



### In this Issue:

- Counterfeit tablets with deadly fentanyl compounds
- Evidence Submission Policy reminders
- Pro Tips for the collection of Hair Evidence using lifts
- Adhesive Lift Grid Template

SPRING 2017

# OREGON STATE POLICE

Forensic Services Division Newsletter

## DRUG CHEMISTRY CORNER

# FENTANYL COMPOUNDS IN COUNTERFEIT TABLETS: FATALITIES WAITING TO HAPPEN

Oregon State Police crime labs have received recent submissions of counterfeit pills designed to appear like pharmaceutical tablets. These tablets, submitted by multiple police agencies around our state, are often visually indistinguishable from the legitimate tablets they're designed to mimic, but they contain a variety of illicit substances. For example, counterfeit tablets appearing identical in shape, color and marking to pharmaceutical doses of oxycodone (Oxycontin), tramadol (Ultram), amphetamine, or alprazolam (Xanax) have contained Schedule I substances including U-47700 ("Euphoria"), heroin, fentanyl and other fentanyl-related compounds. These substances are highly toxic, highly addictive, opiates that have been involved in numerous overdose deaths, in Oregon and nationally, including the death of the musician "Prince".

While it is not uncommon for our labs to receive counterfeit tablets, recent submissions have been of especially high-quality manufacture and appearance, and they have included compounds that represent an especially high risk. These recent tablets are visually indistinguishable from legal prescription tablets. Be aware of this and handle appropriately should you collect tablets in the course of your interactions with the public.

Although it is laboratory policy to accept only two tablets for testing, additional testing may be required to analyze counterfeit pills. If you believe you may have counterfeit pills in evidence, please contact your local lab for additional direction.



The green and blue tablets above were made to look like oxycodone, but the green tablet contained alprazolam and U-47700, and the blue tablet contained heroin, oxycodone and furanyl fentanyl.



This tablet is identical to a Schedule II prescription amphetamine medication, but it contains methamphetamine and alpha-PVP (a cathinone), both Schedule I drugs, and fluoroamphetamine (a designer drug that is non-controlled).

## FENTANYL EXPLAINED:

Fentanyl, a Schedule II controlled substance, is a powerful synthetic opiate that has approved medical uses as an anesthetic and an analgesic. It is often used for end-of-life pain relief in terminally ill patients. Its fatal dose is extremely small. Some related compounds have been regulated for years but, recently, new "designer fentanyls" have appeared on the streets, occasionally mixed with heroin and in tablets like those pictured above. Oregon law now classifies any drug that is based on the molecular structure of fentanyl as a Schedule I drug due to its toxicity and abuse potential.





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### EVIDENCE SUBMISSION REMINDERS

#### Lab personnel are required to reject evidence that does not conform to our submission guidelines. Please follow the policies listed below to help us expedite the analysis and return of your evidence:

- Evidence must be completely sealed with tamper-evident tape or a “gum” or heat seal. Initials of the submitting officer must cross over the seal. For drug evidence other than marijuana/mushrooms, plastic bags are preferred.
- Evidence descriptions on the Request for Services Form (Form 49) must be as accurate as possible. For drug evidence and loose bullets and cartridge cases, we require the **actual number** of items submitted to be in the description. “Bags of white powder” or “Bullets” is not acceptable; list *the number of* bags or bullets. An exception is granted for cartridges in gun magazines, since removal can damage forensic evidence. You do **not** need to include a **weight** in the description of drug evidence.
- The evidence description on the Form 49 does **not** need to include your own **agency packaging** such as sharps tubes, Ziploc bags or envelopes. But any packaging that was seized as part of the evidence must be listed if it is submitted. **Extraneous packaging or items that are not intended for analysis should be removed prior to submission** to the lab.
- For drug analysis, we will accept **two items per suspect**, but we may only analyze what is necessary for prosecution. For example, if two glass pipes are submitted for a UPCS charge and we confirm methamphetamine on pipe A, the other pipe may not be tested.
- If there are multiple suspects listed on the Form 49, associate each piece of evidence with a specific suspect in the item description.
- When dealing with small amounts of drug residue, do not use it all by conducting a NIK test in the field. Submit the substance to the laboratory and we will analyze it. Note on the Form 49 that no NIK test was performed and it therefore must be analyzed before the DA can proceed. See example Form 49 below. **Never include used NIK tests with evidence.**
- For DNA analysis to be completed, if a suspect has been identified, a suspect DNA standard **MUST** be submitted for comparison. Standards are also often required for comparisons in Trace Evidence.

**None of these policies are designed to interfere with your own agency policies and practices. However, if they do, we will work with you to meet your needs whenever possible.**

**For more information, see the Physical Evidence Manual (link below). Section 13.0 outlines the policies specific to Drug Evidence. Or call your local laboratory if you have any questions about these or any other submission requirements.**

#### Form 49 example:

Descriptions must include the number items and any layers of packaging seized from the suspect. Agency packaging is **not** needed. Link evidence to suspects if there are multiple suspects listed.

1	3 zip lock bags w/ powder (JONES)	cont. substances
2	1 short straw w/ residue (SMITH)	(no NIK test) cont. substances
3	1 plastic bag w/ white powder (ROGERS)	cont. substances

Online info about the collection and submission of forensic evidence of all types is available in the OSP [Physical Evidence Manual](http://www.oregon.gov/osp/FORENSICS) via <http://www.oregon.gov/osp/FORENSICS>



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## TRACE EVIDENCE HOW-TO

by Jennifer Riedel, Forensic Scientist, Springfield Lab

# COLLECTION OF HAIRS USING LIFTS

**Adhesive tape lifts are the best method to collect hair evidence from large items or surfaces.** For example, this technique can be used to collect hairs from the entry floor of an apartment, the driver's seat of a vehicle, or a cushioned couch.

