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# Introduction to Using SwabTek Tests

# Notice to Users (From all SwabTek User Manuals)

NOTICE TO USERS. You are solely responsible for your use of Products and for making sure that the way you use Products complies with applicable laws, regulations and governmental policies and Product documentation. You must obtain all necessary approvals and permissions you may need to use the Products. It is your responsibility to make sure the Products are suitable for your particular use. You may not resell Products. Results of Products are presumptive only and, as such, they indicate the presumed presence of chemical groups and precursors which may be present in a given sample. ALL RESULTS SHOULD BE CONFIRMED BY AN APPROVED ANALYTICAL LABORATORY. All Products must be administered in strict accordance with the specific instruction and reference materials that accompany the products for best results. SwabTek cannot anticipate all conditions for use of Products and does not accept responsibility for use or misuse in any particular application. Products have been designed for a variety of applications, under a variety of conditions, but are not designed or manufactured as a product for lethal or harmful purposes. You must exercise your reasonable judgment to determine Product suitability for any specific use-case, and application of the Products' presumptive analysis for their particular purposes. We advise you to review the reference materials relevant to the Product and complete the online training and certification process prior to use of any Product. Reference materials are available for all of Veriteque USA, Inc.'s products at the following link: www.SwabTek.com/resources. Veriteque USA, Inc.'s online training and certification portal is available at the following link: www.SwabTek.com/certification. If SwabTek's test swabs are used to collect a sample from a consumable item such as plant material or food, such item should NOT be consumed, regardless of outcome of the test, and should be disposed of in accordance with applicable laws. If SwabTek's test swabs are used to collect a sample from a reusable product that users come into direct contact with such as a vape pen or pipe, such item should be cleaned thoroughly with soap and wiped dry prior to use.

# Presentation Disclaimer

- The purpose of this document is to provide an overview of testing procedure, and to highlight the essential aspects of training to use SwabTek test kits

- This document is not a replacement for the SwabTek product-specific user manuals, and cannot be used alone to become sufficiently trained to operate SwabTek's test kits

- Users should be familiar with the entirety of the user manual contents for each individual SwabTek test kit they intend to deploy in the field, and it is incumbent upon each user to be sure they are administering the tests in strict accordance with the specific instruction and reference materials that accompany each test

# Introduction

- SwabTek manufactures test kits for detecting drugs and explosives
- The tests are presumptive in nature and operate like other presumptive field tests
- All SwabTek test results should be confirmed by an approved analytical laboratory

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# Procedure

# How the Tests Work

- SwabTek tests use color chemistry, meaning that when a sample is combined with the test's reagent, a positive result is indicated by a color change
- SwabTek's color chemistry uses dry powder reagents that are printed or pressed onto paper backing
- The user will combine their sample with the printed reagent and look for a color change to analyze the test result
- To operate SwabTek tests, users must not be color blind or have difficulties distinguishing colors

# General Procedure

- SwabTek tests have a simple, two-step process:
    1. Swab the item or sample suspected of containing a threat.
    2. Dab the swab on the reagent.
- If the threat is present, the reagent on the card changes color within seconds.
- Each individual test has its own procedural guidelines about Step 2 with detailed instructions on where, how hard, and how long the user should dab the swab

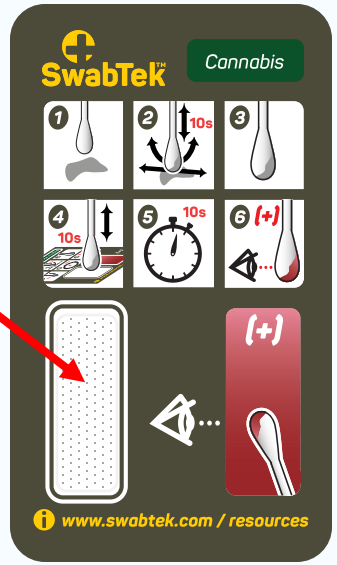
1.

2.

