



## Research Article

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## Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs

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### Abstract

The validity of the NIK® narcotics test has been questioned by various authors and scrutinized in multiple court trials, yet validation studies for NIK® tests are not readily available either in the literature or from the manufacturer. Therefore, 17 samples including drugs of abuse, caffeine, sugar, and mixtures of drugs with sugar and caffeine were tested with the NIK® testing system. Detailed reports with instructions, observations, pictures of the results, and conclusions are provided in the supplemental materials. These reports serve as a useful tool for law enforcement officers who conduct drug testing in the field or in the correctional system.

**Keywords:** NIK test, abused narcotics, drugs, Marquis Reagent, Modified Scott Test, Marijuana, False Positives, Cocaine, Methamphetamine, cutting agents, law enforcement.

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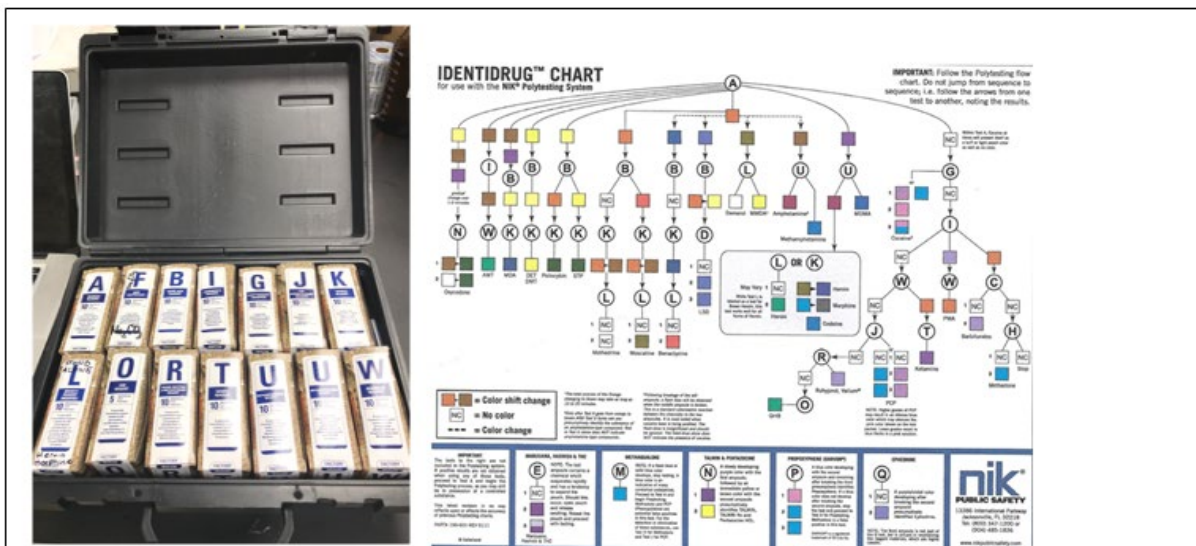
**Published:** September 17, 2018

### Introduction

The commercially available colorimetric test kit called NIK® test is used by law enforcement and in the correctional system, but has received criticism due to the possibility of false positives.<sup>1,2</sup> Police officers use the test to determine probable cause for an arrest, but NIK® has been criticized in multiple instances when people were arrested based on false positives.<sup>3</sup>

The NIK® test is commercially available from the Safariland Group, and is one type of colorimetric test that is sold as a presumptive color test<sup>5,6</sup> for the identification of marijuana, cocaine, opiates and amphetamine-type compounds like methamphetamine, Ecstasy, Rohypnol, and Methylphenidate. Figure 1 shows the NIK® Master-Pac™, a case containing NIK® Tests A, B, F, I, G, J, K, L, O, R, T, U and W. These are the commonly used tests for abused narcotics, and each box contains 10 tests, each in a plastic pouch. Depending on the test, each pouch contains 1 to 3 ampoules holding the chemicals used in the test. The ampoules are broken consecutively from left to right with intermittent shaking from ampoule to ampoule, and any color changes observed.

The NIK® test is accompanied by an IDENTIDRUG™ chart (Figure 1) for use with the polytesting system, as well as a training CD and a PowerPoint presentation Safariland. The Group also provides a test for law enforcement officers who can submit their answers to the Safariland Group and receive a scored accreditation as a NIK® user. Some narcotics are tested with a cascade of tests referred to as “polytesting” to narrow down the analyte identity.



**Figure 1:** The commercially available NIK Master-Pac™ in a carry case that is used for the presumptive identification of abused narcotics. The IDENTIDRUG™ Chart shows the polytesting sequence that needs to be performed to narrow down the identity of the unknown substance.

Drugs tested with this system include opioids, amphetamines, cocaine, and more. As seen at the top center of the chart, the system is designed so Test A is always first, and then depending on either the color change or lack thereof, ensuing tests hone in on the analyte

identity. As seen in Figure 2 for cocaine testing, Test A (Marquis test) should yield no color change, which then leads to the right on the IDENTIDRUG™ chart to Test G (Modified Scott test). Test G resulting in a biphasic mixture with the top layer pink and the bottom layer blue



**Figure 2:** From left to right, NIK-A and NIK-G straight out of the box, and then NIK-A after testing cocaine giving a colorless solution so no color change, and then NIK-G after testing cocaine to give pink layer over blue layer, resulting in a positive presumptive test for cocaine.

gives a positive presumptive test for cocaine. At this point, law enforcement would then send the sample to the crime lab for positive identification/confirmation using either GCMS or LCMS (Gas Chromatography/Mass Spectrometry or Liquid Chromatography/Mass Spectrometry).

The NIK® system does have stand-alone tests, as shown in the blue boxes at the bottom of the chart: Test E (Marijuana, Hashish, THC), Test M (Methaqualone), Test N (Talwin & Pentazocine), Test P (Propoxyphene), and Test Q (Ephedrine). All of the NIK® tests are

designed for testing solids, but liquids may be tested by first absorbing the liquid onto white paper, drying, and then loading the paper into the test pouch.

The NIK® test was studied in our laboratories, and we determined that there are several advantages and disadvantages of the test. Positive aspects include ease of use and the quick turnaround time for the results. Negative points include the probability of using the incorrect sample size and the subjective nature of color changes that are interpreted by the operator.

Based on our own experiments and interviews with local law enforcement, the most common mistakes in using these tests include user error (most common is using too much sample), subjectivity of result interpretation, and lack of proper training. The training CD from Safariland that contains a PowerPoint presentation is useful for understanding how to use the test, but it lacked detailed instructions, actual photos/images of the NIK® tests after testing drugs, and had no clear depiction of the color development when there were multiple phases in the pouch. Also, some pouches in the kit had directions listed on the front, while others did not so the CD had to be consulted. Unfortunately, while the NIK® test has impressive analytical power, the test is not accompanied with real photos of test results. The user has to rely on a color chart, which is subjective and not always representative of a real life color change. Therefore, we tested the kit, took photos and wrote detailed reports that can be used by anybody who uses the test, aiming to assist policemen or correctional officers when they are NIK® training and testing drugs on a crime scene.

## Results and Discussion

On April 24, 2018, the Superior Court of California, County of Imperial, Case Number JCF 36904, dismissed the Grand Jury Indictment [Penalty Code Paragraph:995] and ordered the NIK® tests as inadmissible evidence to give it reasonable cause for indictment. The ruling was

based on that fact that no validation studies can be found in the literature of the NIK® tests, especially with abused drugs. Furthermore, there is lack of evidence that NIK® tests are accepted by scientists and experts in the field as a valid drug tests due to the occurrence of false positives. Also, the NIK® test were carried by correctional officers who are not experts in the field of colorimetric testing, and they did not understand the meaning of a positive or negative results, especially since correctional officers use the IDENTIDRUG™ Chart or the color that is depicted on the test pouch.

Therefore, there is a need to present data and reports with actual photographs of the NIK® tests after testing with drug samples, cutting agents, and substances that may create false positives. This way correctional officer do not just rely on the subjective color interpretation of a color change in the pouch and comparing that with the color on the IDENTIDRUG™ Chart or the color that is depicted on the test pouch.

Table 1 shows the color observations of cocaine and cutting agents. Table 2 shows the description of incorrect results of sugar, cocaine, and cocaine mixed with sugar. Table 3 shows the controlled substances, and Table 4 lists cannabinoids and THC. All reports with detailed instructions, photographs, observations and notes, as well as conclusions are assembled in the supplemental information.

<b>COCAINE &amp; CUTTING AGENTS</b>					
<b>Entry</b>	<b>Substance</b>	<b>NIK Test</b>	<b>RESULT</b> * = Correct ** = Incorrect	<b>Colors / Observations</b>	<b>Conclusion</b>
1	Caffeine	A	No Result *	Colorless - No change	Go to NIK-G
2		G	No Result *	Pink layer over Colorless Layer	No Pink over Blue, No Cocaine present
3	Sugar	A	False **	Yellow	Go to NIK-B
4		B	No Result *	Colorless - undissolved solids	No Yellow, Orange, or Green so no drugs
5		G	No Result *	Pink layer over Colorless Layer	No Pink over Blue, No Cocaine present
6	Cocaine [Concentrated]	A1	No Result *	Colorless - No change	Go to NIK-G
7		G1	Failed **	Blue solid	Too much solid used
8	Cocaine [Regular]	A2	No Result *	Colorless - No change	Go to NIK-G test
9		G2	Positive *	Pink layer over Blue layer	Affirms Cocaine
10	Cocaine [Dilute]	A3	No Result *	Colorless - No change	Go to NIK-G test
11		G3	Positive *	Pink layer over Blue layer	Affirms Cocaine
12	Cocaine + Caffeine	A	No Result *	Colorless - No change	Go to NIK-G test
13		G	Positive *	Pink layer over Blue layer	Affirms Cocaine, same result as Cocaine alone
14	Cocaine + Sugar	A	False **	Yellow	Go to NIK-B test
15		B	No Result *	Colorless - No change	Negative for Opiates
16		G	Positive *	Pink layer over Blue layer	Affirms Cocaine

**Table 1:** Summary of NIK® tests with cocaine and cutting agents

Entry	Substance	NIK Test	RESULT ** = Incorrect	Explanation
3	Sugar	A	False **	Sugar turns NIK-A yellow which on the NIK chart leads left to the NIK-B test. Then shown in Entry 4, NIK-B gives no color change and correctly indicates no drugs present. But Sugar turning NIK-A yellow is problematic for the NIK system when sugar is used as a Cocaine cutting agent in Entries 14 & 15.
7	Cocaine [Concentrated]	G1	Failed **	Using too much cocaine "sponged" up all liquids from the ampoules so the test failed, giving a blue solid. Using too much material is the number one cause of user error, according to the NIK manufacturer.
14	Cocaine + Sugar	A	False **	Similar to Sugar alone in Entry 3, Sugar + Cocaine turns yellow with NIK-A that then leads to NIK-B test, not NIK-G. No color change for NIK-B in Entry 15 correctly shows no opiates, but neither NIK-A nor NIK-B affirm the cocaine present in the mixture. So the Polytesting system fails if Cocaine is cut with Sugar. Entry 16 NIK-G correctly indicates the present of Cocaine, demonstrating that sugar as a cutting agent does not affect the outcome of the NIK-G Cocaine test.

**Table 2:** Description of incorrect results of Sugar, Cocaine, and Cocaine cut with Sugar.

CONTROLLED SUBSTANCES					
Entry	Substance	NIK Test	RESULT * = Correct ** = Incorrect	Colors / Observations	Conclusion
17	d-Amphetamine Sulfate	A	Positive *	Orange darkens to Brown	Indicates Amphetamines - go to NIK-U
18		U	Positive *	Pink darkens to Violet	Affirms Amphetamines
19	Fentanyl Citrate	A	Positive *	Orange darkens to Brown	Indicates Amphetamines - go to NIK-U
20		U	Positive *	Red darkens to Violet	Affirms Amphetamines
21	Hydrocodone Bitartrate	A	Positive *	Slow Pink darkens to Violet	Affirms Opiates
22		U	Positive *	Red darkens to Violet	Affirms Opiates, Go to NIK-K or L
23		K	Negative **	Green to dark Green	Not Blue/Heroin or Violet/Morphine
24		L	Negative **	Colorless to Light Violet	Not Green/Heroin
25	Hydromorphone-HCl [Regular]	A1	Positive *	Pink darkens to dark Violet	Affirms Opiates
26	[Very Dilute]	A2	Positive *	Yellow to Pink darkens to Violet	Affirms Opiates
27		U	Positive *	Red darkens to Violet	Affirms Opiates, Go to NIK-K or L
28		K	Negative **	Green darkens to Brown	Not Blue/Heroin or Violet/Morphine

**Table 3:** Table of Controlled Substances/Medications

29		L	Positive *	Yellow to Green	Green Affirms Heroin
30	Levacylmethadol (LAAAM) [Methadone Mimic]	A	Positive *	Orange darkens to Brown	Indicates Amphetamines - go to NIK-U
31		U	Positive *	Red darkens to deep Violet	Affirms Amphetamines
32	MDMA (Ecstasy)	A	Positive **	Pink darkens to Violet	Indicates Opiates - go to NIK-U
33		U	Positive *	Violet to deep Violet	Affirms Amphetamines
34		A	Positive *	Orange darkens to Brown	Indicates Amphetamines - go to NIK-U
35		U	Positive *	Deep Blue	Affirms Amphetamines
36	Methylphenidate (Ritalin)	A1	No Result *	Colorless - No change	Go to NIK-G
37		G	No Result *	Pink layer over Colorless Layer	Negative for Cocaine, Go to NIK-I
38		I	No Result *	No Color, no Orange or Violet	Go to NIK-W
39		W	Inconclusive *	Yellow but No Blue or Olive Green	Does not look Olive; Go to NIK-J
40		J	Negative *	Pink but No Blue	Negative for PCP; Go to NIK-R
41		R	Inconclusive *	Light Pink to Pink	No Violet so No Valium; Go to NIK-O
42		O	Inconclusive *	Yellow but no Green	No Green so No GHB
43	Thebaine (Paramorphine)	A1	Negative *	Dark Orange, No Violet or Brown	Orange without Brown, Go to NIK-B
44		B	Negative **	Faint Yellow, no Green or Orange	Negative for Heroin, Codeine, or Morphine
45		K	Negative **	Dark Brown; No Violet	Not Blue/Heroin or Violet/ Morphine
46		L	Negative **	Dark Brown, No Green	Not Green/Heroin

**Table 3:** Table of Controlled Substances/Medications

Entry	MARIJUANA, CANNABINOIDS Substance	NIK Test	RESULT * = Correct ** = Incorrect	Colors / Observations	Conclusion
47	Tetrahydrocannabinol (THC)	A	Failed **	Pale Yellow	Turns yellow-would lead to NIK-B
48		E	Positive *	Gray over Pink	Positive for Cannabinoids
49	Cannabis - Local Police	E1	Failed **	Black over Dark Gray	Way too concentrated
50		E2	Positive *	Lavender over Pink	Affirms plant is Marijuana
51	Cannabis - Sangre AgroTech (LaVeta, CO)	E	Positive *	Lavender over Pink	Affirms plant is Marijuana

**Table 4:** Table of Marijuana and Cannabinoids

## Conclusion

This report attempts to provide users of the NIK® test with real detailed reports and real images so that a better presumptive interpretation can be made with regards to positive or negative test results, giving users a true comparison of the results in the field with an actual picture instead of a color chart that is provided with the NIK® test.

## Acknowledgement

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test. We thank Pat and Mary Williams of Sangre AgroTech for testing real marijuana samples with the NIK test.

