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**Current Events**



Have you gone to your corner drug store looking for an instant cold pack to treat a sport or exercise injury recently? Was the counter depleted? Were there any packs at all that were available for purchase? Well, this is a situation that's occurring in drug stores throughout the country, especially stores located in areas where methamphetamine abuse is already rampant. In the last few years, state and local law enforcement agencies have successfully cracked down on the availability of chemicals that methamphetamine "cookers" need to make the drug. A cat and mouse game has ensued and has forced "cookers" to use some imagination as to how and what they can use to make methamphetamine.

One of the high value chemicals in what's called the One-Pot Method of methamphetamine manufacture is ammonium nitrate; this substance is the core ingredient in cold packs. When ammonium nitrate is dissolved in water by breaking an inner seal in a self-contained package, the nature of the reaction is such that heat is absorbed from the near environment. Technically termed an endothermic reaction, the mixture of ammonium nitrate and water becomes instantly colder than the environment surrounding it. Ammonium nitrate's chemical role in making a cold pack cold makes it valuable towards the production of small lots of methamphetamine. Depending on the amount of methamphetamine being served up, a "cooker" may have a need for several individual packets or several cases of them. A couple of different substances and chemicals are required to make methamphetamine, ammonium nitrate is just one component.

The One Pot Method for "cooking" methamphetamine is an apt name for the process involved. The important ingredients are all mixed in one vessel or container to bring about the various reactions that are necessary to make the powerful stimulant. Pseudoephedrine is still the most important component in the making of the drug. Although crackdowns on pseudoephedrine sales and a move to the use of ephedrine-less (i.e. phenylephrine in Sudafed PE) cold medicine formulas have worked in terms of making the cold medicine harder to find, cookers can still get it from networks that specialize in finding it.

One Pot Method "laboratories" are really not laboratories at all, they're more likely to be nothing more than isolated campgrounds or tightly confined bathtub spaces that are conducive to disposing the chemical leftovers and masking the odors from the toxic stew that is being brewed up. Reaction vessels are usually nothing more than Coleman camp fuel cans, or one liter plastic soft drink bottles, the latter being the most commonly found. Rolling labs in the trunks of cars are in vogue these days too; methamphetamine is brewing in the trunk as the cooker drives around town contemplating his next move. Leftover chemicals from the concoction are poured out roadside or down a drain or sewer. The various interacting ingredients can leave behind a very caustic solution that can cause chemical burns to the skin. Careless handling of the "pot" could lead to an explosion or vessel rupture that could result in contact with skin and clothes. As readers can imagine, like all methods of methamphetamine manufacture, the One Pot Method is a risky venture that can harm anyone who happens to be near it. If someone were to discover the components of a suspected "cook," call 911 and alert local law enforcement authorities as to what's been found; don't touch any of the components.

Methamphetamine produced from the One Pot Method is likely to be rather impure and contaminated. But for the inveterate methamphetamine (crank, ice, gak, speed) addict, the One Pot Method suffices for immediate needs; this is not a method for the production of large lots of methamphetamine. It doesn't take much to make up a batch of methamphetamine these days; a little ingenuity and networking can make it all come together. Too bad the initiative and creativity of the "cooker" is directed at something that is destined to harm and possibly destroy.

(Watch for future essays on methamphetamine addiction and the treatment programs that hold some promise in the fight against this powerful central nervous system stimulant.)

## Understanding Opiate Screening

There seems to be some general misunderstandings as to which opiates are detected by the classic opiate assay. This is based on numerous calls from doctors, nurses, pharmacists, pain clinics, and rehab care givers that were unclear or unaware of which 'opiates' the classic 'opiate screen' will detect. Many were under the false impression that the opiate screen will pick up 'ANY' opiate- this is NOT the case!

To better understand this subject, it is important to remember that the screening tests all use a 'lock and key' type reaction, where the antibody to the drug and the drug metabolites are the lock and the key. For this reaction to occur (presumptive positive screen), the key has to fit the lock! If the key doesn't fit the lock, it won't open the lock- the test is negative. If the key fits the lock, you will obtain a presumptive positive screen result.

Historically, the antibody developed to detect 'opiates' was either codeine or morphine. Either antibody works quite well to detect the other, since codeine and morphine are structurally identical except for a tiny 'methyl group' that differentiates the two. Therefore a screen using a codeine antibody will detect morphine quite well- and conversely, a morphine antibody will detect codeine quite well. This is also true with the MEDTOX opiate screen.

