



SwabTek
Veriteque USA, Inc.



THC Test Kit

User Manual

Document • THC-MANUAL
Version • 1.0



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THC - MANUAL

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Procedure

If SwabTek's test swabs are used to collect a sample from a consumable good — i.e. plant material, cookies, gummies, candies, etc. — said item should NOT be consumed, regardless of outcome of the test, and should be disposed of in accordance with local regulation. If SwabTek's test swabs are used to collect a sample from a reusable product that users come into direct contact with — i.e. vape pens, pipes, bongs, etc. — said items should be cleaned thoroughly with soap and wiped dry prior to use.

Background

Cannabis: Cannabis is a genus of plant which includes multiple species, most notably cannabis sativa. Cannabis plants contain many different compounds called cannabinoids, the most notable of which is Δ^9 -tetrahydrocannabinol (THC), which is psychoactive. Other non-psychoactive cannabinoids include cannabidiol (CBD), cannabinol (CBN), and cannabigerol (CBG).

In cannabis products, THC can be found in both active and inactive states. Active THC is ready for consumption as a psychoactive. Inactive THC, called THC acid, or THCA, must be converted to active THC in order to be psychoactive. The conversion process from THCA to THC is expedited by heat, which is why cannabis products are commonly smoked, cooked, or vaporized. In fact, raw cannabis plant is very low in active THC.

For legislative and commercial purposes, "Total THC" refers to both active THC and THCA – or the level of Total THC if all THCA is activated.

Marijuana vs. Hemp:

Since the level of psychoactive potential is an important consideration, cannabis plants are classified based on their level of Total THC. Marijuana and Hemp are both cannabis plants with varying levels of THC.

- Hemp is cannabis plant that contains less than 0.3% (W%) Total THC
- Marijuana is cannabis plant that contains at least 0.3% (W%) Total THC

SwabTek THC Test

SwabTek has designed a test to be used in analyzing the concentration of Total THC present in a sample. It is recommended that the SwabTek THC Test be used in conjunction with the SwabTek Cannabis Test, as a follow-up once the presumed presence of cannabis in the sample is confirmed.

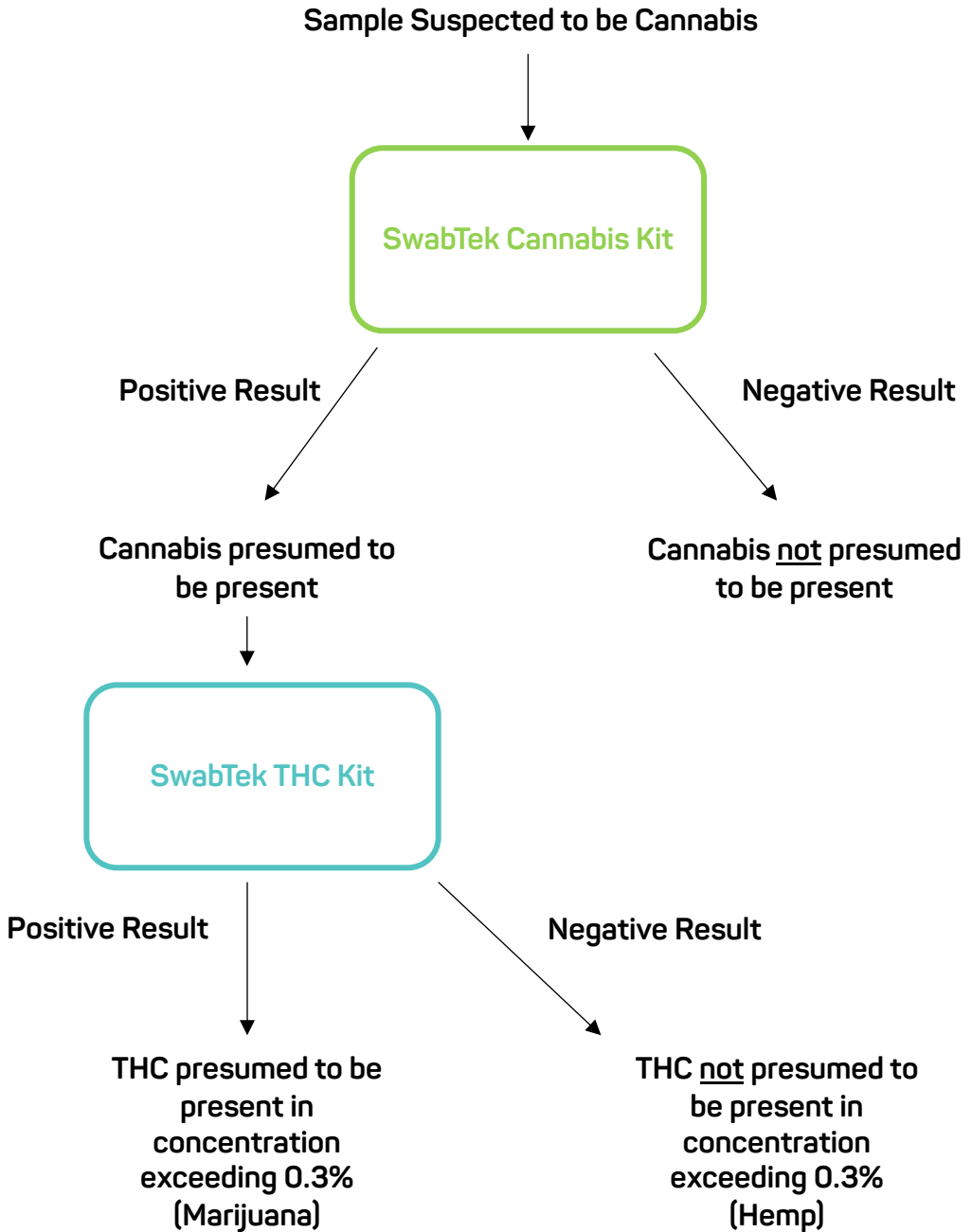
If a sample is suspected of containing cannabinoids, or is confirmed to contain cannabinoids, the SwabTek THC Test can be used to presumptively indicate whether the sample contains a Total THC concentration above or below the 0.3% threshold that distinguishes marijuana from hemp.

