



Operating Instructions

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MethChek Immunoassay Wipe Kit for Methamphetamine Residue on Surfaces

Developed by the U.S. National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control (CDC), MethChek® semi-quantitative immunoassay wipe kits identify methamphetamine residue on surfaces at or above relevant state cleanup levels. Ideal for pre and post-remediation evaluation of clandestine meth lab sites, MethChek provides on-the-spot answers without waiting for lab results. MethChek kits are available with a 0.05, 0.1, 0.5, or 1.5 microgram per 100 cm² lower limit of identification (LLOI).

Using MethChek 100, 500, and 1500 Wipe Kits

(100 ng, 500 ng, and 1500 ng LLOI)

See Cautions and Handling on pages 9-10 before proceeding.

Preparing to Sample

1. Put on clean gloves supplied in kit.



Use new, clean gloves for each test.

2. Place supplied wax paper on a level surface.
3. Place Step 2 Extractor bottle on wax paper.
4. Remove plunger from syringe and place on wax paper.



Place items on wax paper.

5. Place supplied template on test surface.



SKC recommends adhering template to surface.



Consult state meth sampling guidelines for recommended template locations.



Multiple samples in multiple locations within a structure are recommended. Consult state meth sampling guidelines.



Place template.

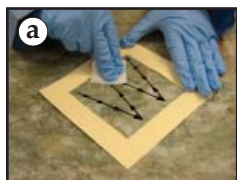
6. Remove screw cap from Step 1 Wetting Agent bottle. Insert and tighten spray nozzle. Prime spray bottle in a waste can.
7. Remove gauze pad from package and spray gauze 2 times with Step 1 Wetting Agent at a distance of approximately 4 inches.



Spray 2 times with Step 1 Wetting Agent.

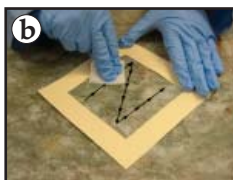
Sampling

Using firm hand pressure, collect the sample by wiping the surface inside the template with the moistened gauze pad in the following patterns:



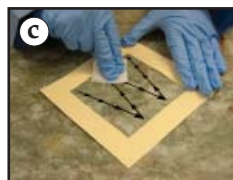
a. Left to right in a "W" pattern

and



b. Left to right in a "Z" pattern

and



c. Repeat left to right in a "W" pattern



Do not trap or push surface residue under edges of template.



When wiping, orient the wipe to concentrate the sample in one area on the wipe. This will enhance extraction.

Extracting the Sample

1. Insert gauze pad containing sample into syringe.



Insert gauze into syringe.

2. Insert syringe plunger and gently push gauze pad toward base of syringe.



Press enough to loosely compact gauze pad.



Use plunger to loosely compact gauze.

3. Remove syringe plunger.

4. Open Step 2 Extractor bottle, hold syringe over plastic tray, and pour Step 2 Extractor into syringe.



Pour Step 2 Extractor into syringe.

5. Holding the syringe tip over the plastic tray, slowly insert and depress plunger to compress and extract the sample from the wipe until liquid no longer flows.



Depress plunger, collect liquid in tray.

6. Place syringe tip in liquid in plastic tray and slowly pull plunger halfway to draw sample back into syringe.



Draw liquid into syringe.

7. Repeat Step 5.

8. Remove Step 3 Cartridge and disposable pipette from packet and place on wax paper.



Ensure surface is level.

9. With pipette, add 3 drops of extract liquid from plastic tray to the sample well (marked "S") on Step 3 Cartridge.



Pipette 3 drops of liquid into "S" well on cartridge.

10. Observe Step 3 Cartridge. Lines will appear within one minute. Results will develop completely within 5 minutes. See *Reading MethChek Results* on page 7.

10



*Results appear in
≤ 1 minute. Development
completed in 5 minutes.*



Do not disturb cartridge during sample development.

