



Navy Drug Screening Laboratory Jacksonville

Screening News

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CO's Desk

Spice Testing

On 16 December 2013, Department of Defense (DOD) Forensic Toxicology Drug Testing Laboratories, including NDSL JAX, began testing for synthetic cannabinoids, often referred to as "Spice" or "K2". Spice and K2 are just two of many "brands" of cannabis-marketed products consisting of natural herbs sprayed with synthetic cannabinoids. Synthetic cannabinoids were developed in the laboratory to mimic the main active ingredient in marijuana (tetrahydrocannabinol or THC) and circumvent the laws that make marijuana possession, sale, and use illegal. Synthetic cannabinoid products, often marketed as "herbal incense" or "herbal smoking blends", are commonly sold via the Internet, gas stations, convenience stores, tobacco shops, and head shops (retail outlets specializing in tobacco and drug paraphernalia, counterculture art, magazines, music, clothing, etc.). Synthetic cannabinoids pose a threat to the Fleet and Warfighter because of their dangerous and unpredictable psychoactive effects. Individuals under the influence of synthetic cannabinoids can be dangerous to themselves and others as these drugs cause hallucinations, erratic behavior, and sometimes even death (see our column entitled "Drug Facts: Synthetic Substances and Stupefaction" on page 3).

The DOD has developed a very effective series of tests to detect synthetic cannabinoid or "Spice" users. NDSL JAX screens Service Member urine samples for synthetic cannabinoids using state-of-the-art immunoassay screening instruments. If a Service Member's sample tests presumptively positive for synthetic cannabinoids or any of the drugs screened for by the laboratory per DODI 1010.16, they are re-tested using a highly specific and accurate confirmatory test that identifies both the drug and its concentration in the Service Member's urine sample. Service Member urine specimens that initially screen presumptively positive for synthetic cannabinoids will be forwarded to a DOD laboratory specializing in synthetic cannabinoid testing. The addition of synthetic cannabinoids to the DOD Drug Testing Panel will enhance Warfighter readiness, deter drug use, prevent damage and destruction of Government property, and protect the lives and health of DOD service members, employees, and the greater Public.

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In Focus: Technical Director

Directly under the senior military leadership of NDSL JAX are the administration, security, quality assurance, financial, and operations directorate. The largest of these is the Operations Directorate led by the Technical Director, Dr. James (Jim) Evans. As Technical Director, Dr. Evans' main goal is to conserve the integrity of all laboratory procedures to ensure that the results generated in NDSL JAX are scientifically valid, reported in a timely manner, and forensically defensible. It is the technical director's duty to author, update, and revise the laboratory operating procedures (the approved instructions for every procedure in the laboratory). In addition to his administrative roles, Dr. Evans serves as an Expert Witness and Laboratory Certifying Official. Answering directly to the Executive Officer, as well as managing all technical branches of the laboratory makes being technical director one of the busiest jobs at NDSL JAX.

Did you know?

Information about the laboratory, including fact sheets and past newsletters may be found at our website:
<http://www.med.navy.mil/sites/jaxdruglab/Pages/default.aspx>.

Discrepancy of the Month: Label – SSN Discrepant (LX)

The word discrepant in drug lab terms encompasses any of the following: incorrect, incomplete, illegible, missing, overwritten, not original, or not forensically corrected. It is only applied to specific items on the DD Form 2624 or the bottle label. In this article, we will focus on how the social security number (SSN) on a specimen bottle label could be identified as discrepant.

The LX discrepancy code is not normally assigned for an SSN that is incorrect. NDSL JAX relies on each submitting unit to provide accurate data and has no way to determine whether an SSN is correct. In the event the bottle label has one SSN and the DD Form 2624 has another SSN, or the bottle label has two SSNs, NDSL JAX will assign another discrepancy code.

If the SSN on the bottle label does not have nine digits, it is considered incomplete and the LX discrepancy code will be assigned. This situation includes letters at the beginning of the SSN, only the last four digits of the SSN, or any other instance where there is not a valid nine-digit SSN on the bottle label. To correct an SSN that is incomplete, you must either forensically add the missing digits, or line out the entire SSN and write in the entire SSN (either requires the initials of the individual making the addition/change and the date it was made).

The LX discrepancy code is most often applied because one or more of the numbers in the SSN are illegible (cannot be clearly read). This could be caused by misapplication of a label (folds, tears, etc.) or from leaking bottles that caused the print on the labels to smear. The LX discrepancy code will also be applied for labels where the SSN is handwritten and the numbers are not clearly written or where an attempt was made to correct a digit(s) and the correction was illegible.

If a bottle is submitted with the SSN missing, the LX discrepancy code will be assigned. If the SSN does not print out on the bottle label, it is acceptable to legibly write in the SSN; you are not required to initial and date the entry in this case, but it would be helpful to do so.

It is never acceptable to correct an SSN by writing over the incorrect digit(s). Overwritten digits could call into question the integrity of the specimen collection. The proper way to correct digits in an SSN is to draw a line through the incorrect digit(s), legibly write the correct digit(s), and then initial and date that entry. The important thing to remember is that the entry must be legible and must be initialed and dated.

SSN Not Original does not apply very often to the bottle label; however, Not Forensically Corrected is the second most frequent reason this code is applied. Daily, NDSL JAX receives specimen submissions where a change has been made to the SSN and the entry has no date and/or initials for the person making the change(s). The SSN is the primary identifier linking each urine specimen to a particular Service Member and extreme care must be taken to ensure that when changes are made, they are legible, complete, and forensically appropriate. Due diligence will save one difficulty later if a positive result must be defended in court for a specimen where the SSN was changed without the appropriate forensic annotations.