This test can be used on both solid (plant material, etc.) and liquid (cannabis oil, etc.) samples.

SwabTek's Test Kit requires the use of a heating implement. This heating implement will help activate any THCA in a sample, allowing the user to test for Total THC. At 220°F, it is expected that 87% of all potential THC in a given sample will be converted to active THC.

A SwabTek THC Test Kit heater is available for sale separately from the standard retail packaging for the tests. Users may substitute a third-party heater so long as it meets the above specifications. For more information on substituting a third-party heater, contact a member of the SwabTek team.

Protocol for Testing Cannabis



THC Test Components

SwabTek's THC test consists of a single piece delivered in a sealed sachet:

- 1 x reagent pouch, contained within a larger plastic pouch



THC Test Components

The SwabTek THC Test also requires the use of a heating implement in order to conduct the test. This heating implement is used to bring the cannabis sample to the minimum threshold required to convert a majority of THCA in a given sample to active THC.

SwabTek has a standardized flat iron heater available for sale to accompany the THC Test Kit. The heater is reusable, and can be charged by USB.

SwabTek Flat Iron Heater



USB Port & Charger

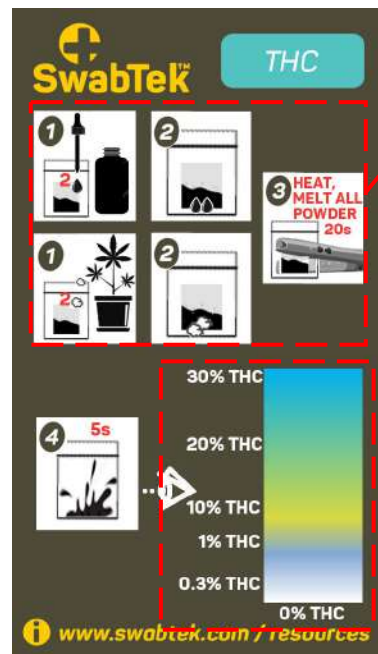


THC Test Card

SwabTek's THC Test is accompanied with a reference card. The reference card should always be used to support the testing process, as it includes step-by-step instructions, and a color reference panel.

SwabTek's THC Test Card 3.5" x 2" paper card that consists of two separate sections. The top right corner of the card is printed with the name of the test.

- 1. Instructions:** The six numbered panels on the reference card indicate the different steps of the testing process. Panels 1 & 2 are repeated to indicate the steps of the process for testing cannabis extracts (top two panels) versus cannabis plant (bottom two panels).
- 2. Color Reference Panel:** This color panel provides a quick reference guide for the colors that may be present in the test, and the presumptive concentration of THC that is indicated at each corresponding level.