11. Once test is complete, write ID on cartridge and on mini bag, insert cartridge into mini bag, and transport or store.



ID sample cartridge. Transport or store in mini bag.

12. Place disposable items in resealable test packet bag, seal, and dispose of as hazardous materials. See *Disposing* on page 10.

! Do not discard Step 1 Wetting Agent solution, spray nozzle, or bottle unless empty or expired. Bottle contains enough solution for several tests.

📦 SKC recommends sealing the Step 1 solution bottle with the provided screw cap for transport and storage.

! Thoroughly wash exterior of bottle with soap and water before sampling at another site to avoid cross contamination.



Place disposable items in resealable bag.

Using the MethChek 50 Wipe Kit (50 ng LLOI)

Preparing to Sample

See *Cautions and Handling* on pages 9-10 before proceeding.

1. Put on clean gloves supplied in kit.

📦 Use new, clean gloves for each test.

2. Place wax paper and supplied items on a level surface.



Place items on wax paper.

3. Place supplied template on test surface.

📦 SKC recommends adhering template to surface.

📦 Consult state meth sampling guidelines for recommended template locations.

📦 Multiple samples in multiple locations within a structure are recommended. Consult state meth sampling guidelines.



Place template.

4. Remove screw cap from Step 1 Wetting Agent bottle. Insert and tighten spray nozzle. Prime spray bottle in a waste can and then spray cotton swab tip 2 times at a distance of approximately 4 inches. Rotate tip between sprays.



Spray 2 times with Step 1 Wetting Agent.

Sampling

Using moderately firm pressure, collect the sample by wiping the surface inside the template with the moistened swab in the following patterns:



and



and



a. Left to right in a tight and continuous "W" pattern

b. Left to right in a tight and continuous "Z" pattern

c. Repeat left to right in a tight and continuous "W" pattern

❗ Do not trap or push surface residue under edges of template.

❗ Wipe in tight continuous patterns for best results.

Extracting the Sample

1. Open Step 2 Extractor vial and insert swab containing sample (tip side down) into the vial.



Insert tip into Step 2 Extractor vial.

2. Bend swab until it breaks to allow the vial cap to be replaced with the swab inside the vial.



Break off swab, cap vial.

3. Slowly rotate vial end-over-end; do not shake.

🚫 If foam forms, allow sample to stand until foam dissipates.

4. Remove Step 3 Cartridge and disposable pipette from packet and place on wax paper.

🚫 Ensure surface is level.



Rotate vial end-over-end.

5. With pipette, add 3 drops of extract liquid from vial to the sample well (marked "S") on Step 3 Cartridge.



Pipette 3 drops of extract into "S" well on Cartridge.

6. Observe Step 3 Cartridge. Lines will appear within one minute. Results will develop completely within 5 minutes. *See Reading MethChek Results on page 7.*

! *Do not disturb cartridge during sample development.*



Results appear in ≤ 1 minute. Development completed in 5 minutes.

7. Once test is complete, write ID on cartridge and on mini bag, insert cartridge into mini bag, and transport or store.



ID cartridge, transport or store in mini bag.

8. Place disposable items in resealable test packet bag, seal, and dispose of as hazardous materials. *See Disposing on page 10.*

! *Do not discard Step 1 Wetting Agent solution, spray nozzle, or bottle unless empty or expired. Bottle contains enough solution for several tests.*

! *SKC recommends sealing the Step 1 solution bottle with the provided screw cap for transport and storage.*

! *Thoroughly wash exterior of bottle with soap and water before sampling at another site to avoid cross contamination.*



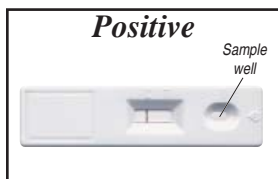
Place disposable items in resealable bag.

Reading MethChek Results



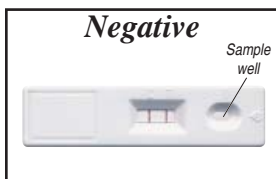
Ensure sample well on cartridge is on the right as shown below.