## References

1. F Kelly, J., Addanki, K. & Bagasra, O. The Non-Specificity of the Duquenois-Levine Field Test for Marijuana. *Open Forensic Sci. J.* 5, 4–8 (2012).
2. Kelly, J. False positives equal false justice. 42 (The Mintwood Media Collective, 2008).
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### NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuii6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule  
**Contents:**  
**Ampoule 1** Con. Sulfuric Acid, 95%  
**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

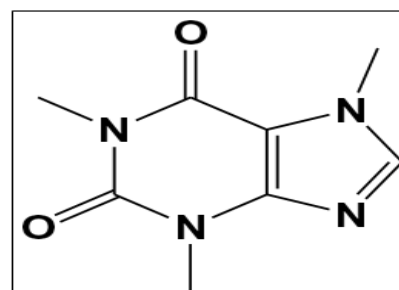
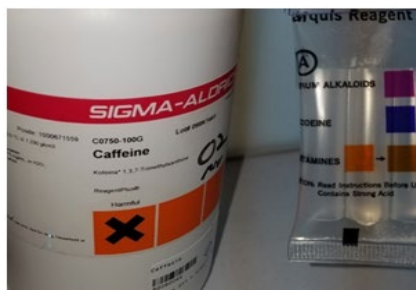
**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-A.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side of the pouch facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

Experiment: NIK-A Caffeine SIAL 17JA03

Date: 10/5/2017  
 Person: Dave Symonsbergen  
 Experiment: 17JA03  
 Substance: Caffeine  
 Source: Sigma-Adrich  
 Item Number: C0750-100g  
 Lot Number: 099K1441  
 Sample Class: Powder  
 Sample Color: White  
 Qty to Test: Analytical spatula









AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30		30		30	
45		45		45	
60	Colorless	60		60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180		180		180	
240		240		240	
300	Colorless	300		300	



**Conclusion:** No color change after 5 minutes which indicates no narcotics present so NIK-A is correct.

### NIK Test G - for Cocaine

**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

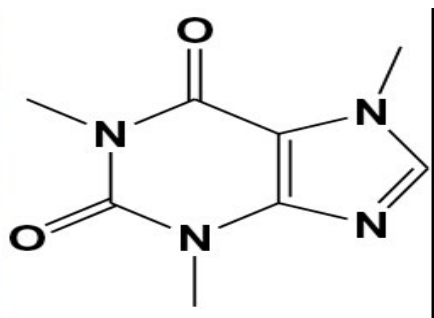
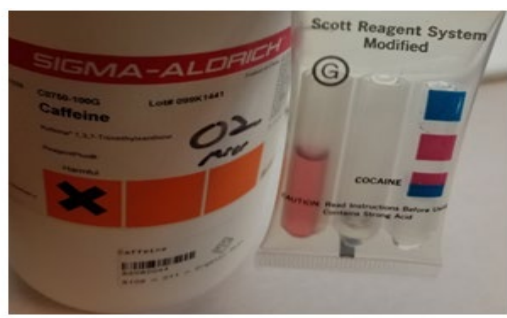
**Contents:**  
**Ampoule 1** Cobalt Thiocyanate, 1%   
**Ampoule 1** Glycerol, 40-60%   
**Ampoule 1** Boric Acid, 1%   
**Ampoule 1** Tartaric Acid, 1%   
**Ampoule 1** Hydrochloric Acid, 90%   
**Ampoule 1** Chloroform, >90% 

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**  
 Description - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test.

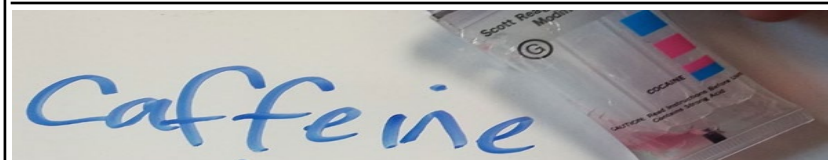
Procedure: NIK-G.v1 (by Dave Symonsbergen on 10/05/17)  
 1 - Classify the material to be tested: pill, powder, plant, or liquid.  
 2 - Note the color of the material.  
 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.  
 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.  
 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.  
 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.  
 7 - Note the color changes and how many seconds have passed for each color change.  
 8 - Record the color changes on the time chart in the experimental section.  
 9 - Repeat Steps 5-8 with Ampoule 2, and then with Ampoule 3.  
 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.  
 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-G Caffeine SIAL 17JA04**

Date: 10/5/2017  
 Person: Dave Symonsbegen  
 Experiment: 17JA04  
 Substance: Caffeine  
 Source: Sigma-Adrich  
 Item Number: wC0750-100g  
 Lot Number: 099K1441  
 Sample Class: Powder  
 Sample Color: White  
 Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	PINK	0	Cloudy/Pink
15		15		15	Separating
30		30		30	Pink over colorless
45		45		45	
60	Colorless	60	PINK	60	Pink over colorless
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Ampoule 1 gave no blue color solution and no blue solid specks. Ampoule 2 turned pink, and then Ampoule 3 gave pink over colorless indicating a negative test for cocaine, which is correct.

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137



## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuiu6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Repeat Steps 5-8 with Ampoule 2, and then with Ampoule 3.

10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Sugar Granulated 17JA05**

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17JA05

**Substance:** Sugar Granulated-5LB

**Source:** Wallys

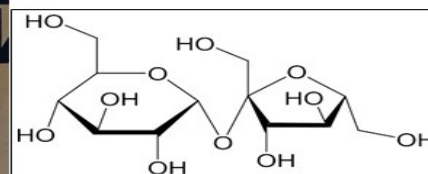
**Item Number:** N/A

**Lot Number:** N/A

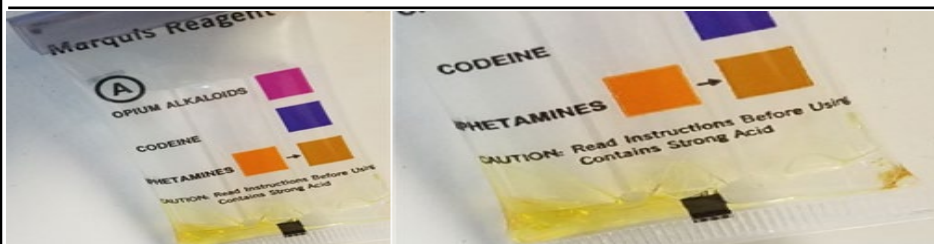
**Sample Class:** Crystalline Solid

**Sample Color:** White

**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	YELLOW	0	N/A	0	N/A
15		15		15	
30		30		30	
45		45		45	
60	YELLOW	60	PINK	60	
75		75		75	
90		90		90	
120	YELLOW	120		120	
180		180		180	
240		240		240	
300	YELLOW	300		300	



**Conclusion:** Ampoule 1 gave no blue color solution and no blue solid specks. Ampoule 2 turned pink, and then Ampoule 3 gave pink over colorless indicating a negative test for cocaine, which is correct.

## NIK Test B - Nitric Acid Reagent, General Screening Drug Test

**MODEL:** 800-6072 SKU: 1006150 PART: 800-6072  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-b--general-screening-1006150.html#sm.001hvgb531c3jcuiu6b1ghi2nlylm1006165.html&start=32#sm.001hvgb531c3jcuiu6b1ghi2nlylm1006155.html#sm.001hvgb531c3jcuiu6b1ghi2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20B%20-%20Confirming%20Test.pdf>  
**Name:** Nitric Acid Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Nitric Acid, 50-100%



**Nitric Acid Reagent** - Secondary screening test for the confirmation of Opiates (Morphine, Heroin, or Codeine) and Amphetamine-type compounds, as well as a general screening test for other drugs

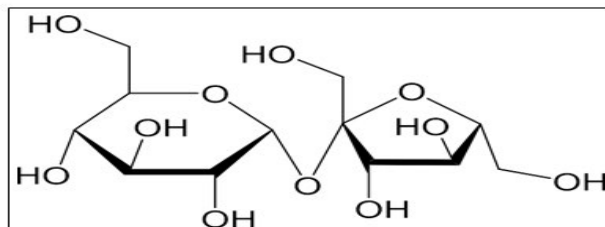
**Description** - A yellow Color slowly changing to light green indicates Heroin. An orange color changing very rapidly to red and then slowly to yellow indicates Morphine. An orange color changing slowly to yellow indicates Codeine

**Procedure: NIK-B.v1** (by Dave Symonsbergen on 11/06/17)<sup>2</sup> - Note the color of the material.

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-B Sugar 17JA06

**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17JA06  
**Substance:** Sugar Granulated  
**Source:** Wallys  
**Item Number:** N/A  
**Lot Number:** N/A  
**Sample Class:** Crystalline Solid  
**Sample Color:** White  
**Qty to Test:** Analytical spatula








AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0		0	N/A	0	N/A
15		15		15	
30	same	30		30	
45		45		45	
60	Same	60		60	
75		75		75	
90		90		90	
120	Same	120		120	
180		180		180	
240		240		240	
300	No color, sugar undissolved	300		300	



**Conclusion:** Ampoule 1 gave no blue color solution and no blue solid specks. Ampoule 2 turned pink, and then Ampoule 3 gave pink over colorless indicating a negative test for cocaine, which is correct.

## NIK Test B - Nitric Acid Reagent, General Screening Drug Test

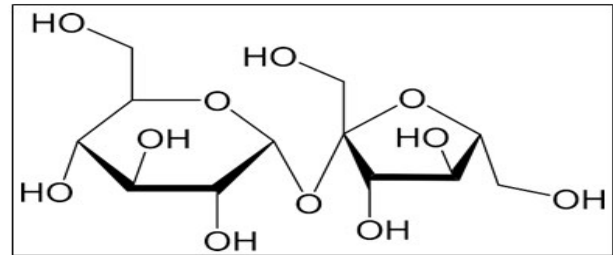
**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6b1gh2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

<b>Contents:</b>			
Ampoule 1 Cobalt Thiocyanate, 1%		Ampoule 1 Tartaric Acid, 1%	
Ampoule 1 Glycerol, 40-60%		Ampoule 2 Hydrochloric Acid, 90%	
Ampoule 1 Boric Acid, 1%		Ampoule 3 Chloroform, >90%	

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**  
 Description - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test.

- Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
  - 2 - Note the color of the material.
  - 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
  - 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
  - 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
  - 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
  - 7 - Note the color changes and how many seconds have passed for each color change.
  - 8 - Record the color changes on the time chart in the experimental section.
  - 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
  - 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** Sugar 17JA07  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17JA07  
**Substance:** Sugar Granulated  
**Source:** Wallys  
**Item Number:** N/A  
**Lot Number:** N/A  
**Sample Class:** Crystalline Solid  
**Sample Color:** White  
**Qty to Test:** Analytical spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Color stays pink, no blue speckles, sugar undissolved	0	Blue flash, fades fast to pink and sugar dissolves	0	Gets hazy looks pink/gray	
15		15		15	Color starting to darken	
30	same	30	PINK	30	Pink and layers form	
45		45		45		
60	YELLOW	60	PINK	60	Top pink, bottom colorless	
75		75		75		
90		90		90		
120		120		120		
180		180		180		
240		240		240		
300		300		300		



**Conclusion:** No blue forms and end result is pink over colorless so sugar gives presumptive negative result for cocaine

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghi2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%  
**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-B.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Cocaine SIAL 17KA23**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA23

**Substance:** Cocaine Hydrochloride, >97.5%

**Source:** Sigma-Adrich

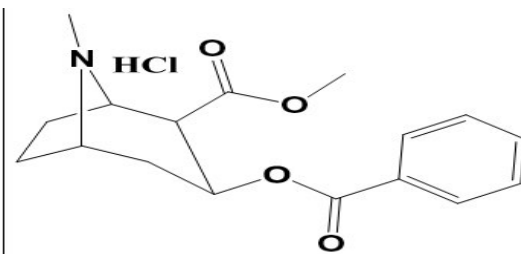
**Item Number:** C5776-1g

**Lot Number:** SLBC9840V

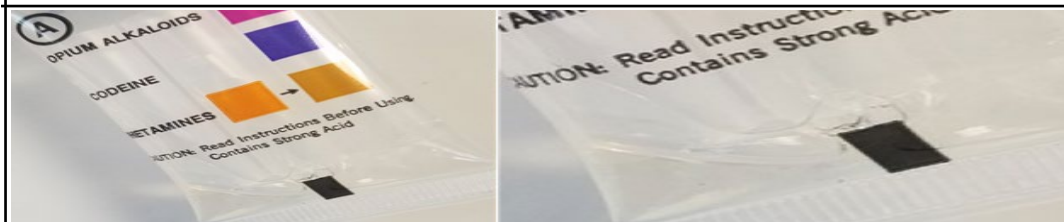
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Spatula / High Quantity = Overload



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Colorless	30		30	
45		45		45	
60	Colorless	60		60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180	Colorless	180		180	
240		240		240	
300	Colorless	300		300	



**Conclusion:** No color change was observed after 5 minutes, which on the Color Chart leads to NIK-G: see [17KA24]

### NIK Test G - for Cocaine

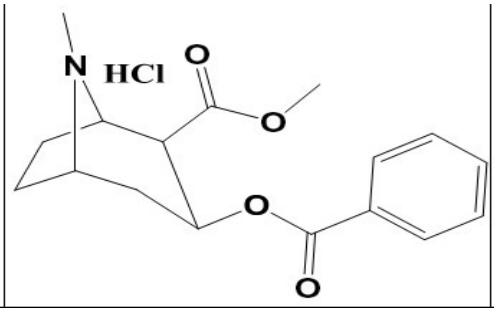
**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

<b>Contents:</b>			
<b>Ampoule 1</b> Cobalt Thiocyanate, 1%		<b>Ampoule 1</b> Tartaric Acid, 1%	
<b>Ampoule 1</b> Glycerol, 40-60%		<b>Ampoule 1</b> Hydrochloric Acid, 90%	
<b>Ampoule 1</b> Boric Acid, 1%		<b>Ampoule 1</b> Chloroform, >90%	

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**  
 Description - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test.

- Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
  - 2 - Note the color of the material.
  - 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
  - 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
  - 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
  - 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
  - 7 - Note the color changes and how many seconds have passed for each color change.
  - 8 - Record the color changes on the time chart in the experimental section.
  - 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
  - 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.
  - 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-G Cocaine HCl SIAL 17KA24  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA24  
**Substance:** Cocaine Hydrochloride, >97.5  
**Source:** Sigma-Adrich  
**Item Number:** C5776-1g  
**Lot Number:** SLBC9840V  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Spatula / High Quantity = Overload



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0		0		0	Powder becomes blue
15		15		15	
30		30		30	
45		45		45	
60		60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** No blue forms and end result is pink over coloreless so sugar gives presumptive negative result for cocaine

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghi2nlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Modified Scott Reagent, 3 Ampoules

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.