# Test Strip/Card

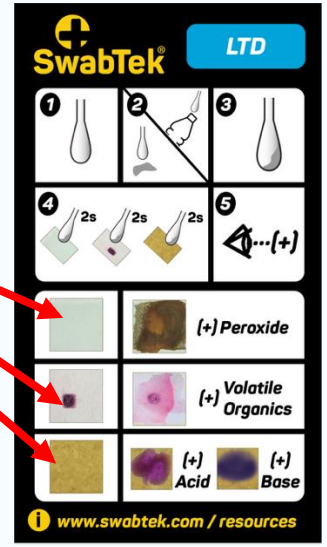
- The paper that hosts SwabTek's reagent can either come in a strip or a card format
- The card format is the standard for all newly produced tests, and includes pictorials and a color gradient to aid the user
- All narcotics tests have just one reagent on them, but some of the explosives tests have multiple reagents that align with the multiple stages of those tests

*One reagent, card format*




*One reagent, strip format*


*Multiple reagents, card format*



# Printed Reagents

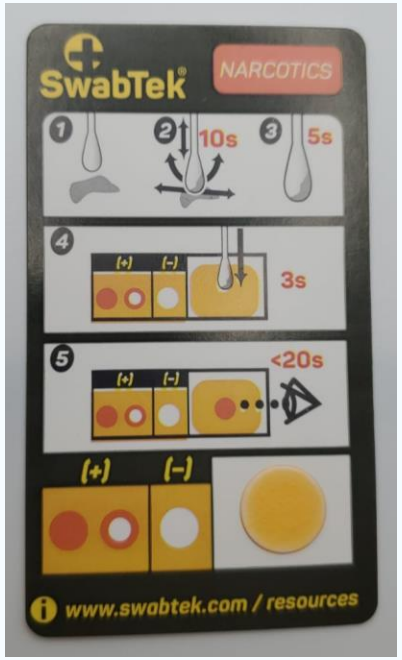
- Most SwabTek reagents are printed directly onto the test strip/card
- These reagents will appear as a square or rectangle of colored ink, on the white background of the reagent panel
- During testing, the user may dab or swab around the reagent to test
- For specific timing/instructions, refer to the pictorials printed on the test card


***Fentanyl+ Test card with yellow printed reagent***


***Cannabis Test card with grey printed reagent***

# Paper-Infused Reagents

- Select SwabTek tests, like the General Narcotics Test and Gunshot Residue Test, use reagents that are infused in a sticker and then affixed, rather than printed, onto the cards
- These reagents will appear as a round, raised dot in the reagent zone of the card
- Older versions of these tests will have the reagent infused right onto the card, and can be identified by the circular dot of reagent, rather than a rectangle
- During testing, the user should firmly press the swab in a single spot for the duration indicated in the test's instructions
- The user should not swab or dab around the reagent
- For specific timing/instructions, refer to the pictorials printed on the test card




***General Narcotics Test with infused sticker***


***General Narcotics Test with reagent infused in card***

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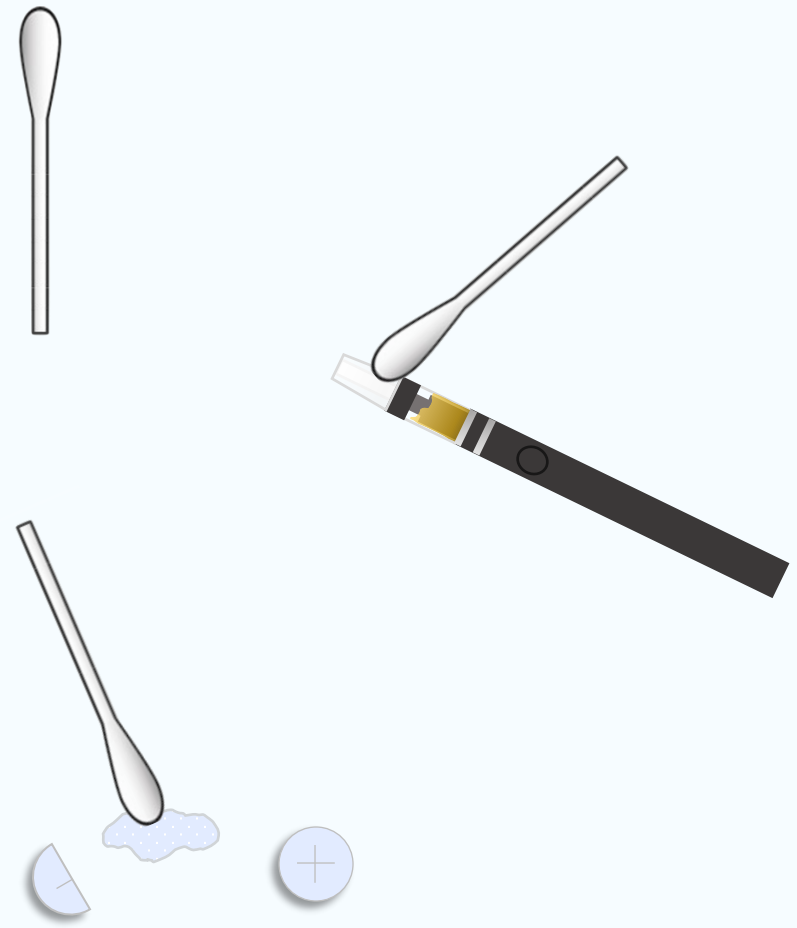
# Test Swab