Observe results. Step 3 Cartridge results will remain visible for several months before fading. Photograph cartridge results if required.



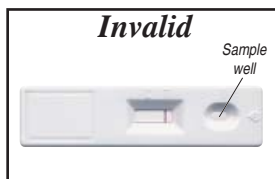
Positive

*Meth residue detected
above kit lower limit
of identification*



Negative

*Meth residue **not** detected
at kit lower limit of identification*



Invalid

*Invalid test
Perform new test*

Negative Results

Q: I see two lines on the cartridge, but one of the lines is faint. Is this a negative result?

A: The appearance of a faint line with a dark line indicates a negative test. The appearance of two lines, regardless of intensity, is a negative test.

Invalid Test

Invalid test results are a rare occurrence. Possible causes for an invalid result can include: damaged test cartridge, storage at high temperatures, expired test cartridges, interferences in the sample (strong organics, bleaching agents, extremely high or low pH), or improper test procedure (cartridge not held flat during development, insufficient sample volume). If an invalid test result appears, perform a new test with a new cartridge.

If no lines appear on the Step 3 Cartridge, it may be due to one of the following: insufficient volume of extract liquid was added to the Step 3 Cartridge or extract liquid was added to the sample window instead of the sample well (marked "S") on the Step 3 Cartridge.



Protect developed cartridges from bright light. Bright light will cause cartridge results to fade over time (not affected by indoor lighting).



Line density (faintness or darkness) is *not* equivalent to concentration.

Interferences

The MethChek Step 3 Cartridge is designed to react positively to methamphetamine above the particular kit's lower limit of identification.

Possible Positive Interferences

Compound	Approx. ng Equivalent to 50 ng/ml d-methamphetamine	% Cross-reactivity
MDMA (Ecstasy)	< 50	+100
d-methamphetamine	50	100
street methamphetamine (methamphetamine hydrochloride, unknown purity)	50	100
d,l-methamphetamine	80	62
l-methamphetamine	650	8
d-amphetamine	2500	2
phenylephrine (component of nasal sprays)	2500	2
d-ephedrine	4000	0.3
l-ephedrine	> 5000	< 1.0
d,l-ephedrine	> 5000	< 1.0
d-phenylpropanolamine	> 5000	< 1.0
d,l-phenylpropanolamine	> 5000	< 1.0
d-pseudoephedrine	> 5000	< 1.0
l-pseudoephedrine	> 5000	< 1.0
heroin	> 1,000,000	< 0.005
powder cocaine	> 1,000,000	< 0.005
street cocaine	> 1,000,000	< 0.005

Negative Interferences

There are no known negative interferences.

Possible Causes for Invalid Tests

Invalid test results are a rare occurrence. Possible causes for an invalid result can include: damaged test cartridge, storage at high temperatures, expired test cartridges, interferences in the sample (strong organics, bleaching agents, extremely high or low pH), or improper test procedure (cartridge not held flat during development, insufficient sample volume). If an invalid test result appears, perform a new test with a new cartridge.

If no lines appear on the Step 3 Cartridge, it may be due to one of the following: insufficient volume of extract liquid was added to the Step 3 Cartridge or extract liquid was added to the sample window instead of the sample well (marked "S") on the Step 3 Cartridge.