5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-A Cocaine SIAL 17KA42

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA42

**Substance:** Cocaine Hydrochloride, >97.5%

**Source** Sigma-Adrich

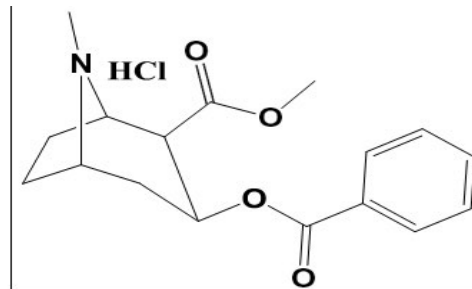
**Item Number** C5776-1g

**Lot Number** SLBC9840V

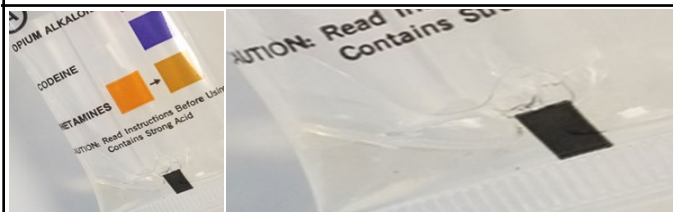
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula / Regular Quantity



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Colorless	30		30	
45		45		45	
60	Colorless	60		60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180	Colorless	180		180	
240		240		240	
300	Colorless	300		300	



**CONCLUSION:** Too much cocaine leads to only a blue color and would be a false negative

### NIK Test G - for Cocaine

**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6bighi2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

**Contents:**

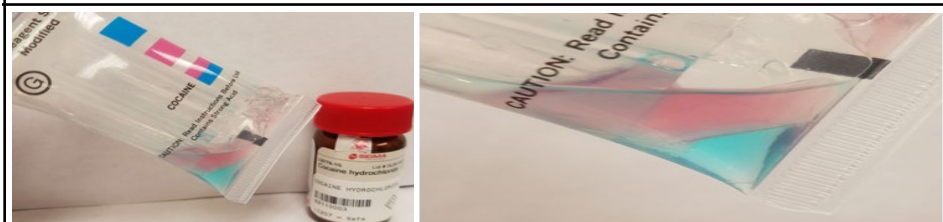
<b>Ampoule 1</b> Cobalt Thiocyanate, 1%		<b>Ampoule 1</b> Tartaric Acid, 1%	
<b>Ampoule 1</b> Glycerol, 40-60%		<b>Ampoule 2</b> Hydrochloric Acid, 90%	
<b>Ampoule 1</b> Boric Acid, 1%		<b>Ampoule 3</b> Chloroform, >90%	

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base**  
**Description** - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking Ampoule 2, and a pink layer over a blue layer after breaking Ampoule 3. NOTE: All color changes are necessary for a presumptive positive test.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)  
 1 - Classify the material to be tested: pill, powder, plant, or liquid.  
 2 - Note the color of the material.  
 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.  
 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.  
 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.  
 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.  
 7 - Note the color changes and how many seconds have passed for each color change.  
 8 - Record the color changes on the time chart in the experimental section.  
 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.  
 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Cocaine SIAL 17KA42**  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA42  
**Substance:** Cocaine Hydrochloride, >97.5%  
**Source:** Sigma-Adrich  
**Item Number:** C5776-1g  
**Lot Number:** SLBC9840V  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Analytical Spatula / Regular Quantity

AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Pink solution with blue solid speckles	0		0	Gets hazy looks pink
15		15		15	Blue forms <10 seconds
30	Same pink and blue	30		30	Layers form 15 seconds
45		45		45	
60		60		60	Top pink, bottom blue
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Pink over blue confirms presumptive positive test for cocaine. Test worked well as the color changes for all 3 Ampoules were observed.

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcui6b1ghiznlylm>

**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Modified Scott Reagent, 3 Ampoules

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.

5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-A Cocaine SIAL 17KA42

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA42

**Substance:** Cocaine Hydrochloride, >97.5%

**Source:** Sigma-Adrich

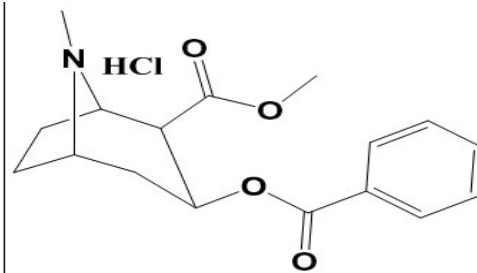
**Item Number:** C5776-1g

**Lot Number:** SLBC9840V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula / Regular Quantity



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Colorless	30		30	
45		45		45	
60	Colorless	60		60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180	Colorless	180		180	
240		240		240	
300	Colorless	300		300	

**CONCLUSION:** No color change was observed after 5 minutes, which on the Color Chart leads to NIK-G: see [17JA02]



## NIK Test G - for Cocaine

**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6bighi2nlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%



**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Ampoule 1** Boric Acid, 1%

**Ampoule 1** Tartaric Acid, 1%



**Ampoule 2** Hydrochloric Acid, 90%



**Ampoule 3** Chloroform, >90%



### Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.

**Description** - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test

### Procedure: NIK-G.v1 (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-G Cocaine HCl SIAL 17JA02

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17JA02

**Substance:** Cocaine Hydrochloride, >97.5%

**Source:** Sigma-Adrich

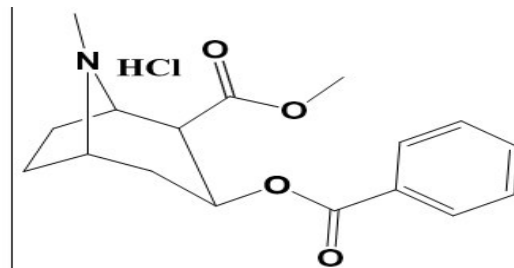
**Item Number:** C5776-1g

**Lot Number:** SLBC9840V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula / Regular Quantity



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint blue	0	Blue flash, fades fast to pink	0	Gets hazey looks pink
15		15		15	Color starting to darken
30	Faint blue	30		30	Blue forms and layers form
45		45		45	
60		60		60	Top pink, bottom blue
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Pink over blue confirms presumptive positive test for cocaine. Test worked well as the color changes for all 3 Ampoules were observed.

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-A.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Cocaine+Caffeine 17JA11**

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17JA02

**Substance:** Cocaine Hydrochloride, >97.5%

**Source:** Sigma-Adrich

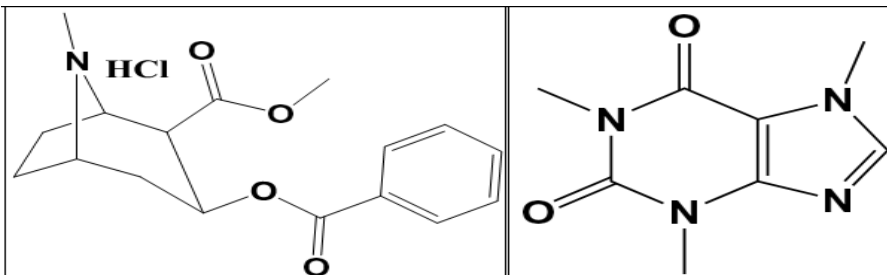
**Item Number:** C5776-1g

**Lot Number:** SLBC9840V

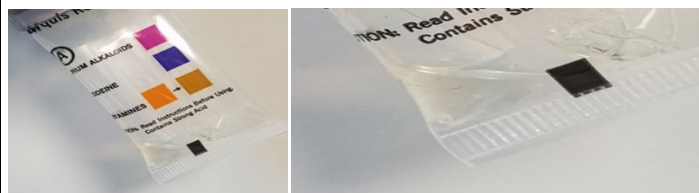
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula / Regular Quantity



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30		30		30	
45		45		45	
60	Colorless	60		60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180		180		180	
240		240		240	
300	Colorless	300		300	



**CONCLUSION:** No color change with NIK-A which leads to the right on the Color Chart to NIK-G. See [17JA12].

### NIK Test G - for Cocaine

**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6bighiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

**Contents:**

**Ampoule 1** Cobalt Thiocyanate, 1%



**Ampoule 1** Tartaric Acid, 1%



**Ampoule 1** Glycerol, 40-60%



**Ampoule 2** Hydrochloric Acid, 90%



**Ampoule 1** Boric Acid, 1%

**Ampoule 3** Chloroform, >90%



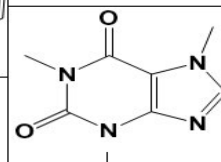
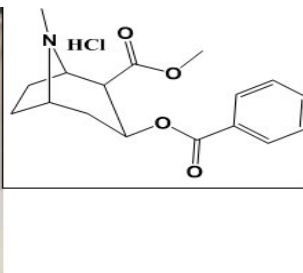
**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**

**Description** - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test

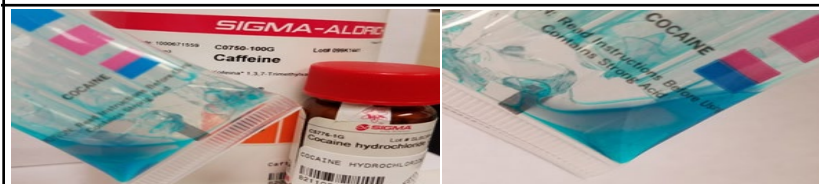
**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-G Cocaine HCl SIAL 17JA02  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17JA12  
**Substance:** Cocaine-HCl + Caffeine  
**Source:** Sigma-Adrich + Sigma-Aldrich  
**Item Number:** C5776-1g + C0750-100g  
**Lot Number:** SLBC9840V + 099K1441  
**Sample Class:** Powder + Powder  
**Sample Color:** White + White  
**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Very blue	0	Blue flash, fades fast to pink	0	Gets hazy looks blue-gray
15	darkening	15		15	Color starting to darken
30	Dark Blue	30		30	Blue forms and layers form
45		45		45	
60		60		60	TBottom dark blue, top faint pink
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Pink over blue confirms presumptive positive test for cocaine- test worked well as color changes observed of all 3 Ampoules, and the caffeine did not hinder the positive indication of cocaine. This test worked well with the mixture

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

### Procedure: NIK-A.v1 (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-A Cocaine+Sugar 17JA08

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17JA08

**Substance:** Cocaine-HCl + Sugar Granulated

**Source:** Sigma-Adrich + Wallys

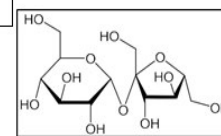
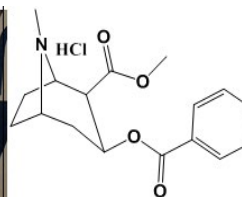
**Item Number:** C5776-1g

**Lot Number:** SLBC9840V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Yellow	0	N/A	0	N/A
15		15		15	
30		30		30	
45		45		45	
60	Yellow	60		60	
75		75		75	
90		90		90	
120	Yellow	120		120	
180		180		180	
240		240		240	
300	Yellow	300		300	



**CONCLUSION:** Immediately turns yellow and then no change after 5 minutes which on the Color Chart goes to the left to NIK-B to check for either Psilocybin or STP(2,5-Dimethoxy-4-methylamphetamine = STP = Serenity, Tranquility, & Peace).

## NIK Test B - Nitric Acid Reagent, General Screening Drug Test

**MODEL:** 800-6072 SKU: 1006150 PART: 800-6072  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-b--general-screening-1006150.html#sm.001hvgb531c3jcuii6b1ghi2nlylm1006165.html&start=32#sm.001hvgb531c3jcuii6b1ghi2nlylm1006155.html#sm.001hvgb531c3jcuii6b1ghi2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20B%20-%20Confirming%20Test.pdf>  
**Name:** Nitric Acid Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Nitric Acid, 50-100%



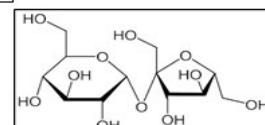
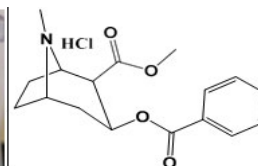
**Nitric Acid Reagent** - Secondary screening test for the confirmation of Opiates (Morphine, Heroin, or Codeine) and Amphetamine-type compounds, as well as a general screening test for other drugs

**Description** - A yellow Color slowly changing to light green indicates Heroin. An orange color changing very rapidly to red and then slowly to yellow indicates Morphine. An orange color changing slowly to yellow indicates Codeine

**Procedure: NIK-B.v1** (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-B Cocaine + Sugar 17JA09  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17JA09  
**Substance:** Cocaine HCl & Sugar Grannulated  
**Source:** Sigam-Aldrich & Wallys  
**Item Number:** C5776-1g  
**Lot Number:** SLBC9840V  
**Sample Class:** Crystalline Solid  
**Sample Color:** White  
**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless, has undissolved solids	0	N/A	0	N/A
15		15		15	
30		30		30	
45		45		45	
60	Very faint yellow	60		60	
75		75		75	
90		90		90	
120	Very faint yellow	120		120	
180		180		180	
240		240		240	
300	No color, sugar undissolved	300		300	



**Conclusion:** No color as the sugar remained undissolved. Barely yellow against a white background; no orange or olive green color so result is negative for opiates, amphetamines, or other drugs

### NIK Test G - for Cocaine

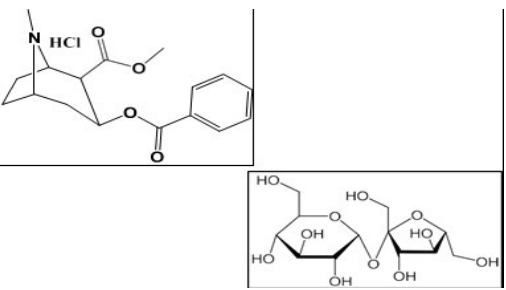
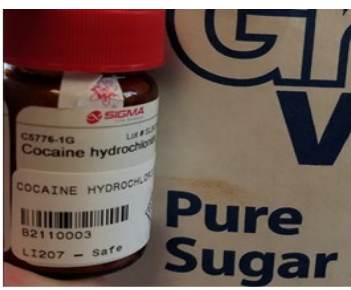
**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcuu6bighiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

<b>Contents:</b>		
<b>Ampoule 1</b> Cobalt Thiocyanate, 1%		<b>Ampoule 1</b> Tartaric Acid, 1%
<b>Ampoule 1</b> Glycerol, 40-60%		<b>Ampoule 1</b> Hydrochloric Acid, 90%
<b>Ampoule 1</b> Boric Acid, 1%		<b>Ampoule 1</b> Chloroform, >90%

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**  
**Description** - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test

- Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
  - 2 - Note the color of the material.
  - 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
  - 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
  - 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
  - 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
  - 7 - Note the color changes and how many seconds have passed for each color change.
  - 8 - Record the color changes on the time chart in the experimental section.
  - 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
  - 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.
  - 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-G Cocaine-HCl+Sugar 17JA10**  
**Date:** 10/5/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17JA10  
**Substance:** Cocaine-HCl + Sugar Granulated  
**Source:** Sigma-Adrich+ Wallys  
**Item Number:** C5776-1g  
**Lot Number:** SLBC9840v  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint blue	0	Blue flash, fades fast to pink	0	Gets hazy looks blue-gray
15	darkening	15		15	Color starting to darken
30	Blue	30	Pink	30	Blue forms and layers form
45		45		45	
60		60		60	Top pink ,bottom blue
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Pink over blue confirms presumptive positive test for cocaine- test worked well as color changes observed of all 3 Ampoules, and the sugar did not hinder the positive indication of cocaine. This test worked well with

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

### Procedure: NIK-A.v1 (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-A Cocaine+Sugar 17JA08

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA01

**Substance:** d-Amphetamine Sulfate

**Source:** Sigma-Adrich

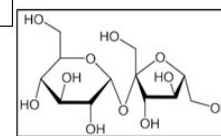
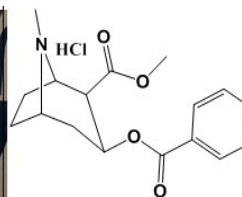
**Item Number:** A5880-5g

**Lot Number:** 068K1069V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2			AMPOULE 3		
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES			
0	Faint Orange	0	N/A	0	N/A			
15	Darkening	15		15				
30		30		30				
45		45		45				
60	Dark Orange	60		60				
75		75		75				
90	Darker	90		90				
120	Turning brown	120		120				
180	Brown	180		180				
240		240		240				
300	Yellow	300		300				



**CONCLUSION:** Immediate orange color leads straight down on the color chart, and the change from orange to brown then leads to NIK-U test for amphetamines: see [17KA02]. NIK-A test worked well here.

## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghi2nlylm1006155.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%



**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)**

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

**Procedure: NIK-A.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then after another 30 seconds with Ampoule 3.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-U d-Amphetamine SIAL 17KA02**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA02

**Substance:** d-Amphetamine Sulfate

**Source:** Sigma-Adrich

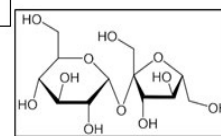
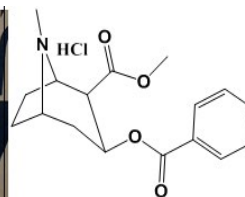
**Item Number:** A5880-5g

**Lot Number:** 068K1069V

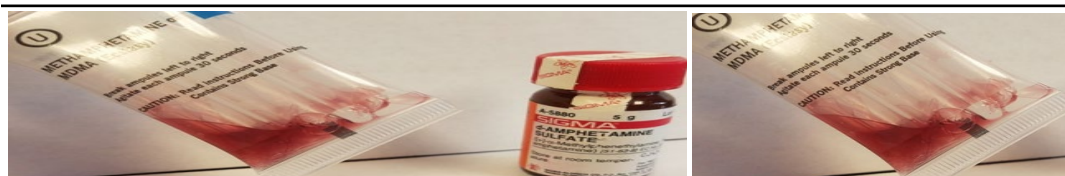
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0		0	N/A	0	Immediate red
15		15		15	Darkening
30	Faint Yellow	30	Faint Yellow	30	Dark Red
45		45		45	
60		60		60	Darkening to Violet
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Immediate color change to red on Ampoule 3 that darkened to violet in 60 seconds, presumptively affirming amphetamines. The test worked well.



## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

### Procedure: NIK-A.v1 (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-A Cocaine+Sugar 17JA08

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA01

**Substance:** d-Amphetamine Sulfate

**Source:** Sigma-Adrich

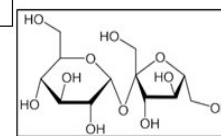
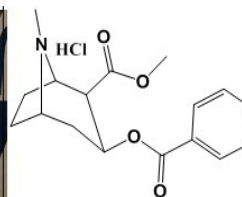
**Item Number:** A5880-5g

**Lot Number:** 068K1069V

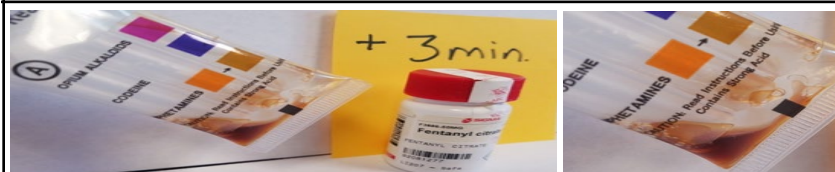
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2			AMPOULE 3		
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES			
0	Faint Orange	0	N/A	0	N/A			
15	Darkening	15		15				
30		30		30				
45		45		45				
60	Dark Orange	60		60				
75		75		75				
90	Darker	90		90				
120	Turning brown	120		120				
180	Brown	180		180				
240		240		240				
300		300		300				



**CONCLUSION:** Immediate orange color leads straight down on the color chart, and the change from orange to brown then leads to NIK-U test for amphetamines: see [17KA02]. NIK-A test worked well here.

## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuu6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



### Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)

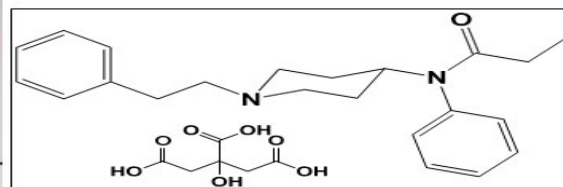
**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

### Procedure: NIK-A.v1 (by Dave Symonsbergen on 10/05/17)

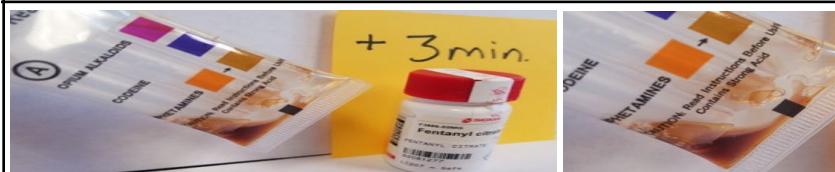
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-U 17KA04 Fentanyl Citrate SIAL

**Date:** 11/6/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA04  
**Substance:** Fentanyl Citrate  
**Source:** Sigma-Aldrich  
**Item Number:** F3886-50mg  
**Lot Number:** 011M1501V  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Analytical Spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0		N/A		0	Immediate red
15				15	Darkening
30	Faint Yellow	Faint Yellow		30	Dark Red
45				45	
60				60	Darkening to Violet
75				75	
90				90	
120				120	
180				180	
240				240	
300				300	



**CONCLUSION:** Immediate color change to red on Ampoule 3 that darkened to violet in 60 seconds, presumptively affirming amphetamines. The test worked well

### NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-A.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** : NIK-A Hydrocodone Bitartrate SIAL 17KA19

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA19

**Substance:** Sugar Granulated-5LB

**Source:** Wallys

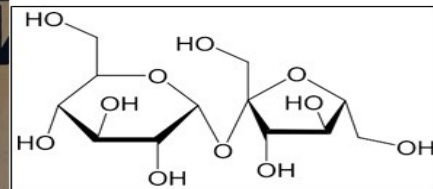
**Item Number:** H4516-250mg

**Lot Number:** 047F0128V

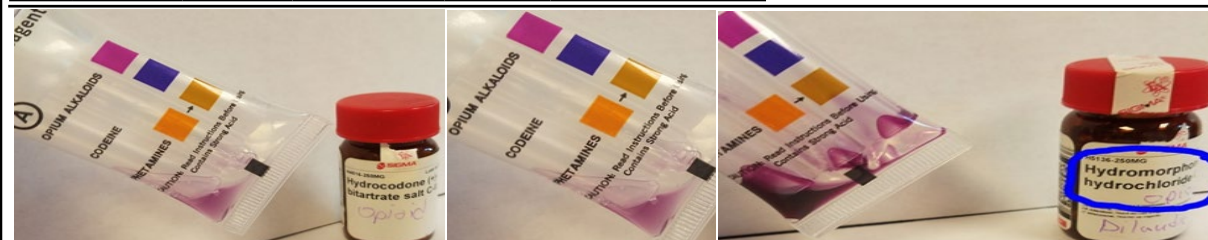
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Pink	30		30	
45		45		45	
60	Darkening	60		60	
75		75		75	
90	Purple	90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Slowly turns pink over 30 seconds and then darkens to purple over 90 seconds indicating opiates. The color change here with one -OMe group and one carbonyl is mild compared to when there is a free -OH as shown below right for the Hydromorphone result from [17KA05] which afforded a deep purple

## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuui6b1ghiznlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



### Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

**Procedure: NIK-U.v1** (by Dave Symonsbergen on 11/06/17)

**NOTE: Agitate each Ampoule for 30 SECONDS, and then break the next Ampoule.**

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-U 17KA04 Fentanyl Citrate SIAL

**Date:** 11/6/2017

**Person:** Dave Symonsbegen

**Experiment:** 17KA20

**Substance:** Hydrocodone Bitartrate

**Source:** Sigma-Adrich

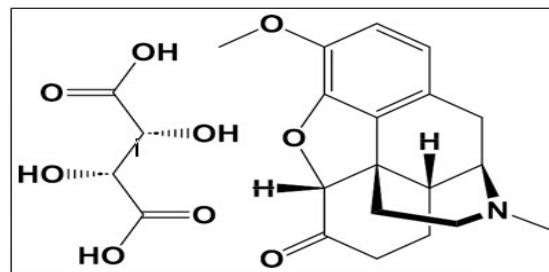
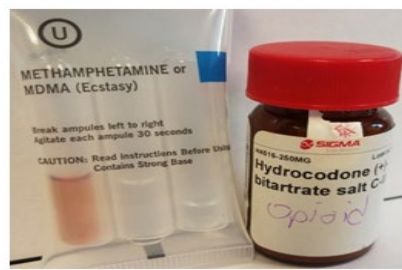
**Item Number:** H4516-250mg

**Lot Number:** 047F0128V

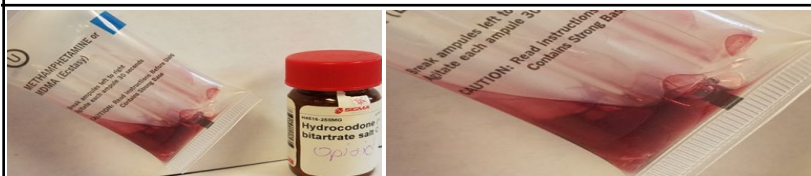
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Light Orange	0	Light Orange	0	Immediate red
15		15		15	Darkening
30	Light Orange	30	Light Orange	30	Purple
45		45		45	
60		60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Immediate color change to red on Ampoule 3 that darkened to violet in 30 seconds, presumtively affirming Opiates and leading to tests NIK-L or NIK-K. This test worked well here- see NIK-L [17KA21] and NIK-K

## NIK Test K - Opiate Family

**MODEL:** 800-6080 SKU: 1006158 PART: 800-6080

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-k--opiates-1006158.html&start=11#sm.001hvgb531c3jcuui6b1ghiznlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20K%20-%20Heroin-Amphetamines.pdf>

**Name:** Marquis Reagent Family, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 90%

**Ampoule 1** 37% Aq. Formaldehyde, 1%



**Marquis Reagent Derivation** - For the presumptive identification of Heroin, Black Tar, Codeine and Morphine. Easier to distinguish between the four Opiates than using Test B. This test can also be used to screen out Methamphetamine and Propoxyphene.

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

**Procedure: NIK-K.v1** (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-K Hydrocodone Bitartrate SIAL 17KA22**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA22

**Substance:** Hydrocodone Bitartrate

**Source:** Sigma-Adrich

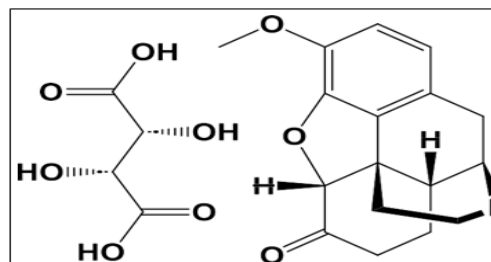
**Item Number:** H4516-250mg

**Lot Number:** 047F0128V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Immediate green	0	N/A	0	N/A	
15	Darkening	15		15		
30	Green	30		30		
45		45		45		
60	Dark Green	60		60		
75		75		75		
90		90		90		
120		120		120		
180		180		180		
240		240		240		
300		300		300		



**CONCLUSION:** Immediate green that keeps darkening to 30 seconds ending in dark green. Does not really look purple or blue. Test does not indicate either Heroin, Morphine, or Codeine, which is correct.

## NIK Test L - Heroin: White, Brown, Black Tar

**MODEL:** 800-6081 SKU: 1006159 PART: 800-6081

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-l---heroin-1006159.html#sm.00thvgb531c3jcuiu6b1ghi2nlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20K%20-%20Heroin-Amphetamines.pdf>

**Name:** Marquis Reagent Family, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 2** 37% Aq. Formaldehyde, 1%

**Ampoule 2** Selenious Acid, 1%



**Ampoule 2** Con. Sulfuric Acid, 95%



**Modified Meck's Reagent** - This reagent presumptively identifies Heroin in all forms, including White, Brown and Black Tar, as well as MDMA Ecstasy, as well as detecting the presence of certain dye combinations designed to give false positives with Test A.

**Description** - A purple color after breaking the first ampoule indicates MDMA (Ecstasy). A green color after breaking the second Ampoule that intensifies with prolonged agitation indicates Heroin.

**Procedure: NIK-K.v1** (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Repeat Steps 5-8 with Ampoule 2.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-L 17KA21 Hydrocodone Bitartrate SIAL**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA21

**Substance:** Hydrocodone Bitartrate

**Source:** Sigma-Adrich

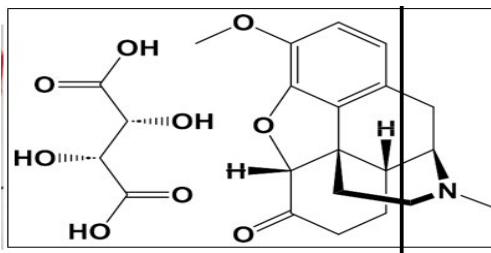
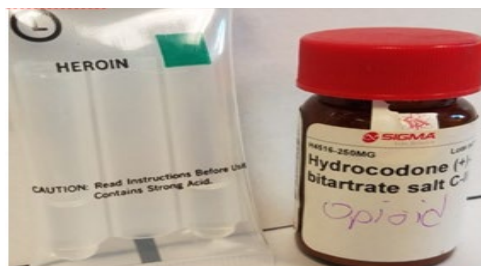
**Item Number:** H4516-250mg

**Lot Number:** 047F0128V

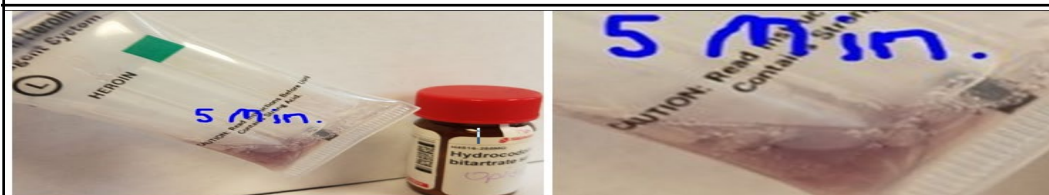
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Colorless	0	Colorless	0	N/A	
15		15	Grayish	15		
30	Colorless	30	Faint purple	30		
45		45		45		
60	Dark Green	60	Darkening	60		
75		75		75		
90		90		90		
120		120	Darkening	120		
180		180		180		
240		240		240		
300		300	Purple	300		



**CONCLUSION:** There was no color change with Ampoule 1 which rules out MDMA. The green color for Ampou not occur, rather it turned gray at 15 seconds, changed to purple by 30 seconds, and slowly darked to 5 minutes.

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-A.v1 (by Dave Symonsbergen on 10/05/17)**

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Hydromorphone-HCl SIAL 17KA05**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA05

**Substance:** Hydromorphone Hydrochloride

**Source:** Sigma-Adrich

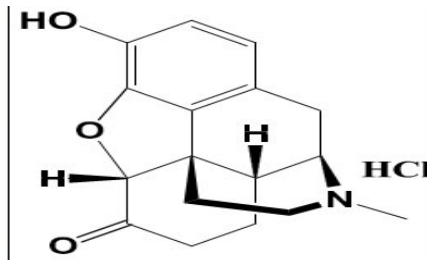
**Item Number:** H5136-250mg

**Lot Number:** 041M1444V

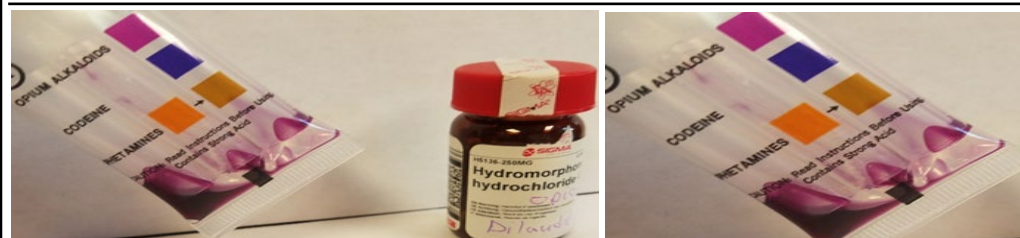
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical spatula / Regular Qty



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint yellow	0	N/A	0	N/A
15		15		15	
30	Turning Pink	30		30	
45	Darkening	45		45	
60	Purplish	60		60	
75		75		75	
90	Purple	90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Pink color darkens to purple over 90 seconds lead to the right on the Color Chart to NIK-U test which will distinguish MDMA or the Opiates. This test worked well. See NIK-U [17KA06].

### NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%  
**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

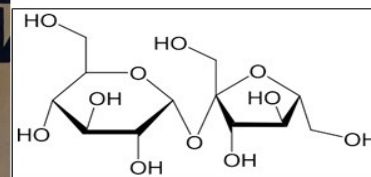
**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

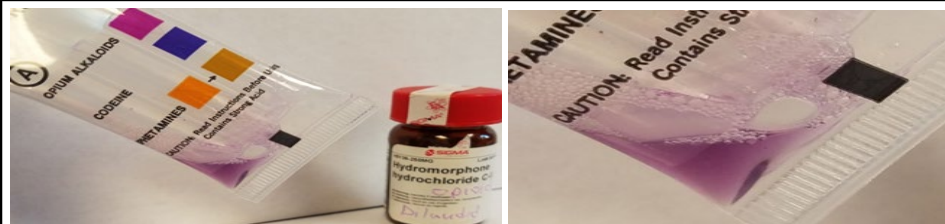
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A Hydromorphone-HCl SIAL 17KA25**

**Date:** 11/6/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA25  
**Substance:** Hydromorphone Hydrochloride  
**Source:** Sigma-Adrich  
**Item Number:** H5136-250mg  
**Lot Number:** 041M1444V  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Analytical spatula / Small Qty = Dilute



AMPOULE 1			AMPOULE 2			AMPOULE 3			
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint yellow	0	N/A	0	N/A	0	N/A	0	N/A
15	Yellowish	15		15		15		15	
30		30		30		30		30	
45	Darkening	45		45		45		45	
60	Turning Pink	60	PINK	60		60		60	
75	Darkening	75		75		75		75	
90	Pink	90		90		90		90	
120	Darkening	120		120		120		120	
180	Purple	180		180		180		180	
240		240		240		240		240	
300	YELLOW	300		300		300		300	



**Conclusion:** Yellow to Pink color that darkens to purple over 90 seconds once pink appears. Slower than NIK-A 17KA05; leads to the right on the Color Chart to NIK-U test which will distinguish MDMA or the Opiates. Did not repeat test NIK-U.

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137



## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuui6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



### Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

### Procedure: NIK-U.v1 (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then after another 30 seconds with Ampoule 3
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-U 17KA04 Fentanyl Citrate SIAL

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA06

**Substance:** Hydromorpone Hydrochloride

**Source:** Sigma-Aldrich

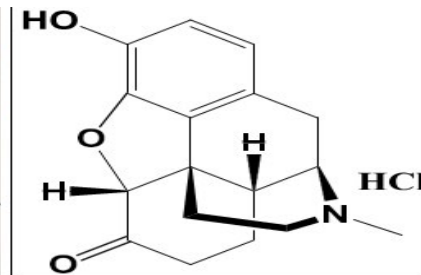
**Item Number:** H5136-250mg

**Lot Number:** 041M1444V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2			AMPOULE 3		
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES			
0	Yellowish	0	Faint Orange	0	Immediate red			
15		15		15	Darkening			
30	Faint Orange	30	Faint Orange	30	Dark Red			
45		45		45				
60		60		60	Darkening to Violet			
75		75		75				
90		90		90				
120		120		120				
180		180		180				
240		240		240				
300		300		300				

**CONCLUSION:** Immediate color change to red on Ampoule 3 that darkened to violet in 60 seconds, presumtively affirming Opiates and leading to tests NIK-L or NIK-K. This test worked well here- see NIK-L [17KA07] and NIK-K

## NIK Test K - Opiate Family

**MODEL:** 800-6080 SKU: 1006158 PART: 800-6080  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-k--opiates-html&start=11#sm.001hvgb531c3jcuui6b1ghiznlylm> 1006158.  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
 Marquis Reagent Family, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 90%

**Ampoule 1** 37% Aq. Formaldehyde, 1%



**Marquis Reagent Derivation** - For the presumptive identification of Heroin, Black Tar, Codeine and Morphine. Easier to distinguish between the four Opiates than using Test B. This test can also be used to screen out Methapyrilene and Propoxyphene.

**Description** - An immediate green color changing to purple indicated Heroin. An immediate blue-green color changing to gray color indicated Morphine. An immediate stable blue color indicates Codeine.

### Procedure: NIK-U.v1 (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-K Hydromorphone-HCl SIAL 17KA08

**Date:** 11/6/2017

**Person:** Dave Symonsbegen

**Experiment:** 17KA08

**Substance:** Hydromorphone Hydrochlor

**Source:** Sigma-Adrich

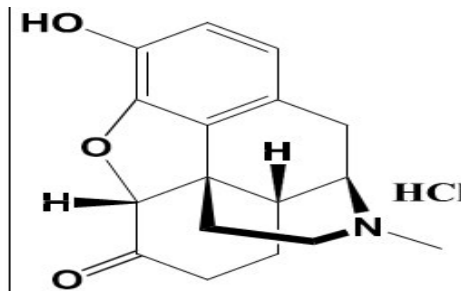
**Item Number:** H5136-250mg

**Lot Number:** 041M1444V

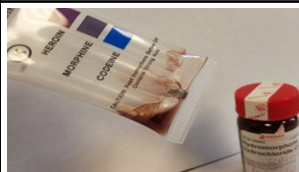
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Green	0	N/A	0	N/A
15	Darkens to Brownish	15		15	
30		30		30	
45		45		45	
60	Brown	60		60	
75		75		75	
90	Brown	90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Immediate green that turns brown by 15 seconds, then darkens to 90 seconds. Does not really look purple or blue. Repeated this experiment using 10x the material [Experiment # 17KB09] and went brown immediately. Test does not indicate either Heroin, Morphine, or Codeine, which is correct.

## NIK Test L - Heroin: White, Brown, Black Tar

**MODEL:** 800-6081 SKU: 1006159 PART: 800-6081

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-l---heroin-1006159.html#sm.00thvgb531c3jcuu6b1ghi2nlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20K%20-%20Heroin-Amphetamines.pdf>

**Name:** Modified Meck's Reagent, 2 Ampoules

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 2** 37% Aq. Formaldehyde, 1%

**Ampoule 2** Selenious Acid, 1%



**Ampoule 2** Con. Sulfuric Acid, 95%

**Modified Meck's Reagent** - This reagent presumptively identifies Heroin in all forms, including White, Brown and Black Tar, as well as MDMA Ecstasy, as well as detecting the presence of certain dye combinations designed to give false positives with Test A.

**Description** - A purple color after breaking the first ampoule indicates MDMA (Ecstasy). A green color after breaking the second Ampoule that intensifies with prolonged agitation indicates Heroin.

**Procedure: NIK-K.v1** (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Repeat Steps 5-8 with Ampoule 2.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-L Hydromorphone HCl SIAL 17KA07**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA07

**Substance:** Hydrocodone Bitartrate

**Source:** Sigma-Adrich

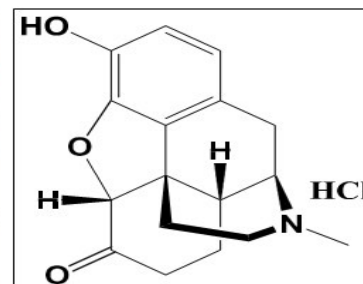
**Item Number:** H5136-250mg

**Lot Number:** 041M1444V

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Colorless	0	Colorless	0	N/A	
15		15	Faint Yellow	15		
30	Colorless	30	Greenish	30		
45		45		45		
60		60	Darkening	60		
75		75		75		
90		90	Green	90		
120		120		120		
180		180		180		
240		240		240		
300		300		300		



**CONCLUSION:** There was no color change with Ampoule 1 which rules out MDMA. The green color was slow to form over 60 seconds and darkened to 90 seconds which confirms the presence of opioids

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a--general-screening-1006149.html#sm.001hvgb531c3jcuu6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-A LAAM-HCl SIAL 17KA12

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA12

**Substance:** LAAM Hydrochloride, >98%

**Source:** Sigma-Adrich

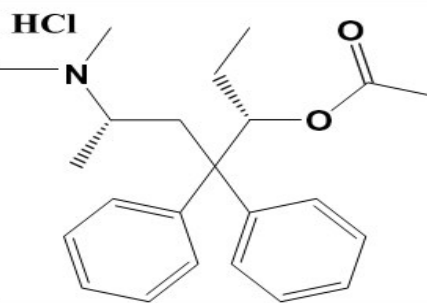
**Item Number:** L7418

**Lot Number:** B2081284

**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Faint Orange	30		30	
45		45		45	
60	Orange	60		60	
75		75		75	
90		90		90	
120	Dark Orange	120		120	
180	Purple"ish"	180		180	
240		240		240	
300	Brown	300		300	



**Conclusion:** Changed to orange and then to brown over 3 minutes, which on the color chart signals amphetamines, and leads to NIK-U: see [17KA13].

## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuui6b1ghiznlylm>

**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>

**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

**Contents:**

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



**Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)**

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

**Procedure: NIK-U.v1** (by Dave Symonsbergen on 11/06/17)

**NOTE: Agitate each Ampoule for 30 SECONDS, and then break the next Ampoule.**

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.

5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-U LAAM HCl SIAL 17KA13**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA13

**Substance:** LAAM Hydrochloride, >98%

**Source** Sigma-Adrich

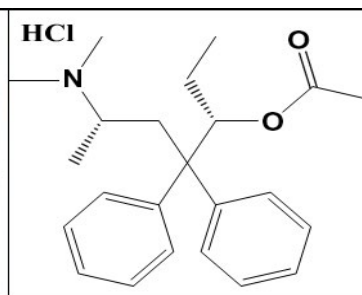
**Item Number** L7418

**Lot Number** B2081284

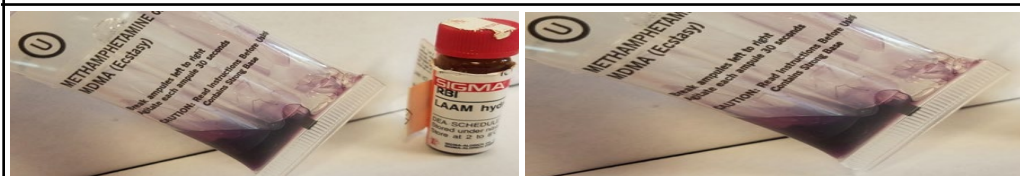
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical Spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint Orange	0	Faint Orange	0	Immediate red
15		15		15	Deepen to Purple
30	Faint Orange	30	Faint Orange	30	Purple
45		45		45	
60		60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Immediate red on Ampoule 3 that changed to purple at 15 seconds and then darkened to 30 seconds indicating amphetamines.

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%  
**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

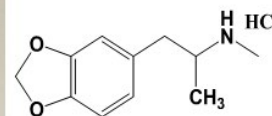
**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

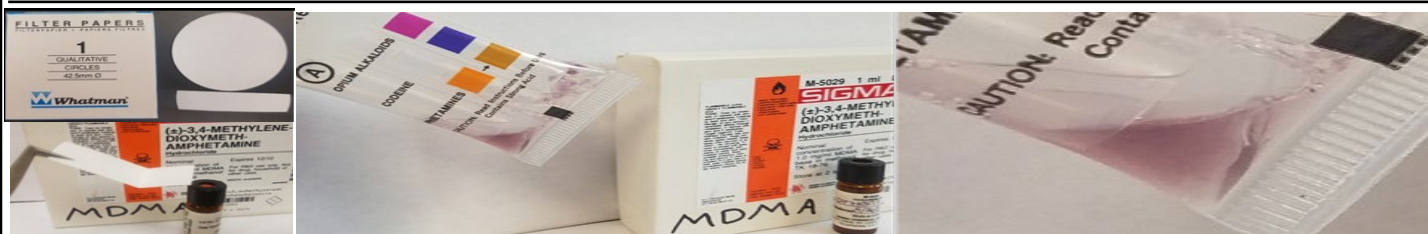
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A MDMA HCl (Ecstasy) SIAL 17KA26**

**Date:** 11/6/2017  
**Person:** Dave Symonsbegen  
**Experiment:** 17ka26  
**Substance:** MDMA Hydrochloride (Ecstasy)  
**Source:** Sigma-Adrich  
**Item Number:** M5029-1mL [1mg/mL in MeOH]  
**Lot Number:** 077K5013  
**Sample Class:** Colorless Liquid Solution (almost empty- added MeOH so could run test = very dilute)  
**Sample Color:** added MeOH so could run test = very dilute  
**Qty to Test:** Absorbed onto Analytical Filter Paper



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	[No Orange Formed]	0	N/A	0	N/A
15		15		15	
30	Paper turned Purple	30		30	
45		45		45	
60	Paper darkening	60		60	
75	Purple leaching into solution	75		75	
90		90		90	
120	Purple	120		120	
180		180		180	
240		240		240	
300	YELLOW	300		300	



**Conclusion:** Paper turns purple first, then purple leaches into the solution. No orange color; purple goes to the right on the color chart to the NIK-U test to distinguish MDMA from the Opioids: see 17KA27. NIK-A worked well here.

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuui6b1ghiznlylm>  
**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



### Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

### Procedure: NIK-A.v1 (by Dave Symonsbergen on 11/06/17)

**NOTE: Agitate each Ampoule for 30 SECONDS, and then break the next Ampoule.**

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-U MDMA HCl (Ecstasy) SIAL 17KA27

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA27

**Substance:** MDMA Hydrochloride (Ecstasy)

**Source:** Sigma-Adrich

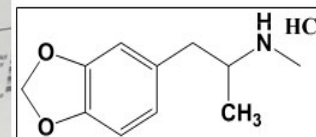
**Item Number:** M5029-1mL [1mg/mL in MeOH]

**Lot Number:** 077K5013

**Sample Class:** Colorless Liquid Solution (almost empty)

**Sample Color:** added MeOH so could run test = very dilute

**Qty to Test:** Absorbed onto Analytical Filter Paper



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint Orange	0	Faint Orange	0	Pink
15		15		15	Turning to Purple
30	Faint Yellow	30	Faint Yellow	30	Darkening
45		45		45	
60		60		60	Purple
75		75		75	
90		90		90	
120		120		120	Dark Purple
180		180		180	
240		240		240	
300		300		300	

**CONCLUSION:** Purple color change after Ampoule 3 indicated MDMA which is correct; and the NIK-A [17KA26] did give the correct color change to purple. This test worked well

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%



**Ampoule 1** 40% Aq. Formaldehyde, 5%

**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-A.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-A (-)-Deoxyephedrine SIAL (R-Methamphetamine) 17KA14**

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA14

**Substance:** (-)-Deoxyephedrine

**Source:** Sigma-Adrich

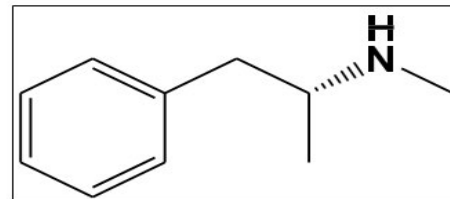
**Item Number:** D6787-1g

**Lot Number:** 087K0683V

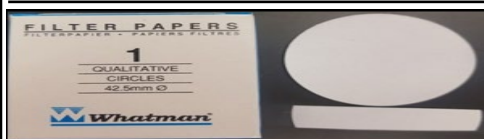
**Sample Class:** Liquid, 1mg/mL in MeOH

**Sample Color:** Colorless

**Qty to Test:** Absorbed onto Analytical Filter Paper



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Orange	0	N/A	0	N/A
15	Darkening	15		15	
30	Burnt Orange	30		30	
45	Turning to Brown	45		45	
60	Brown	60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Changed to orange and then to brown over 1 minute, which on the color chart signals amphetamines- NIK-U is next: see 17KA15. NIK-A worked well here.



## NIK Test U - for Methamphetamine and MDMA (Ecstasy)

**MODEL:** 800-6087 SKU: 1006165 PART: 800-6087  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-u---methamphetamine-1006165.html&start=32#sm.001hvgb531c3jcuui6b1ghiznlylm1006155.html#sm.001hvgb531c3jcuui6b1ghiznlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20U%20-%20Methamphetamine.pdf>  
**Name:** Sodium Nitroferricyanide Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Aq. Sodium Carbonate, 10%

**Ampoule 1** Acetaldehyde, 25%

**Ampoule 3** Sodium Nitroferricyanide, 5%



### Sodium Nitroferricyanide Reagent for the detection of Methamphetamine and MDMA (Ecstasy)

**Description** - A positive result is obtained after a brown or violet result in Test A. Test A should always be used prior to Test U, as color results for Methamphetamine, Amphetamine and MDMA Ecstasy can be very similar.