- All SwabTek tests come with a swab for sample collection (with one exception)
- The swabs are pre-wetted with a unique liquid solvent to aid in sample collection and preparing the sample for testing
- The wetted swab can also easily collect fine samples like crumbs or powders, and lift samples off hard surfaces like vape pens and countertops



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# Test Portfolio

# Test Kit Portfolio

**Cannabis**


**Fentanyl + Analogs**


**General Narcotics**


**Dry Explosives**


**Amphetamines**


**Heroin**


**Cocaine**


**Liquid Explosives**


**THC vs. HEMP**


**Gun Shot Residue**

# Testing Categories

- SwabTek's tests can be generally classified into three categories of detection


| Broad-Spectrum Detection | Class-Level Detection | Compound-Level Detection |
|---|---|---|
| *Detecting multiple classes or categories of compounds* | *Detecting a specific class or category of compounds* | *Detecting a specific compound* |

# Testing Categories

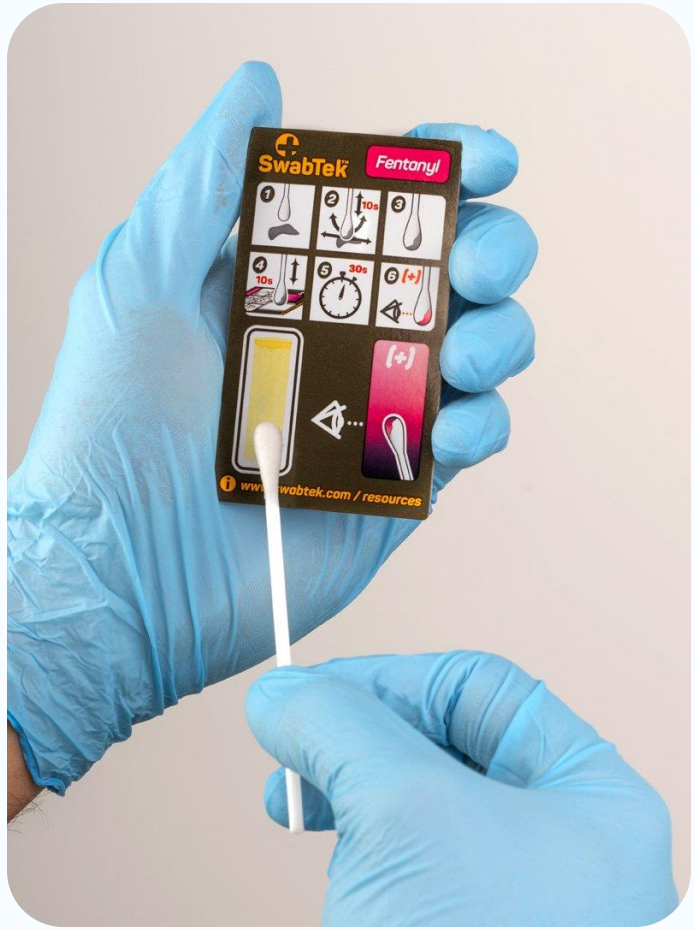
- SwabTek's tests organized by category

*More General* → *More Specific*

| Broad-Spectrum Detection | Class-Level Detection | Compound-Level Detection |
|---|---|---|
| • Fentanyl+ Test Kit<br>• General Narcotics Test Kit<br>• Dry Explosives Test Kit<br>• Liquid Explosives Test Kit | • Cannabis Test Kit<br>• Cocaine Test Kit<br>• Amphetamines Test Kit<br>• Heroin/Opiate Test Kit<br>• Gunshot Residue Test Kit | • THC Test Kit |

