
- If necessary, use a special glass cleaning milk, but not abrasive powders.
- Wipe slides and coverslips with a lint-free cloth, avoiding scratching the work surface.
- Do not use metal brushes or excessively hot water for cleaning.

### 7.2. Periodic control

- Once a month, check the condition of all dishes and glassware for microcracks.
- Make sure that the graduated scales on the glasses remain clearly visible.

- Check the serviceability of the dynamometer, expander, and the integrity of the medical tourniquet.
- If cracks or chips are found, stop using the item.

### 7.3. Possible malfunctions and ways to eliminate them

| Symptom                                                 | Possible cause                                | User actions                                                                                      |
|---------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------|
| Glass turbidity                                         | Microcracks; mineral residues                 | Rinse the dishes with a solution of white vinegar; if cloudiness persists, discard the dishes.    |
| The dynamometer shows unstable values                   | Contamination or wear of the spring mechanism | Wipe the case with a dry cloth; if the readings deviate significantly, contact a service center.  |
| Dishes slide on the table                               | Smooth table surface; moisture on the bottom  | Use a rubber dish towel or damp cloth                                                             |
| The glass is fogged up or slightly cloudy on the inside | Moisture ingress during storage               | Wipe dry with a soft cloth; allow the glass to dry completely before storing in a box.            |
| Cracks on the edges                                     | Mechanical damage when falling                | Discontinue use; dispose of; order replacement                                                    |
| The scale fades or wears off                            | Abrasive cleaning; long-term use              | In the future, clean the product without abrasives; order new dishes if there is severe abrasion. |

## 8. Storage and transportation conditions

- Store the dishes in a dry, shaded place at a temperature of +5 °C to +40 °C and a relative humidity of no more than 80%.
- Place dishes on special shelves or in cabinets protected from vibrations.
- Separate dishes of different sizes with soft material to avoid damage.
- Store slides and coverslips in their original packaging, separate from other kit components.
- When transporting, pack the dishes in the original packaging with cushioning material.
- Do not place heavy objects on the dishes during transportation.

- The shelf life of dishes without maintenance is not limited if the above conditions are met.

## 9. Warranty obligations

- 9.1. The warranty period of the product is 12 months from the date of sale specified in the warranty card.
- 9.2. The manufacturer guarantees that the product complies with the declared technical characteristics, provided that the rules for transportation, storage and operation set out in this passport are followed.
- 9.3. During the warranty period, product defects that have arisen due to the manufacturer's fault will be eliminated free of charge. The method of elimination (repair, component replacement or product replacement) is determined by the service center.
- 9.4. Warranty service is provided upon receipt of a correctly and completely filled out warranty card and a document confirming the fact and date of purchase.
- 9.5. The warranty does not apply to cases where the malfunction is caused by:
  - mechanical damage, in particular cracks, chips and deformation of the housing and of the components of the product;
  - violation of the operating, storage or transportation rules set out in this passport;
  - ingress of liquid or foreign objects into the product, and also the action of insects and animals;
  - independent disassembly, repair or modification of the product, in particular repair at unauthorized workshops;
  - use of the product other than for its intended purpose;
  - force majeure circumstances (fire, flood, earthquake, etc.).
- 9.6. The warranty does not apply to natural wear and tear of the coating and appearance of the product, as well as to consumables.

## 10. Product disposal

- The product is not electrical or electronic equipment, therefore the marking in the form of a crossed-out container does not apply to it.
- After the end of the service life, the product is disposed of according to the rules established at the institution that operated it, with prior separation by materials.
- Hand over the packaging elements (cardboard, polymer materials) to the corresponding streams of recyclable materials.

## Contacts

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## **Conditions of use and storage of the product**

The product is intended for educational work in general secondary education institutions and is used only under the control and supervision of a teaching staff member; the recommended age of students — from 10 years, that is, students of grade 5 and of higher grades. Keep the product in a dry, clean and ventilated room at a temperature from +5 to +40 °C and relative air humidity up to 80 % without condensation, separately from heat sources and out of direct sunlight, moisture and dust. Use the product exclusively for its intended purpose and do not allow drops, impacts or other mechanical damage. If you notice damage, a crack or any malfunction, stop working with the product immediately and inform the teacher or the responsible person of the educational institution; repairing the product on your own is prohibited.

## WARRANTY CARD

|                          |                                                        |
|--------------------------|--------------------------------------------------------|
| Product name:            | Set of glassware for laboratory experiments in biology |
| Product model:           | LABOTRIX GLASSWARE B2                                  |
| Serial number:           |                                                        |
| Date of sale:            |                                                        |
| Warranty period:         | 12 months from the date of sale                        |
| Trading organization:    |                                                        |
| Signature of the seller: |                                                        |

The goods have been received in working order, without visible damage, complete, and have been checked in my presence. I have no claims regarding the quality of the goods; I have read and agree to the operating and warranty service conditions.

Full name of the buyer

Buyer's phone number Buyer's signature

Dear Customer!

Thank you for choosing Labotrix products. After-sales service of this product is provided in accordance with the regulations of the company and the legislation of the country of sale. So that we can serve you quickly and without unnecessary formalities, check that this warranty card is filled in correctly at the moment of purchase and keep it together with the payment document throughout the entire warranty period. When applying for repair, hand the product over to the seller or to the service center together with the filled-in card.

Procedure for applying

1. The right to free warranty service for the product is valid for 12 months from the date of sale specified in the warranty card. Within this period, components that have failed due to a manufacturing defect are repaired or replaced without payment from the buyer.
2. Before contacting, make sure that the malfunction is not caused by the reasons listed in section 9 of this passport, and if possible, use the table of possible malfunctions in section 7.3.
3. After the 12-month warranty period, repairs are carried out for a fee; the cost of work and spare parts is determined depending on the nature of the malfunction.

### Grounds for refusal of warranty service

The company reserves the right to refuse free service or to perform the work on a paid basis if at least one of the following circumstances is established:

- absence of the warranty card, its incomplete or corrected completion, and also the absence of a document confirming the purchase;
- non-conformity of the serial number of the product with the number specified in the card, or damage to the factory marking;
- traces of independent disassembly, repair or modification of the product;
- damage caused by violation of the operating rules, connection to an unsuitable power source or external mechanical impact;
- damage as a result of force majeure circumstances.

**Service Records**

| Date of entry | Description of the malfunction | Work performed | Position, signature, full name of the responsible person |
|---------------|--------------------------------|----------------|----------------------------------------------------------|
|               |                                |                |                                                          |
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