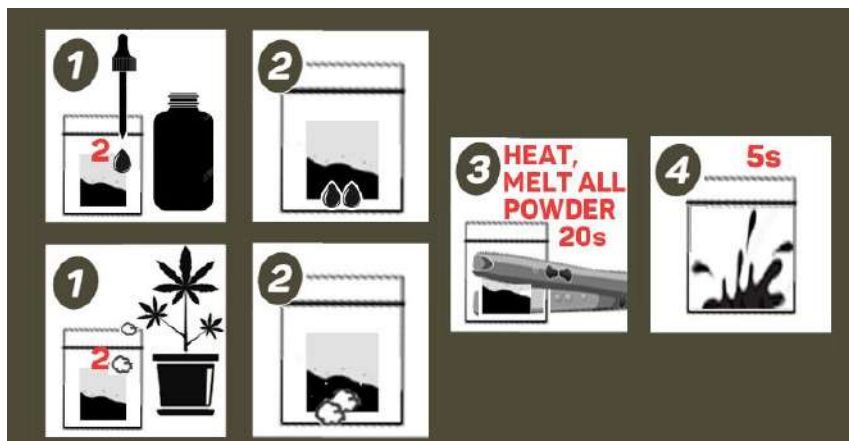
1

2

THC - Testing Procedure

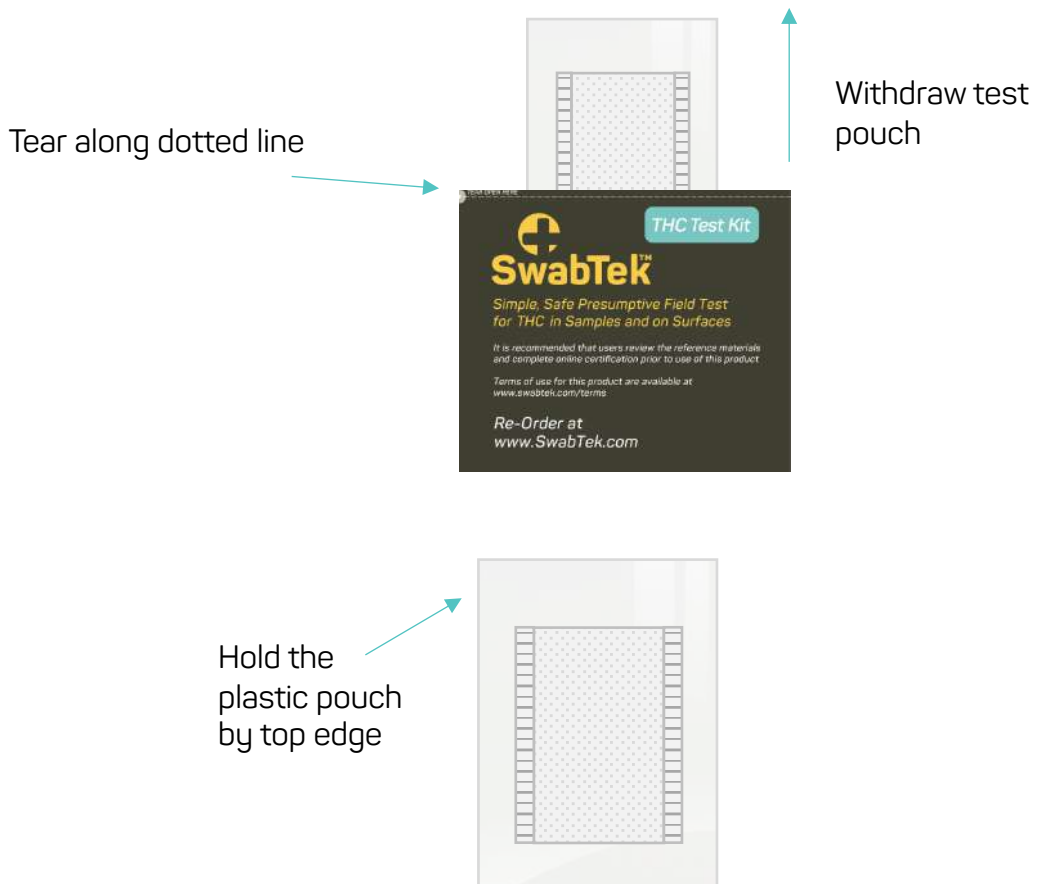
The test will consist of the following stages:

- Stage 1: Setup
- Stage 2: Sampling
- Stage 3: Heat Application
- Stage 4: Analysis



Stage 1: Setup - Remove Test Pouch from Sachet

The user should tear the sachet open along the dotted line across the top and extract the test pouch. Be sure to remove the plastic pouch gently so as to not disturb the test's reagents.