# SwabTek Broad-Spectrum Test Example

- An example of a broad-spectrum test in SwabTek's portfolio is the **SwabTek Fentanyl+ Test Kit**
- This test detects multiple different classes of narcotics with the same reagent, including the following:
  - Fentanyl
  - Non-Fentanyl Opioids
  - Xylazine
  - Amphetamines
  - Cocaine
- A positive result on a broad-spectrum test indicates the presumptive presence of <u>at least one compound</u> that falls into <u>one of the detected categories</u>



# SwabTek Class-Level Test Example

- An example of a class-level test in SwabTek's portfolio is the **SwabTek Cannabis Test Kit**
- This test detects all compounds in the same class (cannabis) with the same reagent, including the following:
  - Δ9-THC
  - Δ8-THC
  - CBG
  - Δ10-THC
  - CBD
  - CBN
- A positive result on a class-level test indicates the presumptive presence of <u>at least one compound</u> that falls into <u>the designated class or categeory</u>

# SwabTek Compound-Level Test Example

- The only compound-level test currently in SwabTek's portfolio is the SwabTek THC Test Kit
- This test detects a single compound and provides an indication of its concentration in the sample:
  - Δ9-THC
- A positive result on a compound-level test indicates the presumptive presence of the designated compound

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# Analysis

# Analyzing Test Results

- Each of SwabTek's tests relies on color chemistry, meaning the presence of a target compound is indicated by a color change reaction
- For each test, a positive result is indicated by **a single, distinctive color**
- In practice, positive colors can vary in hue and intensity, but they should be considered positive if they contain the base color (See Slide 21 – Using the Color Spectrum)
- **A color change that is inconsistent with the single, target color is not a valid positive result** (See Slide 22 – Negative Color Changes)