### Procedure: NIK-U.v1 (by Dave Symonsbergen on 11/06/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then after another 30 seconds with Ampoule 3.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-U Methamphetamine (R-Deoxyephedrine) SIAL 17KA15

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA15

**Substance:** (-)-Deoxyephedrine

**Source** Sigma-Adrich

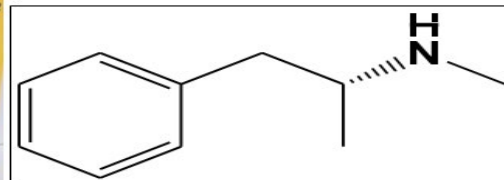
**Item Number** D6787-1g

**Lot Number** 087K0683V

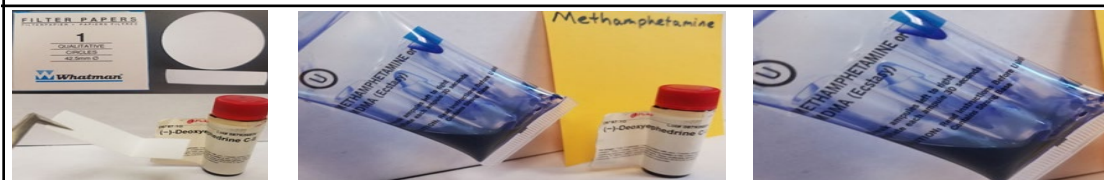
**Sample Class:** Liquid, 1mg/mL in MeOH

**Sample Color:** Colorless

**Qty to Test:** Absorbed onto Analytical Filter Paper



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Faint Orange	0	Immediate Blue	0	Same Blue
15	Darkening	15		15	Deepening
30	Light Orange	30	Still Blue	30	Dark Blue
45		45		45	
60		60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**CONCLUSION:** Blue color after Ampoule 3 indicates Methamphetamine which is correct; and the NIK-A [17KA14] did give the correct string of orange changing to brown. This test worked well.

## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>  
**Name:** Marquis Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-A Methylphenidate-HCl SIAL 17KA10

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA10

**Substance:** Methylphenidate Hydrochloride, >98%

**Source** Sigma-Adrich

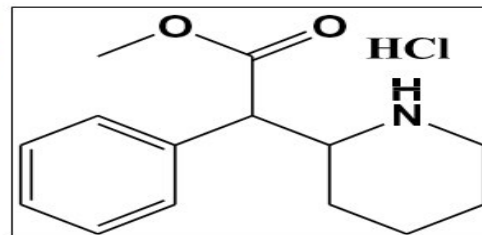
**Item Number** M2892-100mg

**Lot Number** SLBC5875V

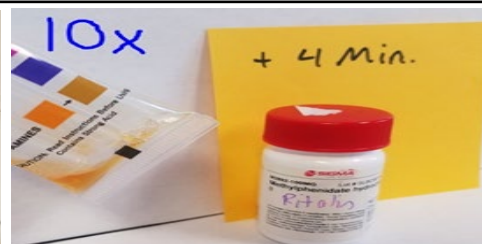
**Sample Class:** Powder

**Sample Color:** White

**Qty to Test:** Analytical spatula







AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	N/A	0	N/A
15		15		15	
30	Colorless	30		30	
45		45		45	
60	Colorless	60	PINK	60	
75		75		75	
90		90		90	
120	Colorless	120		120	
180		180		180	
240		240		240	
300	Colorless	300		300	



**Conclusion:** No color change after 5 minutes. Added 10x the amount to this pouch and it turned light orange over 4 minutes. Would lead to NIK-G after No Color Change in 5 minutes. Ran NIK-U [17KA11] for amphetamine purple color.

### NIK Test G - for Cocaine

**MODEL:** 800-6077 SKU: 1006155 PART: 800-6077  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-g---cocaine-crack-and-free-base-1006155.html#sm.001hvgb531c3jcui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20G%20-%20Cocaine.pdf>  
**Name:** Modified Scott Reagent, 3 Ampoules

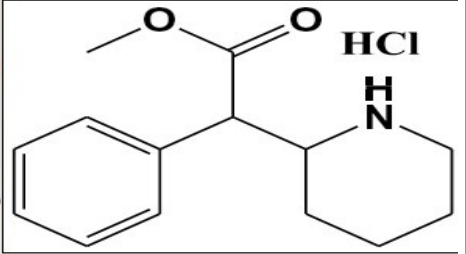
<b>Contents:</b>			
<b>Ampoule 1</b> Cobalt Thiocyanate, 1%		<b>Ampoule 1</b> Tartaric Acid, 1%	
<b>Ampoule 1</b> Glycerol, 40-60%		<b>Ampoule 2</b> Hydrochloric Acid, 90%	
<b>Ampoule 1</b> Boric Acid, 1%		<b>Ampoule 3</b> Chloroform, >90%	

**Modified Scott Reagent - A test for Cocaine, Crack, or Free Base.**  
 Description - Blue or pink with blue speckles after breaking the first Ampoule, a blue flash followed by a pink result after breaking the second Ampoule, and a pink layer over a blue layer after breaking the third Ampoule. NOTE: All color changes are necessary for a presumptive positive test.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)  
 1 - Classify the material to be tested: pill, powder, plant, or liquid.  
 2 - Note the color of the material.  
 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.  
 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.  
 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.  
 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.  
 7 - Note the color changes and how many seconds have passed for each color change.  
 8 - Record the color changes on the time chart in the experimental section.  
 9 - Repeat Steps 5-8 with Ampoule 2, and then with Ampoule 3.  
 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.  
 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-G Methylphenidate (Ritalin) SIAL 17KA34**

Date: 11/13/2017  
 Person: Dave Symonsbergen  
 Experiment: 17KA34  
 Substance: Methylphenidate  
 Source: Sigma-Adrich  
 Item Number: M2892-100mg  
 Lot Number: SLBC5875V  
 Sample Class: Powder  
 Sample Color: White  
 Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Stayed Pink, no Color Change	0	Blue flash, fades fast to pink	0	Gets hazey looks pink
15		15		15	Layers forming
30	Pink	30	Pink	30	Pink over colorless
45		45		45	
60		60		60	Top pink, bottom colorless
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** NIK-A gave no color change leading to NIK-G here. Pink over coloreless is negative for cocaine, and the no color change leads straight down on the Color Chart to NIK-I. See [17KA35].

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test I - Screening of PMA, Ketamine, Barbituates, & Methadone

**MODEL:** 800-6089 SKU: 1006167 PART: 800-6089

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-i---pma-ketamine-barbiturates-and-methadone-1006167.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20-%20Drugs.pdf>

**Name:** Modified Scott Reagent, 3 Ampoules

### Contents:

**Ampoule 1** Cobalt Thiocyanate, 1%

**Ampoule 1** Sodium Nitrite, 2-8%



**Lieberman's Reagent** - For the general screening of PMA, Ketamine, Barbituates, & Methadone.

**Description** - This test is used after a Brown result in NIK-A, or a clear result in NIK-A followed by a no change result NIK-G.

### Procedure: NIK-I.v1 (by Dave Symonsbergen on 11/13/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10- For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-I Methylphenidate (Ritalin) SIAL 17KA35

Date: 11/13/2017

Person: Dave Symonsbergen

Experiment: 17KA35

Substance: Methylphenidate Hydrochloride

Source: Sigma-Adrich

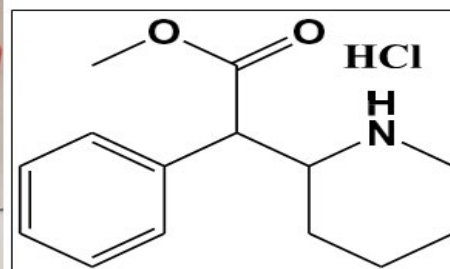
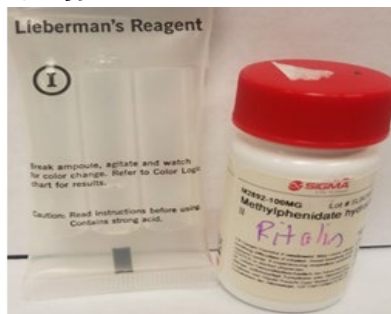
Item Number: M2892-100mg

Lot Number: SLBC5875V

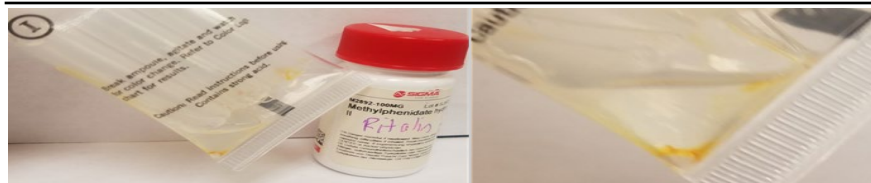
Sample Class: Powder

Sample Color: White

Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Solid turned yellow, Liquid is clear/colorless	0	N/A	0	N/A
15		15		15	
30	Pink	30		30	
45		45		45	
60	Same	60		60	
75		75		75	
90		90		90	
120	Same	120		120	
180		180		180	
240		240		240	
300	Same	300		300	



**Conclusion:** No Color Change = No purple color, no orange color so next is straight down on the Color Chart to NIK-W. See [17KA36].

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test I - Screening of PMA, Ketamine, Barbituates, & Methadone

**MODEL:** 800-6088 SKU: 1006166 PART: 800-6088  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-w--amphetamines-and-methadone-1006166.html&start=33#sm.001hvgb531c3jcuui6b1ghi2nlylm>  
**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20W%20-%20Methadone->  
**Name:** Mandelin Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Con. Sulfuric Acid, 99%

**Ampoule 1** Ammonium Metavanadate, 1%



**Mandelin Reagent** - For the presumptive identification of Amphetamines and Methadone, as well as screening for PMA and Ketamine in conjunction

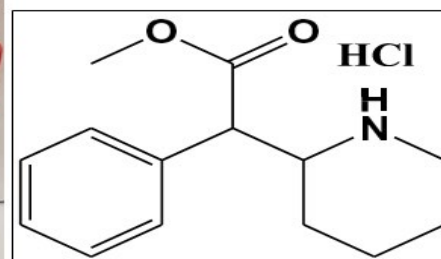
**Description** - A rapidly developing blue color indicates the presence of Methadone. An immediate olive green color indicates the presence of Amphetamines.

### Procedure: NIK-I.v1 (by Dave Symonsbergen on 11/13/17)

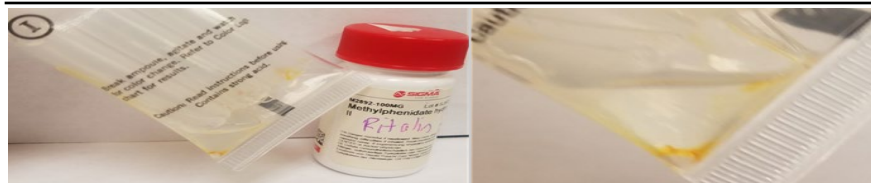
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-W Methylphenidate (Ritalin) SIAL 17KA36

**Date:** 11/13/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA36  
**Substance:** Methylphenidate Hydrochloride  
**Source:** Sigma-Adrich  
**Item Number:** M2892-100mg  
**Lot Number:** SLBC5875V  
**Sample Class:** Powder  
**Sample Color:** White  
**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	No color change- it stayed the same yellow color it started	0	N/A	0	N/A
15					
30					
45	Same	45		45	
60					
75					
90					
120					
180					
240	Same- no blue color and no olive green color	240		240	
300					



**Conclusion:** No Color Change = No blue color, no olive green color so next is left on the Color Chart to NIK-J. See [17KA37].

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test J - for PCP

**MODEL:** 800-6079 SKU: 1006157 PART: 800-6079  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-j--pcp-1006157.html#sm.001hvgb531c3jcuu6b1ghiznlylm>  
**NIK-G SDS:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20J%20-%20Phencyclidine.pdf>  
**Name:** PCP Reagent System, 3 Ampoules

### Contents:

**Ampoule 1** Water, 100%  
**Ampoule 2** Glycerol, 50-60%  
**Ampoule 2** Water, 40-50%  
**Ampoule 2** Cobalt Thiocyanate, 1-2%  
**Ampoule 2** Phosphoric Acid, 90%



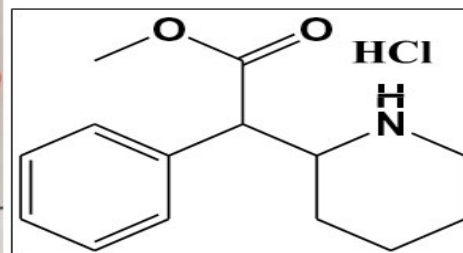
**PCP Reagent System** - A test Phencyclidine: NIK-J is used after no results are obtained with NIK-A, NIK-G, NIK-I, & NIK-W.  
 Description - No color change after breaking Ampoule 1. Blue or pink with blue speckles after breaking Ampoules 2 & 3.

### Procedure: NIK-I.v1 (by Dave Symonsbergen on 11/13/17)

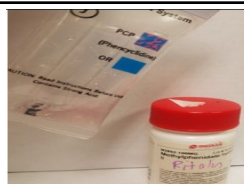
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Repeat Steps 5-8 with Ampoule 2, and then with Ampoule 3.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-W Methylphenidate (Ritalin) SIAL 17KA36

Date: 11/13/2017  
 Person: Dave Symonsbergen  
 Experiment: 17KA37  
 Substance: Methylphenidate Hydrochloride  
 Source: Sigma-Adrich  
 Item Number: M2892-100mg  
 Lot Number: SLBC5875V  
 Sample Class: Powder  
 Sample Color: White  
 Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless, solid undissolved	0	Pink	0	Pink
15	20-sec. solid dissolves	15		15	
30	Colorless	30	Pink	30	Pink
45		45		45	
60		60	Pink, no blue speckles	60	Pink, no blue speckles
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** NIK-A, G, I & W gave no color change leading to NIK-J here. Resulting pink is no color change which leads left on the Color Chart to NIK-R. See [17KA38].

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test R - for Valium, Rohypnol, and Methcathinone

**MODEL:** 800-6086 SKU: 1006164 PART: 800-6086

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-r--valium-rohypnol-and-methcathinone-1006164.html#sm.001hvgb531c3jcuui6b1ghiznlylm>

**NIK-G SDS** SDS <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20R%20-%20Benzodiazepines.pdf>

**Name:** Dinitrobenzene Test, 2 Ampoules

**Contents:**

**Ampoule 1** Isopropanol, >95%

**Ampoule 2** Sodium Hydroxide, <1%

**Ampoule 2** Isopropanol, >95%



**Ampoule 2** m-Dinitrobenzene, <1%

**Dinitrobenzene Test** - A test for Valium, Rohypnol, and Methcathinone: NIK-R is used after no results are obtained with NIK-A, NIK-G, NIK-I, NIK-W & NIK-J

Description - A lavender color after breaking both Ampoules

**Procedure: NIK-I.v1** (by Dave Symonsbergen on 11/13/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Repeat Steps 5-8 with Ampoule 2, and then with Ampoule 3.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-W Methylphenidate (Ritalin) SIA**

Date: 11/13/2017

Person: Dave Symonsbergen

Experiment: 17KA38

Substance: Methylphenidate Hydrochloride

Source: Sigma-Adrich

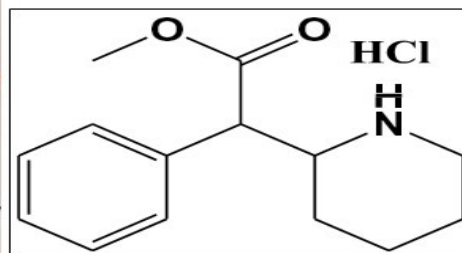
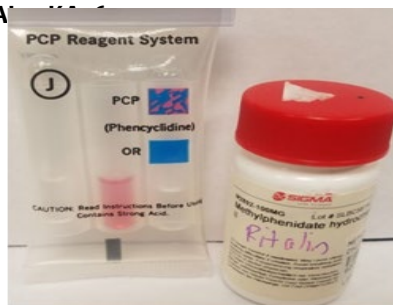
Item Number: M2892-100mg

Lot Number: SLBC5875V

Sample Class: Powder

Sample Color: White

Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Cloudy white, solid undissolved	0	Colorless	0	N/A
15		15	Very faint pink	15	
30		30	Darkening	30	
45		45	Darkening	45	
60	No Change	60	Light pink	60	
75		75		75	
90		90		90	
120		120	Same	120	
180		180		180	
240		240		240	
300		300	No purple or lavender color	300	



**Conclusion:** NIK-A, G, I, W & J gave no color change leading to NIK-R here. Resulting pink is no color purple or lavender color so no Valium or Rohypnol- negative result leads down on the Color Chart to NIK-O. See [17KA39].

