

# Instruction Manual Smoke Tube Set No. 550

## 1. For Safe Use

In this manual, the precautions required for the safe use of this product are classified below according to the severity and imminence of potential hazards or damage, and are shown together with their respective symbol marks. All of these precautions are critical to the safety of users and others. To ensure you use this product safely, be sure to observe every precaution described in this manual.

|                                                                                   |                |                                                                                                               |
|-----------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------|
|  | <b>Danger</b>  | Indicates a high risk of death or serious injury to the user                                                  |
|  | <b>Warning</b> | Indicates a high risk of death or serious injury to the user                                                  |
|  | <b>Caution</b> | Indicates a high risk of minor injury to the user                                                             |
|  | <b>Note</b>    | Indicates a high risk of malfunction of the product or accompanying items and advice on use                   |
|  |                | Caution – High Temperature: Indicates a risk of burns from contact with hot parts. (indicated on the product) |

**This product is a smoke tube for airflow testing.** Do not use it for any other purpose. We accept no liability for any accidents arising from uses other than those intended.

|                                                                                     |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Danger</b>  | <ul style="list-style-type: none"><li>This product is not explosion-proof. Do not use it in areas where explosive atmospheres may be present, as it could act as an ignition source and cause an explosion.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|    | <b>Warning</b> | <ul style="list-style-type: none"><li>Do not subject this product to strong impacts, drop it, or throw it. Doing so may cause overheating, ignition, or malfunction.</li><li>When charging, use only the supplied USB charger. Charging with any other charger may cause the built-in lithium-ion battery to rupture, ignite, or fail.</li><li>Do not expose this product to water or handle it with wet hands. Doing so may result in electric shock, injury, or malfunction.</li><li>Do not disassemble or modify this product. Doing so may cause overheating, ignition, or malfunction.</li><li>Do not operate continuously for more than 30 seconds. The smoke cartridge may become extremely hot, and hot liquid could eject from the tip. If this occurs, allow the unit to cool before resuming use.</li><li>Replace the smoke cartridge when the white smoke output begins to fade. Continuing to operate without visible smoke may cause the cartridge to overheat abnormally, emit a foul odor, or deform.</li><li>If you observe abnormal heat, odor, or deformation during use, stop operating immediately and do not use the product again.</li></ul>                                                                                |
|  | <b>Caution</b> | <ul style="list-style-type: none"><li>Use only in an ambient temperature of 5 °C to 40 °C.</li><li>Do not leave or store the product in high-temperature or high-humidity areas, or in direct sunlight.</li><li>The white smoke is generated by heating a mixture of propylene glycol and vegetable glycerin and is not considered harmful to humans; however, do not inhale it.</li><li>If you feel unwell during use, stop using immediately and consult a physician.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  | <b>Note</b>    | <ul style="list-style-type: none"><li>Be sure to fully insert the rubber bulb into the device. If it is not inserted properly, the main unit may detach from the rubber bulb and fall during use.</li><li>This product's design may allow liquid to leak or splash. In particular, when operating it facing downward or continuously, leakage can occur, so use the product with care. If liquid contacts the device or surrounding surfaces, do not touch with bare hands—wipe it off thoroughly and wash any contaminated areas.</li><li>When generating white smoke, do not block the tip of the smoke cartridge.</li><li>If smoke is emitted continuously for 10 seconds, the device's LED will blink and smoke generation will stop.</li><li>Do not leave the device connected once charging is complete. After charging, unplug both the USB charger and the device from the USB port.</li><li>Even when not in use, charge the device periodically. Leaving it with a fully depleted battery may cause battery deterioration.</li><li>After use, remove the smoke cartridge from the main unit and store it with the caps on both ends.</li><li>Do not use in combination with anything other than the items supplied in the set.</li></ul> |

## 2. Contents of the set

The Smoke Tube Set (No. 550) contains the following items. Please check to ensure all are present.



| Product                                               | Qty. |
|-------------------------------------------------------|------|
| 1. Smoke generating cartridge (with caps for storage) | 1    |
| 2. Main unit                                          | 1    |
| 3. Rubber bulb (No. 552)                              | 1    |
| 4. Charger                                            | 1    |
| 5. Instruction manual (this document)                 | 1    |

\* Smoke tube set No. 550 contains one smoke generating cartridge. For replacement, order Smoke generating cartridge No. 551 (pack of 3).

