

Technical Data Sheet: Formalin Test Kit for Fresh Food

Product Code: SS-FM-01

Brand: SURE Scientific

Application: Rapid qualitative colorimetric screening for prohibited formalin (formaldehyde) preservatives in fresh food matrices.

1. PRODUCT OVERVIEW

The **SURE Scientific Formalin Test Kit** is an advanced, field-optimized diagnostic screening tool developed for the preliminary qualitative detection of illegal formalin (formaldehyde) added to fresh food. Unlike traditional Schryver's tests, which frequently produce false alarms due to natural trace formaldehyde, this kit utilizes a highly selective chemical indicator platform with an optimized Limit of Detection (LOD). It allows consumers, vendors, and health enforcement officers to instantly identify illicitly added preservatives on-site while avoiding background false positives from seafood biology.

2. KEY FEATURES

- **Advanced Selectivity:** Engineered to be significantly more selective than classic Schryver's test.
- **Optimized Background Filtering:** Specifically calibrated to distinguish dangerous, added commercial formalin from naturally occurring trace backgrounds found in certain marine organisms.
- **Instantaneous Field Readout:** Delivers sharp, high-contrast visual color transitions within a validated 1–2 minute window.
- **Standardized Capacity:** Perform 20 independent sample screenings per kit package.

3. KIT COMPONENTS

Each single kit package provides sufficient testing materials for 20 field evaluations:

- **Formalin Test Reagent** (1 Dropper Bottle): A proprietary, stabilized chromogenic active solution.
- **Test Vessels:** Disposable polystyrene spoons for sampling and containment.
- **Standard Color Chart:** A gradient reference scale printed directly on the exterior envelope.
- **Instruction Manual:** Step-by-step user guide for non-laboratory personnel.

4. TECHNICAL SPECIFICATIONS

Parameter	Specification
Detection Method	Colorimetric (Visual Color Development)
Methodology Improvement	Higher selectivity over traditional Schryver's method
Limit of detection	~20 mg/kg (ppm) [Calibrated to exclude natural background traces]
Testing/Reaction Time	1-2 minutes
Kit Capacity	20 samples per kit package
Sample Matrix	Fresh seafood, raw meats, and agricultural vegetables
Operating Temperature	20–35 °C (Ambient)
Storage Temperature	2–8 °C (Keep refrigerated for optimal reagent shelf-life)
Shelf Life	12 months from manufacture (at 2-8 °C, unopened)

5. INSTRUCTIONS FOR USE

1. **Sampling:** Place a portion of the raw food sample or transfer approximately 0.2 mL of the food soaking water into the provided plastic test spoon.
2. **Reagent Addition:** Dispense 1 drop of the Formalin Test Reagent solution directly onto the sample or soaking water.
3. **Homogenization:** Gently mix the solution and matrix together using the tip of a clean sampling tool for 10–20 seconds.
4. **Incubation:** Allow the mixed reaction to rest at ambient temperature for 1–2 minutes.
5. **Evaluation:** Read the developed color profile immediately by comparing the fluid color against the standard color chart printed on the packaging envelope.

6. RESULT INTERPRETATION

Read all results under a bright, natural, or stable white LED light to ensure accurate color matching:

- **NEGATIVE:** No significant color change occurs; the mixture remains clear, colorless, or retains its natural baseline matrix appearance. This indicates that added formalin is either entirely absent or resides safely below the kit's screening threshold.
- **POSITIVE:** The solution shifts distinctly from a colorless state into a Pink color within the incubation time. This visual shift indicates a presumptive positive state for formalin contamination.

Critical Operational Note

- **Incubation Constraints:** Results must be evaluated strictly between 1 to 2 minutes of incubation. Colors appearing after 10 minutes due to prolonged exposure are technically invalid.
- **Matrix Constraints:** Although engineered to filter out natural baseline biological background concentrations in seafood, extreme biological variations or highly non-standard food matrices may still affect visual readouts. High concentrations of unrelated, unique organic compounds may occasionally influence color development.

7. STORAGE AND STABILITY

- **Transport Status:** Stable at ambient temperatures during standard shipping transit windows.
- **Long-Term Storage:** Keep refrigerated at 2–8 °C immediately upon arrival. Do not freeze.
- Keep away from direct sunlight and extreme heat to prevent reagent degradation.
- Ensure the caps of Reagent bottles are tightly sealed immediately after use to prevent evaporation and air oxidation.

8. SAFETY AND HANDLING

- **First Aid:** In case of skin or eye contact, rinse immediately with plenty of water. If irritation persists, seek medical advice.
- **Disposal:** Dispose of used test spoons and chemical waste in accordance with local environmental regulations.

9. LIMITATIONS AND LEGAL DISCLAIMER

- **Presumptive Screening Limit:** This product operates strictly as a qualitative screening system for preliminary on-site field auditing. It is NOT a confirmatory analytical device, an automated quantitative tool, or admissible legal proof of contamination.
- **Confirmatory Requirements:** Do not execute legal penalties, destroy commercial inventory, or publicly accuse suppliers based solely on these screening outcomes. A positive screening result indicates the likely presence of added formalin and must be independently verified by a certified analytical laboratory using gold-standard quantitative methods such as Spectrophotometry (Chromotropic Acid method) or High-Performance Liquid Chromatography (HPLC) before regulatory action is taken.
- **Liability Limitation:** SURE Scientific's commercial liability is strictly restricted to product replacement or a direct refund of the kit packaging purchase price. The manufacturer explicitly disclaims all civil or financial liability for commercial revenue drops, subsequent health outcomes, or legal outcomes resulting from field testing actions.

MANUFACTURER INFORMATION

SURE Scientific Co., Ltd.

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