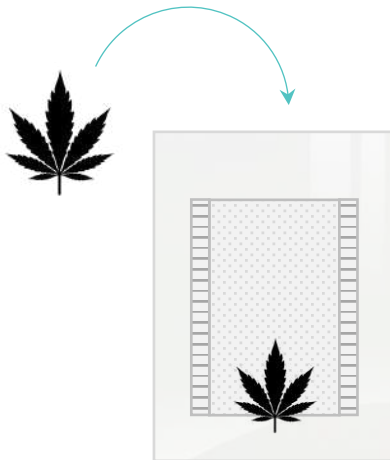
Stage 2: Sampling

Next, the user should add their sample directly to the plastic pouch, through the opening at the top. The user should hold the pouch perpendicular to the ground so that the sample and reagents combine at the bottom of the pouch.

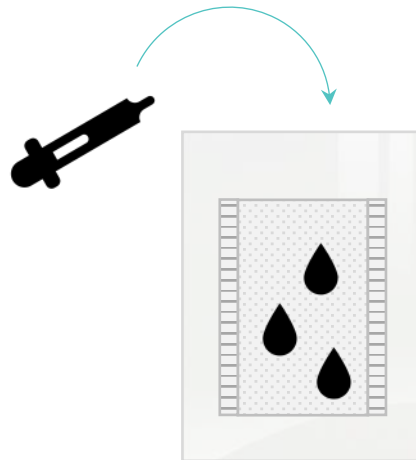
If the user is testing plant or other solid material, the sample can be set directly inside the plastic pouch next to the reagent pouch.

If the user is testing a liquid sample (oil, gel, cream, etc.), droplets of the sample can be applied directly to the reagent pouch.

Solid Sampling



Liquid Sampling



Stage 3A: Heat Application – Pre-Heat

In the next phase of the test, the user must use heat to activate any THCA in the sample. In order to activate any potential THCA, the sample must be raised to a temperature of 200-310°F.

Heat is applied to the reagent pouch using a separate tool – either the flat iron heater that SwabTek provides, or something similar. The solid reagents in the reagent pouch will also be melted during this process, allowing them to combine with the sample more easily. Once the reagents are fully melted, they will combine with the activated sample to produce the color change reaction that will be analyzed by the user.

To begin the heating process, the user must pre-heat their heating implement. If the user has a SwabTek flat iron heater, they should power it on and set it to full power, indicated by there illuminated LED lights. The user should allow at least one minute for the heating implement to reach its maximum temperature.

Stage 3B: Heat Application – Activating the Reagents

Once the heating implement has reached the recommended temperature, the user must use the tool to heat the sample and melt the reagent powder. The user should ensure that the reagent powder and sample remain at the base of the pouch, and apply the heat directly to this section of the pouch. The SwabTek flat iron heater can be clamped directly across the base of the plastic pouch to apply heat to the sample. This should be held for 20 seconds.

The user should then carefully slide the heating implement along the reagent pouch to ensure that all of the powder is melted. This should take no more than 10 additional seconds.