Cautions and Reminders

- ❗ *Do not spray or wipe solutions or extract liquid on skin. Do not ingest solutions or extract.*
- ❗ *Handling, storage, and disposal summaries for all materials are on page 10.*
- ❗ *Use gloves provided with kit when taking samples and working with chemicals.*
- ❗ *Use new, clean gloves for each test.*
- 📖 *MethChek Kits are available with specific lower limits of identification including 0.05, 0.1, 0.5, or 1.5 micrograms per 100 cm² (50, 100, 500, or 1500 nanograms). Consult the meth cleanup guidelines available from the state in which you are testing to determine the appropriate kit.*
- ❗ *Wear personal protective equipment (PPE) as required by the condition of the site, state meth sampling guidelines, Handling information on page 10, and personal comfort level.*
- 📖 *MethChek is a semi-quantitative immunoassay test that can provide information about the existing level of methamphetamine residue on surfaces. It may be used to determine the need for cleaning in a specific area or the need for further cleaning on-site to reach state clean-up guidelines. Some states and counties require lab results from quantitative wipe sampling before issuing a re-entry certificate. Consult state meth cleanup guidelines.*
- 📖 *Multiple samples in multiple locations within a structure are recommended. Consult state meth sampling guidelines.*
- 📖 *Use MethChek on surfaces such as countertops, doorknobs, wood floors, non-textured walls and ceilings, tables, chairs, bathroom and kitchen fixtures (sinks, toilets, tubs/showers), appliances, curtains, and furniture.*

Sample Identification and Transport

- Photograph cartridge results if required.
- Assign a unique identifier to each cartridge per state meth sampling guidelines. Mark with indelible ink on cartridge and on mini bag label.
- Insert cartridge in supplied resealable mini bag for transport or storage.

Handling, Storing, and Disposing of MethChek Materials

Step 1 Wetting Agent

Storing: 1-year shelf-life at ambient temperatures 68 to 77 F (20 to 25 C). Seal bottle with provided screw cap.

Handling: Wear gloves and safety glasses during use.

Disposing: Dispose of in accordance with federal, state, and local regulations.

For more details, see Material Safety Data Sheet included in kit.

Step 2 Extractor

Storing: 1-year shelf-life at ambient temperatures 68 to 77 F (20 to 25 C)

Handling: Wear gloves and safety glasses during use.

Disposing: Dispose of in accordance with federal, state, and local regulations.

For more details, see Material Safety Data Sheet included in kit.

Step 3 Cartridge

Storing: Optimal storage is at ambient temperatures 68 to 77 F (20 to 25 C) and in a dry location before use. Protect developed cartridges from bright light (not affected by indoor lighting).

Handling: Wear gloves and safety glasses.

Disposing: Dispose of as hazardous materials in accordance with federal, state, and local regulations.

For more details, see Material Safety Data Sheet included in kit.

MethChek Sampling Materials

(Gloves, templates, plastic trays, gauze, swabs, pipettes, vials)

Storing: Store in a dry location before use.

Handling: Wear gloves and safety glasses.

Disposing: After sampling, place materials in the resealable test packet bag and dispose of as hazardous materials in accordance with federal, state, and local regulations.

For more details, see Material Safety Data Sheet included in kit.

MethChek Immunoassay Wipe Kit Contents

- Step 1 Wetting Agent
- Spray nozzle
- Complete Operating Instructions
- Quick Guide instructions
- MSDS
- Test Packets, each in a resealable bag containing 1 each:
 - Gauze pad (swab in MethChek 50)
 - Tray
 - Pair disposable gloves
 - 10 x 10-cm disposable template
 - Wax paper
 - Step 2 Extractor (1, 2, 10, or 40 ml)
 - Syringe (not required for MethChek 50)
 - Detection cartridge with disposable pipette
 - Sample storage “mini” bag

Ordering Information

Lower Limit of ID Description	$\mu\text{g}/100\text{ cm}^2$	Nanograms	Cat. No./Qty.
MethChek 1500 Immunoassay Wipe Kit	1.5	1500	560-005B/3 tests
MethChek 500 Immunoassay Wipe Kit	0.5	500	560-002/12 tests
MethChek 100 Immunoassay Wipe Kit	0.1	100	560-003/12 tests 560-003A/1 test 560-003B/3 tests
MethChek 50 Immunoassay Wipe Kit	0.05	50	560-004/12 tests 560-004A/1 test 560-004B/3 tests

SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty.asp>.