Closely related opiates' like hydrocodone or hydromorphone, are STRUCTURALLY different from codeine (or morphine) and the antibody designed to detect codeine (or morphine) will have a harder time 'recognizing/detecting' the drug because structurally it is not the same. The 'key' doesn't fit the lock as well as is does for the correct drug (codeine or morphine). Thus, the screening antibody may or may not detect hydrocodone or hydromorphone. In the case of the MEDTOX opiate screen, the antibody DOES recognize hydrocodone and hydromorphone quite well---it takes a little higher level, but nothing that significant.

For instance, laboratory based hydrocodone and hydromorphone screening takes approximately 800 ng/ml of drug for the 300 ng/ml opiate screen cut off, subsequently the SURE-SCREEN® onsite device has an opiate cut-off of 100 ng/ml, hydromorphone at 100 ng/mL and hydrocodone at 300 ng/mL.

As you diverge further from the codeine and morphine structure- to synthetics like oxycodone or oxymorphone, the MEDTOX Opiate antibody as well as competitor's opiate antibodies will ultimately fail to detect their presence or if other assays do detect it, it will be at a very high concentration making the test essentially useless for detection of low levels of the drug. Therefore it is a must to use a screening test that incorporates an antibody made specifically for detecting oxycodone and its metabolite oxymorphone. The MEDTOX Oxycodone screen is designed for this purpose.

There are other drugs like fentanyl, methadone, propoxyphene, meperidine, buprenorphine, tramadol, and so forth that are thought of as "Opiates", but they are not even remotely close to the structure of codeine or morphine. Therefore, they each require their own specific antibody and screening assay in order to detect them. MEDTOX offers our own methadone and propoxyphene screening assays. If these drugs are important to you, screening assay configurations are available with those drug options. MEDTOX also provides buprenorphine screening if this is of interest. In addition, we have lab based buprenorphine testing available also. For those needing fentanyl screening and confirmation, there are MEDTOX Lab based tests that can fulfill this need. Meperidine and Tramadol screening and confirmation are also available thru MEDTOX Laboratories.

Hopefully this information will help you make better choices of what testing to use to monitor your 'clients', and help you make better sense of the test results you obtain. For a full listing of what the different drug screens detect, download the product insert for the onsite device you are using and check the "Related Compounds and Cross Reactants" listing found near the end of the product insert. For additional questions, or help please consult your MEDTOX Client Service group, your sales representative, or the DARS Hotline.



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### Salvia Divinorum: What is it?



In the world of adolescent drug abuse, being in vogue means being an aficionado of Salvia Divinorum (aka: Diviner Sage). A drug that's widely available in marijuana head shops and on the Internet (and grown in home gardens), Salvia has turned out to be a new age alternative to old guard hallucinogens such as LSD. A member of the sage family of herbs, Salvia can be prepared or cooked up to render a "high" that's best characterized as being "out of body," or dissociated from a surrounding environment. The Internet now features videos of teenagers under the influence of this drug; most of these

vignettes oddly enough depict kids who appear to be in angst or discomfort. Anecdotes abound though of users who experience profoundly hallucinogenic yet calm effects, distortions of sound, color and sense of touch. It seems that like LSD, Salvia tends to elicit feelings and moods that reflect the basic nature of a person who has consumed it. In other words, someone who is a sort of bubbly and effusive personality will end up experiencing a Salvia "high" that's manageable and pleasant, someone who is dour, downbeat and moody, might experience a very uncomfortable set of effects that may even border on being terrifying. In any event, Salvia "experts" strongly recommend that users arrange for a sober coach or monitor to be present with them. When a Salvia user is intoxicated, coaches are supposed to supervise and steer the experience towards a safe and sane conclusion. A Salvia high is relatively short lived, oftentimes no more than 20-30 minutes long. Salvia's leaves can be tinctured into a tea, chewed and digested orally or crimped up and smoked. Salvia seeds are less potent than the plant leaves are, but they too contain traces of the prime hallucinogen that causes its unique effects.

Salvia's hallucinogenic effects are driven by a constituent component called Salvinorin A, a substance member of a chemical class of substances called diterpenoids. Unlike nearly all other modern hallucinogens, Salvia exerts its hallucinogenic power through activation of an opiate receptor site, the kappa receptor to be exact. This particular subunit of opiate receptor is one that is responsible for the feeling of some unusual effects that aren't commonly associated with popularly abused opiates (i.e. heroin, oxycodone and hydrocodone). The chemical activity of Salvinorin A can result in a range of behaviors and feelings that span experiences of sedation, tranquility and introspection to feelings of anxiousness,

### Confidential Result Reporting

At MEDTOX we know how important the results of our drug testing are to your drug testing program. We also know that the information included in these reports is extremely confidential. For this reason, we take great strides in protecting the confidential nature of the result information and the methods used for reporting results to our clients.