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test O - Screening of GHB

**MODEL:** 800-6090 SKU: 1006168 PART: 800-6090

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-o--ghb-1006168.html#sm.001hvgb531c3jcuu6b1ghiznlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20%20Test%20O%20-%20GHB.pdf>

**Name:** Schwegges Reagent / Dye Testing, 1 Ampoule

**Contents:**

**Ampoule 1** Water, 45-55%

**Ampoule 2** Ethanol, 40-50%

**Ampoule 2** Aniline HCl, <1%



**Ampoule 1** Dextrose, <1%

**Ampoule 1** Bromocresol Green, <1%

**Ampoule 1** Methyl Orange, <1%

**Mandelin Reagent** - For the presumptive identification of Amphetamines and Methadone, as well as screening for PMA and Ketamine in conjunction with Test I.

**Description** -A rapidly developing blue color indicates the presence of Methadone. An immediate olive green color indicates the presence of Amphetamines

**Procedure: NIK-I.v1** (by Dave Symonsbergen on 11/13/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10- For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-W Methylphenidate (Ritalin) SIAL 17KA36**

Date: 11/13/2017

Person: Dave Symonsbergen

Experiment: 17KA38

Substance: Methylphenidate Hydrochloride

Source: Sigma-Adrich

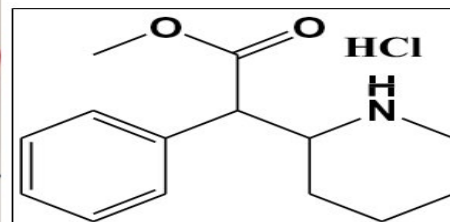
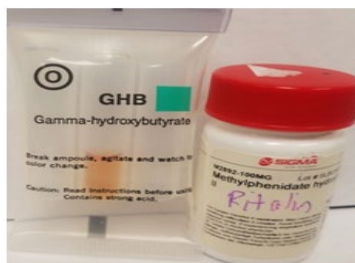
Item Number: M2892-100mg

Lot Number: SLBC5875V

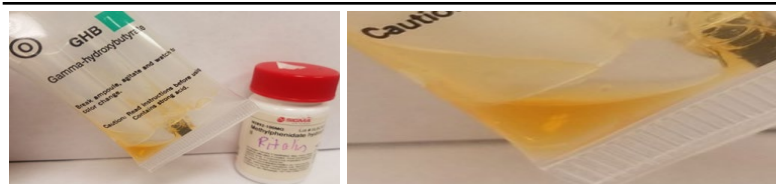
Sample Class: Powder

Sample Color: White

Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Immediately the orange changed to yellow	0	N/A	0	N/A
15		15		15	
30	Same yellow	30		30	
45		45		45	
60	Same yellow	60		60	
75		75		75	
90	Same yellow	90		90	
120		120		120	
180	Same yellow; no green formed	180		180	
240		240		240	
300		300		300	



**Conclusion:** NIK-A, G, I, W, J & R gave no color change leading to NIK-O here. Resulting yellow is no color green color so no GHB present. Net result of all testing = 7 tests showed there is no illegal narcotic.

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137



## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a--general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20%20Test%20O%20-%20GHB.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 2** 40% Aq. Formaldehyde, 5%



**Mandelin Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

Description -A rapidly developing purple or blu-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroine. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

### NIK-A Thebaine (ParaMorphine) SIAL 17KA16

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10- For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-A Thebaine (ParaMorphine) SIAL 17KA16

Date: 11/6/2017

Person: Dave Symonsbegen

Experiment: 17KA16

Substance: Thebaine

Source: Sigma-Adrich

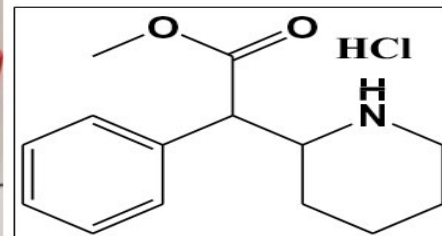
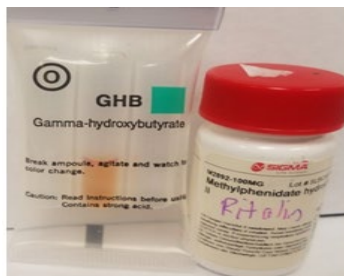
Item Number: T2019-1g

Lot Number: 058K1220V

Sample Class: Powder

Sample Color: Yellow (First one from SIAL that's yellow)

Qty to Test: Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Light Orange	0	N/A	0	N/A
15	Darkening	15		15	
30	Orange	30		30	
45		45		45	
60	Dark Orange	60		60	
75		75		75	
90		90		90	
120	Dark Orange	120		120	
180		180		180	
240		240		240	
300	No Brown/No Purple	300		300	

#### IN THE OPIOID CLASS:

This one leads to Test B- See results for Experiment [17KA17] that neither Methadrine or Mescaline are confirmed. NULL result

[17KA17] No change This System holds well.

If neither confirmed, then end result is no drug present.

THIS SEQUENCE IS SUPER FOR SHOWING THERE

IS NO BIOLOGICALLY STIMULATING COMPOUND.

**Conclusion:** Changed to light orange and darkened to orange at 30 sec, kept darkening in darker orange at 2 min and stopped- no brown as is common with amphetamines that start orange and turn brown. No purple at all which is typical of the opiates. Based on the colorimetric outcome, Thebaine would lead on the Color Chart to Test NIK-B which would ultimately discriminate against either Methedrine or Mescaline



NOTE: Opiates: Heroin has 2 free-OH, and Morphine 1 free-OH. Thebaine has both OH's methylated and therefore cannot chemically give the expected Opiate color change(s) Accordingly, just like the color test, Thebaine will not give an opioid-like response in the body because both reactive sites are tied up (methylated).

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137

## NIK Test B - Nitric Acid Reagent, General Screening Drug Test

**MODEL:** 800-6072 SKU: 1006150 PART: 800-6072  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-b--general-screening-1006150.html#sm.001hvgb531c3jcuu6b1ghi2nlylm1006165.html&start=32#sm.001hvgb531c3jcuu6b1ghi2nlylm1006155.html#sm.001hvgb531c3jcuu6b1ghi2nlylm>  
**NIK-U SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20B%20-%20Confirming%20Test.pdf>  
**Name:** Nitric Acid Reagent, 1 Ampoule

### Contents:

**Ampoule 1** Nitric Acid, 50-100%

**Nitric Acid Reagent -** Secondary screening test for the confirmation of Opiates (Morphine, Heroin, or Codeine) and Amphetamine-type compounds, as well as a general screening test for other drugs

**Description -** A yellow Color slowly changing to light green indicates Heroin. An orange color changing very rapidly to red and then slowly to yellow indicates Morphine. An orange color changing slowly to yellow indicates Codeine

**Procedure: NIK-B.v1** (by Dave Symonsbergen on 11/06/17)<sup>1</sup> - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

### Experiment: NIK-B Thebaine (Paramorphine) SIAL 17KA17

**Date:** 11/6/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA17

**Substance:** Thebaine

**Source:** Sigma-Adrich

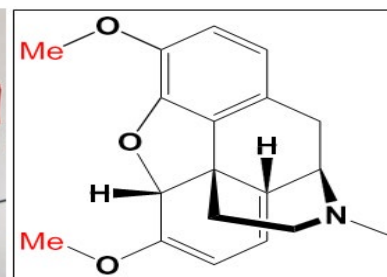
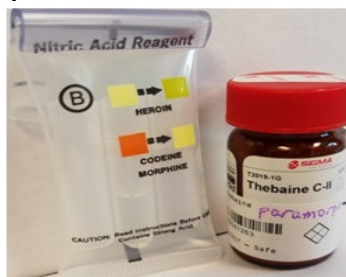
**Item Number:** T2019-1g

**Lot Number:** 058K1220V

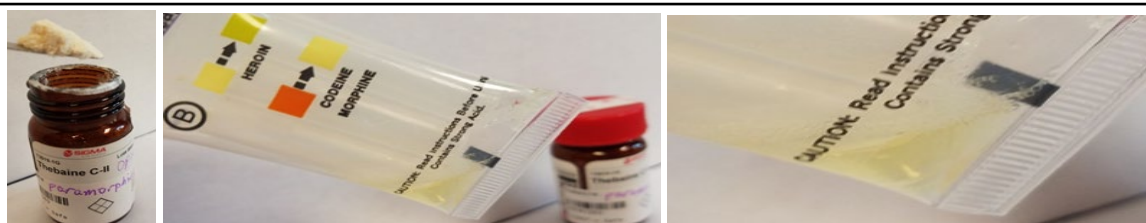
**Sample Class:** Powder

**Sample Color:** Yellow (First one from SIAL that's yellow)

**Qty to Test:** Analytical spatula



AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Pale Yellow	0	N/A	0	N/A	
15		15		15		
30	Pale Yellow	30		30		
45		45		45		
60	Pale Yellow	60		60		
75		75		75		
90		90		90		
120	Pale Yellow	120		120		
180		180		180		
240		240		240		
300	Pale Yellow	300		300		



**Conclusion:** NIK-A test [17KA16] stayed orange which lead to this NIK-B test to discriminate either Methedrine [no color change] or Mescaline [Red color change], but the pale yellow here is neither, indicating no drug present. For the NIK-B as a general drug screener, the pale yellow is indicative of the opiates, which is correct.

## NIK Test K - Opiate Family

**MODEL:** 800-6080 SKU: 1006158 PART: 800-6080

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-k--opiates-html&start=11#sm.001hvgb531c3jcuu6b1ghi2nlylm>

1006158.

**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20K%20-%20Heroin-Amphetamines.pdf>

**Name:** Marquis Reagent Family, 1 Ampoule

**Contents:**

**Ampoule 1** 1 Con. Sulfuric Acid, 90%



**Ampoule 1** 37% Aq. Formaldehyde, 1%

**Marquis Reagent Derivation** - For the presumptive identification of Heroin, Black Tar, Codeine and Morphine. Easier to distinguish between the four Opiates than using Test B. This test can also be used to screen out Methapyrilene and Propoxyphene.

**Description** - An immediate green color changing to purple indicated Heroin. An immediate blue-green color changing to gray color indicated Morphine. An immediate stable blue color indicates Codeine.

**Procedure: NIK-K.v1** (by Dave Symonsbergen on 11/06/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-K Thebaine SIAL 17KA41**

**Date:** 11/6/2017

**Person:** Dave Symonsbegen

**Experiment:** 17KA17

**Substance:** Thebaine

**Source:** Sigma-Adrich

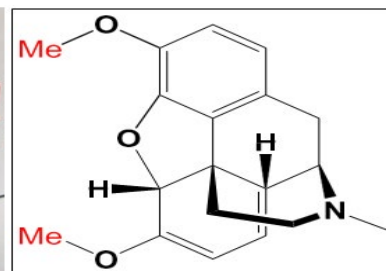
**Item Number:** T2019-1g

**Lot Number:** 058K1220V

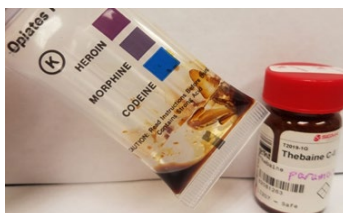
**Sample Class:** Powder

**Sample Color:** Yellow (First one from SIAL that's yellow)

**Qty to Test:** Analytical spatula



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Immediate brown- undissolved solids are brown	0	N/A	0	N/A
15		15		15	
30		30		30	
45	No change	45		45	
60		60		60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240	240	240	240		
300	300	300	300		



**Conclusion:** Immediate brown color with Ampoule 1 that did not change- it stayed the dark brown without change after 5 minutes. Indicates no Heroin, Morphine, or Codeine present which is correct

AMPOULE 1		AMPOULE 2		AMPOULE 3		
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Immediate brown- undissolved solids are brown	0	No change	0	N/A	
15		15		15		
30	No change	30	No change	30		
45		45		45		
60		60		60		
75		75		75		
90		90		90		
120		120		120		
180		180		180		
240		240		240		
300		300		No change		300



**Conclusion:** Immediate brown color with Ampoule 1 that did not change- it stayed the dark brown without change after 5 minutes. Indicates no Heroin, Morphine, or Codeine present which is correct

AMPOULE 1		AMPOULE 2	
<b>Ampoule 1</b>	Con. Sulfuric Acid, 95%	<b>Ampoule 2</b>	Con. Sulfuric Acid, 95%
<b>Ampoule 2</b>	37% Aq. Formaldehyde, 1%		
<b>Ampoule 2</b>	Selenious Acid, 1%		

**Contents:**

**Model:** 800-6081 SKU: 1006159 PART: 800-6081

**Website:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-k--opiates-1006158.html&start=11#sm.001hvgb531c3juu6b1ghi2nlylm>

**NIK-U SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20%20L%20-%20Heroin.pdf>

**Name:** Marquis Reagent Family, 1 Ampoule

**Marquis Reagent Derivation** - This reagent presumptively identifies Heroin in all forms, including White, Brown and Black Tar, as well as MDMA Ecstasy, as well as detecting the presence of certain dye combinations designed to give false positives with Test A.

**Description** - A purple color after breaking the first ampoule indicates MDMA (Ecstasy). A green color after breaking the second Ampoule that intensifies with prolonged agitation indicates Heroin.

**Procedure: NIK-L.v1** (by Dave Symonsbergen on 10/05/17)

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, break the glass by squeezing the center of the ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.
- 10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment: NIK-L 17KA40 Thebaine SIAL**

**Date:** 11/13/2017

**Person:** Dave Symonsbergen

**Experiment:** 17KA40

**Substance:** Thebaine

**Source:** Sigma-Adrich

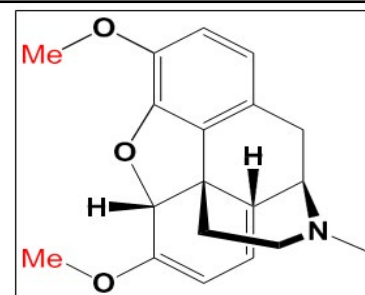
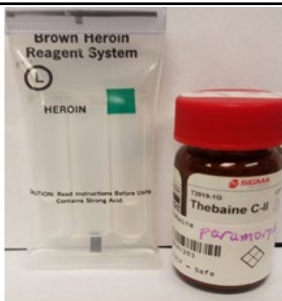
**Item Number:** T2019-1g

**Lot Number:** 058K1220V

**Sample Class:** Powder

**Sample Color:** Yellow (First one from SIAL that's yellow)

**Qty to Test:** Analytical spatula



## NIK Test A - General Screening

**MODEL:** 800-6071 SKU: 1006149 PART: 800-6071

**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-a---general-screening-1006149.html#sm.001hvgb531c3jcuui6b1ghi2nlylm>

**NIK-G SDS** <http://sds.chemtel.net/webclients/safariland/archive/NIK%206413%20Cocaine%20and%20Free%20Base%20MSDS.pdf>

**Name:** Marquis Reagent, 1 Ampoule

**Contents:**

**Ampoule 1** Con. Sulfuric Acid, 95%

**Ampoule 1** 40% Aq. Formaldehyde, 5%



**Marquis Reagent** - This reagent presumptively identifies Opium Alkaloids, Heroin and Amphetamine type compounds and as a general screening agent for other drugs

**Description** - A rapidly developing purple or blue-violet color indicates Opium alkaloids (Morphine or Codeine) or Heroin. An immediate orange color rapidly turning to a brown color indicates Amphetamine-type compounds. Refer to Polytesting Chart for other color results.