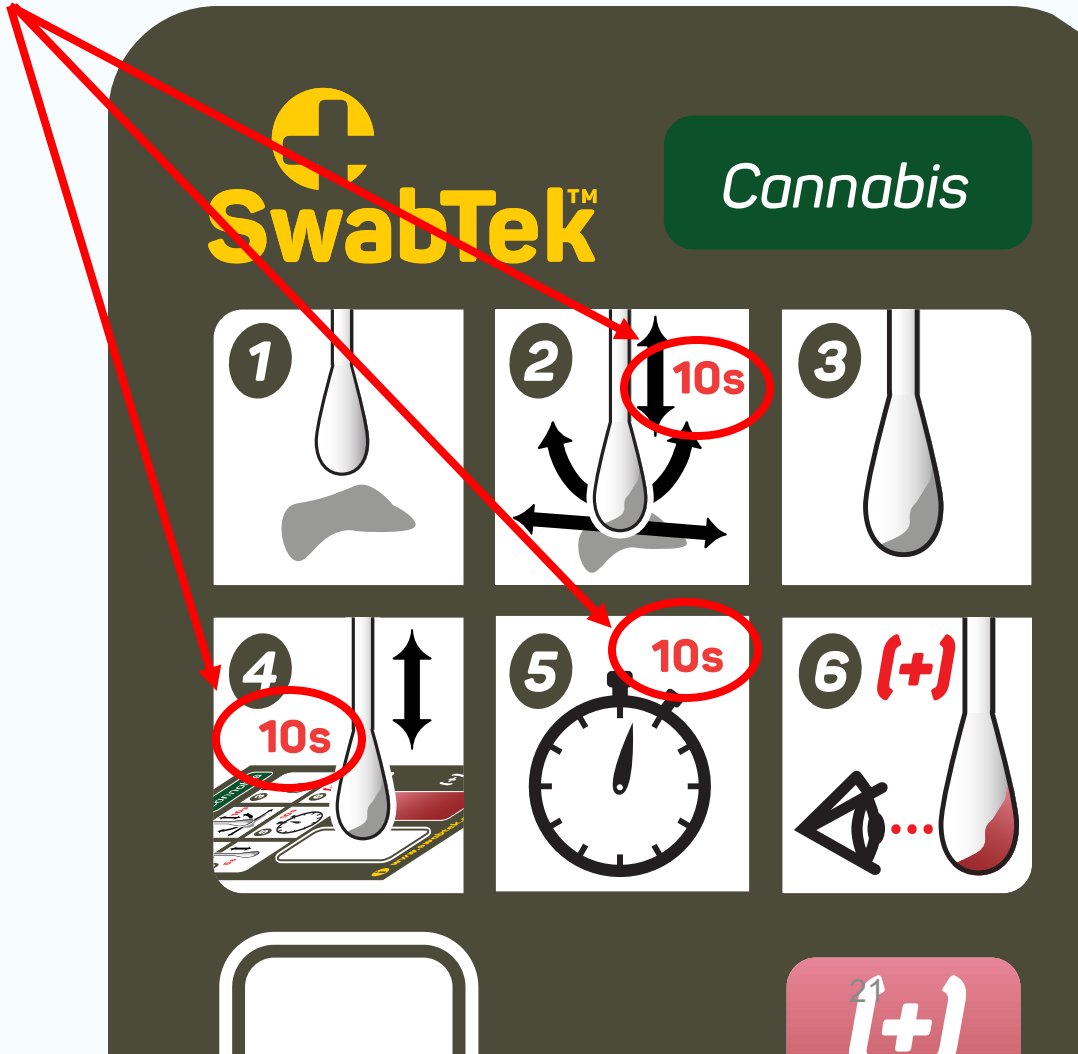
# Color Development

- Color changes occur when the sample reacts with SwabTek's test reagent
- This reaction can occur anywhere that the reagent contacts the treated sample, meaning color may develop on either the reagent surface or on the swab tip
- In practice, it is common for positive results to appear on both the swab tip and reagent surface, but the user should inspect both for color development
- A color change that occurs before the sample and reagent are combined is not considered a valid positive result

# Time-Sensitive Analysis

- It is important to analyze results within the time window designated under each test's procedure
- SwabTek's tests can continue to react with the sample and other environmental elements, which may cause colors to change, or new colors to develop
- Color change outside of the designated time window should not be considered in analysis
- Users should take a photograph of the test at the time of analysis because the color result on the card/strip cannot be used for valid analysis again in the future

***Recommended timing for steps in procedure to help ensure best results***



# Color Reference Guide

- To assist with analyzing colors, the new SwabTek cards contain a color spectrum to use as a guideline for identifying positive colors
- The center of the spectrum shows the base color of a positive result, and the top and bottom ends show varying hues of potential positive results
- The spectrum is not designed to be inclusive of all potential positive results, only to act as a guideline in analysis
- If the user is uncertain about a particular result, they should re-run the test, or contact a SwabTek representative with a photograph for further analysis

***Color Reference Panel from Fentanyl+ Test with colors labeled***

# Using the Color Spectrum

- For some of SwabTek's tests, positive results vary greatly throughout the color spectrum
- For example, the Fentanyl+ Test produces a magenta color change for a positive, but that color may appear darker or brighter in hue depending on the sample
- Positive results may can range in appearance from light pink to dark purple (almost blue)
- Any color within this spectrum is considered a positive result since they have the base color of magenta
- Users must be familiar with the color spectrum for each individual test they deploy

***Various Positive Results Across Fentanyl+ Color Spectrum***

# Negative Color Changes

- For some of SwabTek's tests, a color change can occur without a positive result
- The SwabTek Cannabis Test is an example of one of these tests, along with others such as the Amphetamines and General Narcotics Tests
- Sometimes the Cannabis Test produces yellow/brown color results, which are outside of the color spectrum of the test
- Even though a color is produced, the user must ensure that it is within the color spectrum of positive results

## *Various Positive Cannabis Results*


## *Various Negative Cannabis Results*

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# After the Test

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# After the Test

- After analysis is conducted, it is recommended to take a photograph to document color results
- SwabTek tests are non-toxic and can be disposed of in regular garbage after testing
- Users who encounter a positive result for a threat should consult local guidelines and regulations for appropriate disposal procedures

# Troubleshooting

- Users who have ambiguous or unexpected test results should rerun the test with a new kit
- If an issue persists, contact a member of SwabTek's team for support
- Please have photographs ready to share as SwabTek's team requires photographic support for most troubleshooting issues
- Photographs submitted to support should not depict any private, confidential or classified information, if possible (i.e. names, phone numbers, addresses, ID numbers, etc.)

## *SwabTek Support*

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