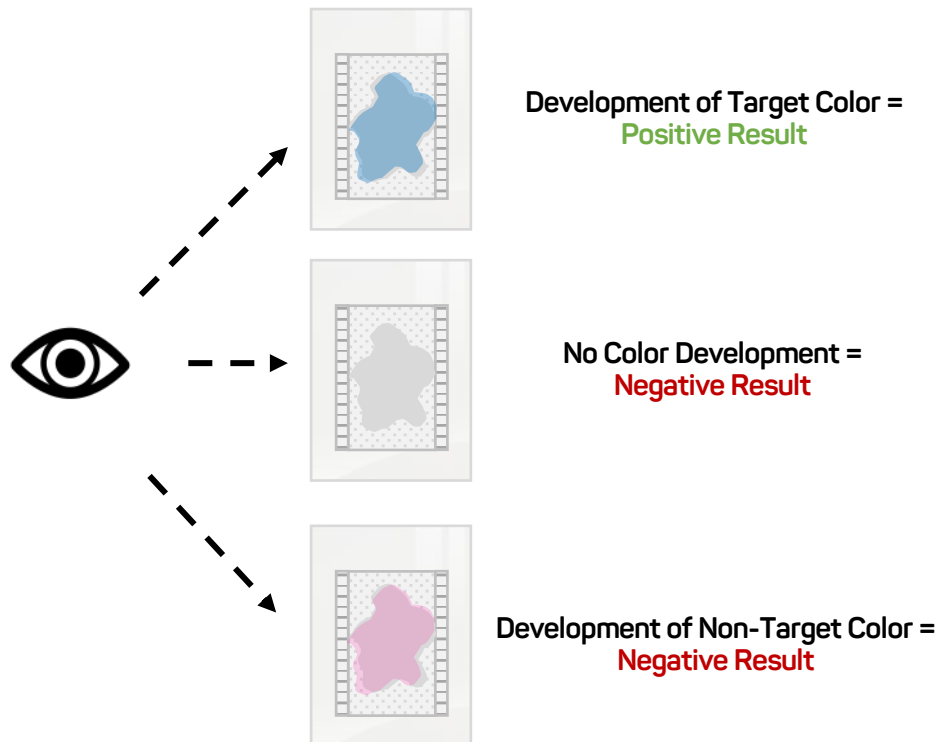


All reagent powder should be visibly melted



Stage 4: Color Analysis

Once the reagents in the pouch have been melted and activated, they will combine with the sample. In the presence of certain cannabinoids, a color will develop, which should be visible to the user. The user should inspect the plastic pouch carefully for any signs of color development. The presence of any designated color, regardless of hue and strength, is sufficient to indicate a positive test result. The colors indicative of a positive for THC are **yellow, blue, and green**. If the user detects any visible traces of those colors, the test result is positive for the presumptive presence of THC. If there is no visible color development, or a non-target color develops, the result of the test is negative for the presumptive presence of THC.

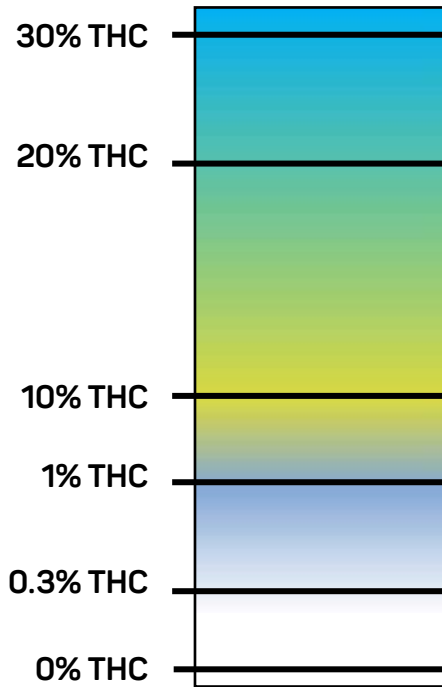


Stage 4: Color Analysis – Color Matching

The color reference panel on the reference card can be used in the analysis to match color development in the pouch to a presumptive concentration of THC.

Since the colors will fall on a gradient, color analysis cannot provide an exact match for THC concentration, but can provide an approximation.

For example, yellow color development indicates a positive result for the presumptive presence of THC, with an approximate concentration of 10%.



Hemp



Marijuana

Stage 4: Color Analysis – Hemp Samples

Hemp samples are very low in Total THC (<0.3%), which should result in no color development from the reagents.



0.16% Total THC



0.16% Total THC



0.16% Total THC



0.16% Total THC

Stage 4: Color Analysis – Marijuana Samples

Marijuana samples contain more than 0.3% Total THC. These tests should produce a color reaction, and the color could range from a blue-gray, to yellow, to turquoise, depending on concentration.



0.3% Total THC



0.7% Total THC



19% Total THC



30% Total THC

Stage 4: Color Analysis – Oil Samples

SwabTek's tests can be used to test concentrates including oils, creams and gels. Without the presence of solid plant material, the color changes of a positive result should be very apparent.



Hemp Oil



CBD Oil



THC Oil

Stage 4: Color Analysis – Other Samples

Common Plants: Two common plants (rosemary and eucalyptus) are known to produce a light turquoise color during testing. This false positive can be avoided by cross-testing these samples with the SwabTek Cannabis Test, for which both will produce a negative result. Other common plants (marjoram, chives, oregano, anise, bay leaves, & thyme) have been tested for sensitivity to the THC Test and will produce negative results.



Eucalyptus

Cannabigerol (CBG): CBG, the non-psychoactive cannabinoid, is known to produce a red color during testing. In practice, this may appear as a pink or a red-purple color, as pictured.



CBG



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