**Procedure: NIK-G.v1** (by Dave Symonsbergen on 10/05/17)

1 - Classify the material to be tested: pill, powder, plant, or liquid.

2 - Note the color of the material.

3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.

4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to

assure material falls to bottom of pack.

5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.

6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.

7 - Note the color changes and how many seconds have passed for each color change.

8 - Record the color changes on the time chart in the experimental section.

9 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results.

10 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-A THC Tetrahydrocannabinol SIAL 17KA28

**Date:** 10/5/2017

**Person:** Dave Symonsbergen

**Experiment:** 17JA28

**Substance:** Tetrahydrocannabinol, 1mg/mL in MeOH

**Source:** Sigma-Adrich

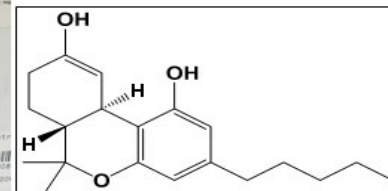
**Item Number:** T4764-1mL Solution

**Lot Number:** 118K8709

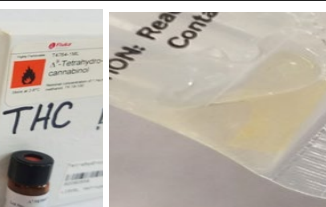
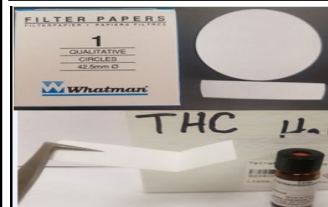
**Sample Class:** Yellow Liquid Solution (almost empty- added

**Sample Color:** MeOH so could run test = very dilute)

**Qty to Test:** Absorbed onto Analytical Filter Paper



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Paper Yellow, Liquid Colorless	0	N/A	0	N/A
15		15		15	
30	Colorless	30		30	
45		45		45	
60	Faint Yellow as Paper leaching yellow into the liquid	60	PINK	60	
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** No color change- test was very dilute as the 1mg/mL vial was essentially empty. Paper was yellow and solution colorless initially, the at 60 seconds the liquid went to faint yellow as the paper was leaching yellow to the liquid

## NIK Test E - for Marijuana and Hashish

**MODEL:** 800-6075 SKU: 1006153 PART: 800-6075  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-e---marijuana-hashish-and-hash-oil-1006153.html#sm.001h>  
**NIK-G SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20E%20-%20Marijuana.pdf>  
**Name:** Duquenois-Levine Reagent

<b>Contents:</b>			<b>Ampoule 2</b>	Hydrochloric Acid, 100%	
<b>Ampoule 1</b>	Ethanol, 90%		<b>Ampoule 3</b>	Chloroform, 100%	
<b>Ampoule 1</b>	Vanillin, 5%				
<b>Ampoule 1</b>	Acetaldehyde, 1%				

**Duquenois-Levine Reagent** - Stand alone test for Marijuana, Hashish, and Hash Oil

**Description** - No color change after breaking the first Ampoule; a dark blue or violet after breaking the second Ampoule; and a grey upper layer over a violet layer upon breaking the third Ampoule.

**a**

**NOTE: Agitate Ampoule 1 for 60 SECONDS, then break Ampoule 2- as the color forms break Ampoule 3 to halt color over-development.**

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then break Ampoule 3 after purple forms to halt the test and prevent color oversaturation.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-E Tetrahydrocannabinol SIAL 17KA29

**Date:** 11/6/2017

**Person:** Dave Symonsbegen

**Experiment:** 17KA29

**Substance:** Tetrahydrocannabinol, 1mg/mL in MeOH

**Source:** Sigma-Adrich

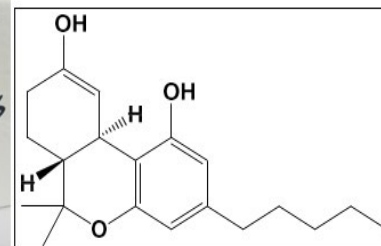
**Item Number:** T4764-1mL Solution

**Lot Number:** 118K8709

**Sample Class:** Yellow Liquid Solution (almost empty- added

**Sample Color:** MeOH so could run test = very dilute)

**Qty to Test:** Absorbed onto Analytical Filter Paper







AMPOULE 1			AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	
0	Paper Yellow, Liquid Colorless	0	Colorless	0	Gets hazy looks pink	
15		15		15		
30	Colorless	30		30		
45		45		45		
60	Faint Yellow as Paper leaching yellow into the liquid	60	Faint pink forming	60	Layer separation hindered by glass shards	
75		75		75		
90		90	Pink	90		
120		120	No change	120		
180		180		180		
240		240		240		
300		300		300		

**Conclusion:** Test was very dilute as the 1mg/mL vial was essentially empty so test afforded a pink color rather than purple- added MeOH to vial to get enough to absorb on paper. Glass shards hindered good layer formation after

### NIK Test E - for Marijuana and Hashish

**MODEL:** 800-6075 SKU: 1006153 PART: 800-6075  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-e---marijuana-hashish-and-hash-oil-1006153.html#sm.001h>  
**NIK-G SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20E%20-%20Marijuana.pdf>  
**Name:** Duquenois-Levine Reagent

<b>Contents:</b>				
<b>Ampoule 1</b>	Ethanol, 90%		<b>Ampoule 2</b>	Hydrochloric Acid, 100% 
<b>Ampoule 1</b>	Vanillin, 5%		<b>Ampoule 3</b>	Chloroform, 100% 
<b>Ampoule 1</b>	Acetaldehyde, 1%			

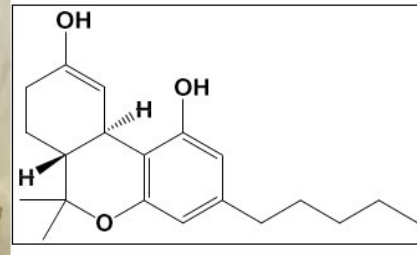
**Duquenois-Levine Reagent** - Stand alone test for Marijuana, Hashish, and Hash Oil  
**Description** - No color change after breaking the first Ampoule; a dark blue or violet after breaking the second Ampoule; and a grey upper layer over a violet layer upon breaking the third Ampoule.

**Procedure: NIK-E.v1** (by Dave Symonsbergen on 11/06/17)

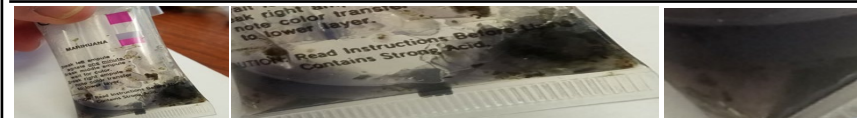
**NOTE: Agitate Ampoule 1 for 60 SECONDS, then break Ampoule 2- as the color forms break Ampoule 3 to halt color over-development.**

- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
- 2 - Note the color of the material.
- 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
- 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
- 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
- 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
- 7 - Note the color changes and how many seconds have passed for each color change.
- 8 - Record the color changes on the time chart in the experimental section.
- 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then break Ampoule 3 after purple forms to halt the test and prevent color oversaturation.
- 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results
- 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-E THC Marijuana Crete Police 17KA30  
**Date:** 11/7/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA30  
**Substance:** Marijuana  
**Source:** Crete Police Department  
**Item Number:** Bag turned in from local University  
**Lot Number:** N/A  
**Sample Class:** Solid  
**Sample Color:** Green  
**Qty to Test:** ~500mg












AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless?	0	Too much material	0	Dark Gray
15	Too much material	15	Looks dark gray	15	
30	Challenging to see Liquid	30		30	
45		45		45	
60		60		60	Dark gray layer over light gray layer
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Test was poor as officer's first attempt utilized way too much material ~ half-gram. Everything looked gray, and the final result was a dark gray layer over a lighter gray layer. Test failed due to user error so will repeat - see [17KA30B]

### NIK Test E - for Marijuana and Hashish

**MODEL:** 800-6075 SKU: 1006153 PART: 800-6075  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-e---marijuana-hashish-and-hash-oil-1006153.html#sm.001h>  
**NIK-G SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20E%20-%20Marijuana.pdf>  
**Name:** Duquenois-Levine Reagent

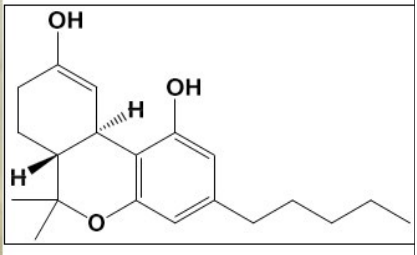
<b>Contents:</b>				
<b>Ampoule 1</b>	Ethanol, 90%		<b>Ampoule 2</b>	Hydrochloric Acid, 100% 
<b>Ampoule 1</b>	Vanillin, 5%		<b>Ampoule 3</b>	Chloroform, 100% 
<b>Ampoule 1</b>	Acetaldehyde, 1%	  		 

**Duquenois-Levine Reagent** - Stand alone test for Marijuana, Hashish, and Hash Oil  
**Description** - No color change after breaking the first Ampoule; a dark blue or violet after breaking the second Ampoule; and a grey upper layer over a violet layer upon breaking the third Ampoule.

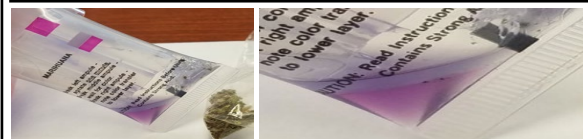
**Procedure: NIK-E.v1** (by Dave Symonsbergen on 11/06/17)

- NOTE: Agitate Ampoule 1 for 60 SECONDS, then break Ampoule 2- as the color forms break Ampoule 3 to halt color over-development.**
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
  - 2 - Note the color of the material.
  - 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
  - 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
  - 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
  - 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
  - 7 - Note the color changes and how many seconds have passed for each color change.
  - 8 - Record the color changes on the time chart in the experimental section.
  - 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then break Ampoule 3 after purple forms to halt the test and prevent color oversaturation.
  - 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results
  - 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-E THC Marijuana Crete Police 17KA30  
**Date:** 11/7/2017  
**Person:** Dave Symonsbergen  
**Experiment:** 17KA30B  
**Substance:** Marijuana  
**Source:** Crete Police Department  
**Item Number:** Bag turned in from local University  
**Lot Number:** N/A  
**Sample Class:** Solid  
**Sample Color:** Green  
**Qty to Test:** 5-6 small leaves



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0	Colorless	0	Pink	0	Purple cloudy
15		15	Darkening	15	layers forming
30		30	Purple	30	Lavender over Purple
45		45		45	
60	Colorless	60	Same	60	Lavender over Purple
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	








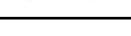
**Conclusion:** Test worked well unlike Lt. Young's first attempt [17KA30] where too much material was used. The test gives good results even when very few leaves from the plant are utilized

Citation: Andrea E. Holmes et al. (2018), Evaluation of the NIK® test: Primary general screening test for the presumptive identification of drugs. Int J Cri & For Sci. 2:5, 81-137



### NIK Test E - for Marijuana and Hashish

**MODEL:** 800-6075 SKU: 1006153 PART: 800-6075  
**WEBSITE:** <http://www.safariland.com/products/forensics/field-drug-tests/nik-test-e---marijuana-hashish-and-hash-oil-1006153.html#sm.001h>  
**NIK-G SDS Name:** <http://sds.chemtel.net/webclients/safariland/archive/NIK%20Public%20Safety%20-%20Test%20E%20-%20Marijuana.pdf>  
**Name:** Duquenois-Levine Reagent

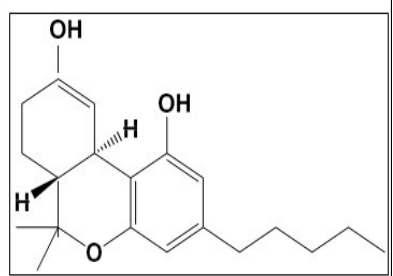
<b>Contents:</b>				
<b>Ampoule 1</b>	Ethanol, 90%		<b>Ampoule 2</b>	Hydrochloric Acid, 100% 
<b>Ampoule 1</b>	Vanillin, 5%		<b>Ampoule 3</b>	Chloroform, 100% 
<b>Ampoule 1</b>	Acetaldehyde, 1%			

**Duquenois-Levine Reagent** - Stand alone test for Marijuana, Hashish, and Hash Oil  
**Description** - No color change after breaking the first Ampoule; a dark blue or violet after breaking the second Ampoule; and a grey upper layer over a violet layer upon breaking the third Ampoule.

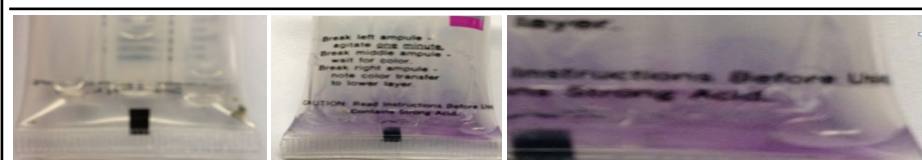
**Procedure: NIK-E.v1** (by Dave Symonsbergen on 11/06/17)

- NOTE: Agitate Ampoule 1 for 60 SECONDS, then break Ampoule 2- as the color forms break Ampoule 3 to halt color over-development.**
- 1 - Classify the material to be tested: pill, powder, plant, or liquid.
  - 2 - Note the color of the material.
  - 3 - Determine the amount of the substance to be tested. The most common mistake is testing TOO MUCH material.
  - 4 - Remove clip and insert into the test pouch an amount of powdered suspect material that would fit inside this circle. Reseal with clip and tap gently to assure material falls to bottom of pack.
  - 5 - With the printed side facing you, from left to right break the glass by squeezing the center of the first ampoule with the tips of thumb and forefinger.
  - 6 - Start the timer and begin agitating the pouch by flicking the bottom corner - DO NOT SHAKE the pouch.
  - 7 - Note the color changes and how many seconds have passed for each color change.
  - 8 - Record the color changes on the time chart in the experimental section.
  - 9 - After 30 seconds, repeat Steps 5-8 with Ampoule 2, and then break Ampoule 3 after purple forms to halt the test and prevent color oversaturation.
  - 10 - Once the test is complete, take a photo of the pouch against a white background as evidence of the results
  - 11 - For cleanup add the NIK-F acid neutralizer to the pouch, wait for fizzing to subside, reseal, and dispose of the pouch.

**Experiment:** NIK-E THC Marijuana Pat Williams Sangre Agro Tech 17KS01  
**Date:** 11/12/2017  
**Person:** Pat Williams  
**Experiment:** 17KS01  
**Substance:** Marijuana  
**Source:** Sangre Agro Tech (Colorado)  
**Item Number:** N/A  
**Lot Number:** N/A  
**Sample Class:** Solid  
**Sample Color:** Green  
**Qty to Test:** 1 leaf, 3mm diameter



AMPOULE 1		AMPOULE 2		AMPOULE 3	
TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES	TIME (Sec)	COLOR & NOTES
0		0		0	N/A
15		15		15	
30		30		30	
45		45		45	
60		60		60	Lavender over purple
75		75		75	
90		90		90	
120		120		120	
180		180		180	
240		240		240	
300		300		300	



**Conclusion:** Pat in Colorado ran this test so only the final results were collected via photo. Gives the purple and lavender (gray) result as expected for marijuana.

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