- To use an adhesive tape lift, first peel away and discard the backing of a large piece of clear adhesive sheet. Do this just before use. (Figure 1)
- Pat the adhesive sheet over the surface of interest. Care should be taken to not miss any areas nor allow the tape to become so overloaded it loses tackiness. (Figure 2)
- When finished, or when the tape adhesive starts losing tackiness, secure the adhesive tape onto a clear, colorless plastic sheet. If these plastic sheets have a grid photocopied onto them first, then it will simplify lab screening under a microscope later. Be sure to stick the adhesive on the side *opposite* the printed grid. (Figure 3)
- Repeat this process with additional lifts as needed to cover the entire surface. Label each tape lift with the appropriate case markings, including the location from which the lift was collected. Tape lifts from the same object or surface may be packaged in the same envelope or bag, but lifts from different surfaces should be packaged separately.

**This collection method allows for a complete and efficient lab examination: the transparent lifts can easily be seen through, the background changed to examine for hairs of all colors, the adhesive layer can be peeled back so hairs of interest can be removed, and the collected trace is fully protected from loss or contamination.**

For example, light colored hairs and DNA-rich root tissue are best visible when tape lifts are examined against a dark background. Dark colored hairs/fibers are best visible when the tape lifts are examined against a white background. Once hairs of interest are located, they may need to be removed for further examination. This is done by peeling a small section of tape lift away from the plastic sheet and gently removing the hair from the adhesive with fine-tipped tweezers. If the tape lift was stuck to paper, it cannot be peeled away easily.

Figure 1:



Figure 2:



Figure 3:



The grid template in Figure 3 is available on page 5.





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## TRACE EVIDENCE HOW-TO

### ADHESIVE LIFTS—QUICK TIPS

The instructions on page 3 aren't the only way to acceptably collect tape lifts but they do ensure the best chance that hairs (and other trace evidence) will be safely preserved and fully examined. If you do choose a modification, please consider whether it will create any difficulties during the examination process. If it does, there may be limits on what we can do with the evidence you submitted. **Avoid the following, as they make it difficult or impossible to collect or analyze the trace evidence.**

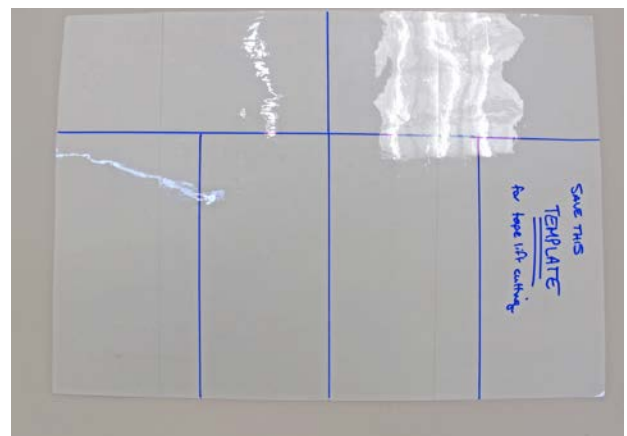
1. Do not use lint rollers, duct tape or other opaque adhesive products. Roller sheets are opaque and light-colored hairs and DNA-rich tissues are practically invisible on them.
2. Do not leave the adhesive surfaces of tape lifts exposed after collection. The exposed sticky surfaces will become contaminated by unwanted trace evidence and may allow for potential loss of evidence that was collected. If exposed tape lifts are placed into paper bags or envelope packages, they will stick to the packaging and the evidence possibly destroyed.
3. Never stick tape surfaces onto themselves or wad them up. Adhesive-to-adhesive bonds are very strong to the point it is difficult or impossible to pull apart.
4. Do not stick tape lifts to paper or latent lift cards as a backing. First, it creates an opaque background that can't be seen through (see #1 above). Second, it may be very difficult to remove a hair if the tape can't be cleanly pulled away from the paper backing.
5. Avoid adhesive tape lifts for Trace paint evidence; the adhesive will contaminate the paint. Post-it-type temporary adhesive is acceptable instead.



#### Product links:

**Clear adhesive lift sheets** (9½" by 13½") can be cut to make 6 smaller rectangular lifts (see photo at right)  
<http://www.csiforensic.com/m7/%232-6003--lift-sheets-clear-adhesive-9-1-2-x-13-1-2.html>.

**Transparency sheets** (8 ½" by 11") – any office supply transparency sheet works. Check copier compatibility if planning on using for the grid template.  
<http://www.officedepot.com/catalog/search.do?Ntt=clear+transparency+sheets&searchSuggestion=true>



Advanced Trace analysis is performed at the OSP Portland and Springfield Forensic Labs. If you have questions about collection of trace evidence or the types of testing we can perform, contact Kris Gates or Celeste Grover at 971-673-8230 (Portland) or Jennifer Riedel (Springfield) at 541-726-2590.

# Tape Lift Grid Template

						<b>A</b>
						<b>B</b>
						<b>C</b>
						<b>D</b>
						<b>E</b>
						<b>F</b>
						<b>G</b>
						<b>H</b>
						<b>I</b>
						<b>J</b>
						<b>K</b>
						<b>L</b>
						<b>M</b>
						<b>N</b>
						<b>O</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

Case Number: \_\_\_\_\_

Item No.: \_\_\_\_\_ Initials/Date: \_\_\_\_\_

Description: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

# Tape Lift Grid Template

						<b>A</b>
						<b>B</b>
						<b>C</b>
						<b>D</b>
						<b>E</b>
						<b>F</b>
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						<b>N</b>
						<b>O</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	

Case Number: \_\_\_\_\_

Item No.: \_\_\_\_\_ Initials/Date: \_\_\_\_\_

Description: \_\_\_\_\_

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