

## Hemp or Marijuana: A New Tool for Law Enforcement

With changes to state and federal laws regarding hemp, it has become necessary for law enforcement to distinguish between hemp and marijuana. Hemp and marijuana cannot be distinguished by appearance, odor, or by the Duquenois-Levine color test commonly used to test for cannabis. A new field test known as the 4-AP test (also known as Cannabis Typification test) may assist law enforcement with this determination.

The 4-AP test **cannot** determine the concentration of the delta-9-tetrahydrocannabinol (THC). The results of the color test are based on the ratios of cannabidiol (CBD) and THC, two major cannabinoids found in the cannabis plant. A positive result for hemp (CBD rich cannabis) is a pink/red color. A positive result for marijuana (THC rich cannabis) is a blue color. When cannabis contains CBD and THC with neither cannabinoid being predominant in the plant material, a purple color may result and should be considered inconclusive.

To eliminate false positives with this test, it is recommended that a Duquenois-Levine test be performed prior to the 4-AP test. Follow instructions carefully, including using small amounts of plant material for the test. It will be beneficial to perform the 4-AP color test on a known sample of hemp and marijuana and familiarize yourself with the expected results. For more information, go to the Virginia DFS or Syndicate Chemistry websites listed below.

The 4-AP test was developed by the Forensic Institute of Zurich in 2017 and has been used since then by European law enforcement as a presumptive test to distinguish between hemp and marijuana. In 2019, it became available to US law enforcement with United States distribution. The Virginia DFS completed a study evaluating the 4-AP test and test kits provided by Syndicate Chemistry. The DEA has also incorporated the 4-AP test in their analytical scheme for cannabis. The WSCL has done preliminary evaluation of the 4-AP test/Cannabis Typification test kits. While this preliminary evaluation gave the expected results for hemp and marijuana, more investigation is necessary in order to incorporate the 4-AP test into our analytical scheme.

<https://www.dfs.virginia.gov/field-test-kits/4-ap-cannabis-typification-field-tests/>

<https://syndicatechemistry.com/>

The 4-AP test or Cannabis Typification test may be purchased from Syndicate Chemistry. Ask about a law enforcement discount for the test. The WSCL is not involved in any endorsement of products from Syndicate Chemistry or any other company distributing the 4-AP test.

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