## 3. Product Overview and Specifications

This product makes it easy to visually observe gas(air) flow by producing white smoke from a smoke cartridge. Because the smoke is generated by pumping air into the main unit with the rubber bulb, you can adjust the amount of smoke as needed.

Product Specifications (when new)

| Item                                            | Specification                                                                 |
|-------------------------------------------------|-------------------------------------------------------------------------------|
| Number of cartridge uses                        | Approximately 500 times (1-second smoke emission each, at 20 °C and 50 % RH). |
| Number of continuous battery-powered operations | Approximately 500 times per charge (assuming 1-second emission each time).    |
| Battery charging time                           | Approximately 1 to 1.5 hours                                                  |

## 4. How to use this product

- Attach the main unit to the supplied USB charger, then plug the charger into a USB port (Type-A, 5 V\_0.5 A). While charging, the LED on the USB charger will glow red.  
\*Use only the supplied USB charger for charging.  
\*During operation, if the LED on the main unit starts blinking, the battery is low. Recharge before further use.
- When the LED lamp on the USB charger changes to green, charging is complete. Remove the USB charger from the main unit.
- Fully insert the air inlet of the main unit into the rubber bulb.
- Remove both end-caps from the smoke cartridge, then screw the cartridge into the main unit until there is no gap. Verify it is securely fastened.  
\*If not tightened enough, the LED will light when you squeeze the bulb but no smoke will be produced.
- Cover the hole in the rubber bulb with your finger and squeeze it slowly to generate white smoke. The main unit's LED will light when smoke is emitted.
- After use, remove the smoke cartridge from the main unit, and store it with caps on both ends.



## 5. Disposal Method



The main unit contains a lithium-ion battery, which should be disposed of separately from household waste. Discharge the lithium-ion battery completely, tape or otherwise insulate the connecting part of the main unit with the smoke cartridge and recycle it in accordance with the rules and regulations prescribed by the local authority. For parts other than the main unit, ask an industrial waste contractor to dispose of them, or dispose of them in accordance with the rules and regulations set by the local authority.

## 6. Product Warranty and disclaimer

Gastec warrants that its products are free from defects in design, material, and workmanship and will comply with the specifications established by Gastec for a period of six months from the date of purchase. With respect to any defective product to which this Warranty applies, Gastec shall, at its sole option, either replace the defective product with a new product or refund the purchase price of the defective product. THIS REPLACEMENT OR REFUND REMEDY SHALL BE THE CUSTOMER'S OR END USER'S SOLE AND EXCLUSIVE REMEDY FOR DEFECTIVE PRODUCTS. THE AGGREGATE LIABILITY THAT GASTEC SHALL HAVE WITH RESPECT TO PRODUCTS SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY THE CUSTOMER OR END USER FOR THE PRODUCT THAT IS THE SUBJECT OF THE PARTICULAR CLAIM.

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This Warranty shall not apply if: (a) the product is modified, tampered with or altered by anyone other than Gastec after leaving Gastec's control, unless authorized by Gastec in writing; (b) Gastec is not notified in writing of the loss, claim or product nonconformity within 365 days after purchase; (c) the product is not distributed, stored, used, maintained, and/or repaired in accordance with all applicable instructions, guidelines, warnings, laws, standards and product literature; (d) the product is subjected to abuse, accident, misuse, neglect, inadequate protection against shock, vibration, excessively high or low temperatures or overpressure, or unauthorized repair, testing, storage, shipping or handling; (e) the loss, claim, product nonconformity, or damage to the product is caused by a combination of the product with any items not supplied by Gastec, or by the use of the product with any other Gastec product contrary to Gastec's instructions, guidelines, and warnings; (f) the product is beyond its expiration date, tube shelf life, maximum storage period, or maximum refrigerated storage period; (g) the product was purchased or acquired through a source other than an authorized Gastec or its authorized distributor or reseller; or (h) the loss, claim, product nonconformity, or damage to the product was the result of any cause beyond Gastec's control, including natural disaster, fire, flood, or other force majeure.

The Warranty shall not apply to consumable products, parts, or components.

The Warranty shall be voided if the product is used by persons untrained and unfamiliar with the proper use and application of the products, particularly those used with hazardous or toxic substances.

This Warranty may not be modified, expanded, or altered in any way except in a writing signed by a fully authorized representative of Gastec.

If you have any questions regarding gas detection and quality of the products, please feel free to contact your Gastec representatives.

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