Did you know?
Correspondence templates for technical reviews; summary reports; documentation packages; and copies of DD Form 2624 can be found at our website: <http://www.med.navy.mil/sites/jaxdruglab/Pages/default.aspx>.

Drug Facts: Synthetic Substances and Stupefaction



FIGURE 1. EXAMPLES OF SPICE PACKAGING

The Drug Demand Reduction Program is keenly aware that the use of illicit drugs and the misuse of prescription drugs are not the only culprits affecting Service Member readiness. As such, the DOD recently announced that in December 2013, the DOD drug testing laboratories will expand their drug testing screening tests to include synthetic cannabinoid substances (1). In the past, the Armed Forces Medical Examiner System, Division of Forensic Toxicology (AFMES-FORTOX) has been the primary laboratory

Did you know?

Testing for synthetic cannabinoids found in Spice began in December 2013 for specimens obtained from random urinalysis collection.

to test for synthetic cannabinoids. AFMES-FORTOX will continue to test for synthetic cannabinoids and other synthetic substances causing stupefaction.

Synthetic cannabinoids are chemically engineered compounds that when smoked or ingested can produce a high similar to that seen with marijuana. Synthetic cannabinoids comprise a group of compounds that are structurally similar but which can vary widely in their pharmacologic activity. The widely varied pharmacologic activity of the compounds can cause significant health concerns because the user cannot effectively titrate the use or anticipate the effects of the products. Consumption of these compounds can result in elevated blood pressure, racing heartbeat, and nausea. Many individuals who have used these products had to be hospitalized and several individuals have died after using these products.

Some of the groups of compounds classified as synthetic cannabinoids include the JWH-series of drugs; the CP-series of drugs; the HU-series of drugs; the A (B, KB, and M) -series of drugs; the RCS-series of drugs; UR-144; and, XLR11 (2).

Another group of chemically engineered compounds called designer cathinones are a form of stimulants marketed as bath salts. Bath salts contain primarily mephedrone (4-methylmethcathinone) or a mixture of cathinone derivatives such as mephedrone and 3,4-methylenedioxypropylvalerone (MDPV). Cathinone and methcathinone are naturally-occurring central nervous stimulants found in the khat plant and are structurally-related to amphetamine and methamphetamine (2).

A person who misuses these substances can experience agitation, delusions, dizziness, impaired perception of reality, panic attacks, paranoia, seizures, and suicidal thoughts. In addition to the psychological effects of the drugs, a person may also experience physiologic effects such as chest pains, nausea and vomiting, nose bleeds, rapid heart rate, strokes, and heart attacks.

Another large group of chemically engineered substances producing stupefaction include the designer amphetamine-series of drugs (MDMA, MDA, DOET, DOM, and others); the phenethylamines (2C-series of drugs and 25-series of NBOMe drugs and others); and, the tryptamines (DIPT, DMT, 5-IT, and others). The types and concentrations of drugs in the products used in the club drug scenes are so widely varied that one dose can lead to very serious health effects. As such, many of these drugs are often associated with “club drug” overdoses and death (3).

The DOD’s zero tolerance policy for drug abuse includes possession of substances or designated products that contain synthetic compounds which can cause stupefaction. Navy and Marine Corps personnel who wrongfully possess, use, promote, manufacture, or distribute designer drugs, products containing synthetic compounds, or drug paraphernalia may be subject to punitive action under Articles 92 and 112a of the UCMJ, adverse administration action, or both.

References:

1. Under Secretary of Defense Memorandum Dated October 25, 2013.
2. Drug Enforcement Website: www.dea.gov.
3. Drugnet Europe, July-September 2013 Newsletter, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Lisbon.

Ask the Expert

1. When did random testing for Spice begin at DOD drug testing laboratories?

Answer: Testing urine specimens for synthetic cannabinoids found in Spice changed in December 2013. Previously, random testing of urine for Spice was not conducted at DOD laboratories. Commands requesting Spice testing on specimens collected for “Probable Cause”, “Command Directed”, and for analysis arising from investigations conducted by military investigative agencies will continue to be sent directly to the AFMES-FORTOX or AFDTL in accordance with the appropriate Service memorandums of agreement. However, an immunoassay reagent is now available and capable of detecting the most frequently used synthetic cannabinoids and, therefore, the Office of the Under Secretary of Defense has authorized the inclusion of synthetic cannabinoids in the random urine drug testing panel at DOD laboratories.

2. Is Spice dangerous?

Answer: Yes. Spice (and similar products) is dangerous because each product may contain an unknown quantity of an unknown number of synthetic cannabinoids (THC-like drugs) which may cause serious physical and psychological effects (e.g., increased heart rate, elevated blood pressure, heart attack, stroke, agitation, confusion, hallucinations, psychosis, etc.).

3. Can Service Members use Spice for its intended purpose (i.e., as an incense or potpourri)?

Answer: No. Spice is a generic term used for a variety of herbal incense products that is frequently spiked with synthetic cannabinoids (THC-like drugs). Possession of Spice (and similar products) is prohibited under SECNAVINST 5300.28E (Military Substance Abuse Prevention and Control) and OPNAVINST 5350.4D (Navy Alcohol and Drug Abuse Prevention and Control).

Did you know?

Spice is used to describe a diverse family of herbal mixtures marketed under many names. These products contain dried, shredded plant material and presumably, chemical additives that are responsible for their psychoactive effects.