The confidential reporting methods we employ are:

- Webtox QuikResults web based result reporting allowing **authorized** contacts with established "user name" and "passwords" to log on and view, sort and print test results and an image of the chain of custody form completed at the time of specimen collection
- Password protected email reporting
- Password protected result download to compatible software
- Fax reporting to an identified Secure fax

Results are **not** given verbally over the phone. Because we are not able to undeniably ensure that the individual that we are speaking with is an individual that is authorized to accept test result information, our policy is to not give specific test result information via a phone conversation. This avoids confusion, misinterpretation, and mishandling of result information.

It is vital for the success of your drug testing program to periodically review the reporting methods that you have attached to your accounts. In doing so you will ensure that your results are being reported timely and to the appropriate individuals that are responsible for acting on test result information.

Please contact your Customer Service Team to review your account or to further discuss reporting options for your accounts.

### Training Opportunities

MEDTOX provides clients with the following training opportunities. MEDTOX training programs are California POST, BBS and STC, CAADAC and OASAS certified and approved.

- \*Standard Drug Abuse Recognition (DAR)
- \*Rapid Eye Drug Abuse Recognition (DAR)
- \*Street Development
- \*Club Drugs and Trends in Adolescent Drug Abuse
- \*Managing Methamphetamine
- \*Understanding Dual Diagnosis: The Crossroads of Substance Abuse Disorders and Mental Illness
- \*Ethics and Professional Standards for Community Corrections
- \*Current Issues in Leadership and Supervision
- \*Pharmacology of Drug Abuse
- \*The Essentials of Search Warrant Development
- \*The Essentials for Social Workers and Family Counselors I-IV
- \*Grant Writing and Non-Traditional Fund Raising for Public Organizations

If your organization is interested in hosting one of the above training courses, would like to know where/when a course is available or would like further information, please contact Lisa Mize at: [lmize@medtox.com](mailto:lmize@medtox.com)

central nervous system stimulation and dysphoria. Based on what's known about Salvinorin A, it's believed that the drug is not capable of causing physical dependency, but because of its activity at the kappa opiate receptor site addiction and dependency can't be entirely ruled out yet.

The drug is typically packaged in small amounts, ounces and fractions thereof from the plant's leaves. Salvia is also grown, tended to and harvested at various strengths and concentrations. The greater the concentration of Salvinorin A, the more likely a user will experience its hallucinogenic effects. Greater concentration and purity doesn't necessarily extend the length of the high however. With the use of sophisticated laboratory equipment and processes, Salvia use can be detected in urine and in blood. Given the half-life of Salvinorin A however, detection times are short and elusive.

Presently Salvia cannot be tested for in a laboratory setting. However, for DAR trained clients, Salvia will cause symptoms consistent with hallucinogen use. Evaluators should expect modestly dilated pupils, fast pulse and fast Romberg clock. Because of the drug's interaction with the kappa opiate receptor site, typical hallucinogen signs might be turned down a bit. MEDTOX DAR evaluators are available for Salvia consultation with clients via the DAR Telephone and Online Hotline systems. (Contact MEDTOX for information on how to access the DAR Hotlines)

*(The MEDTOX Drug Abuse Recognition (DAR) program is amassing a catalog of reference and research materials pertaining to Salvia Divinorum abuse. Further information may be obtained by contacting the DAR group at [darsprogram@mac.com](mailto:darsprogram@mac.com).)*

### THC & Testicular Cancer Link: Fact or Fiction



MEDTOX Newsletters have posted several recent articles relating to bad outcomes for those who are chronic or frequent smokers of marijuana. There is no end to the bad news for marijuana. All of this negative scientific news flies in the face of an ever-growing movement to expand the presence, utilization and legal immunity of medical marijuana cooperatives in America. It seems like those who are leading this movement recognize that the smoking of marijuana will never be "cleared" by the FDA, so they've decided to push medical legalization through a smoke and mirror process of community activism. Can you imagine the FDA ever clearing a

drug that has direct effects of brain volume shrinkage, serious depression and pulmonary disease? Well that's what marijuana does. Now add to the list of known marijuana side effects: testicular cancer. A recent retrospective study of testicular cancer patients revealed a significant connection between marijuana smoking and the development of a particularly fast growing malignancy. The move to assess the role of marijuana smoking in testicular cancer occurred when researchers discovered that testes are populated with cannabinoid (THC) receptors just like the brain is. The rate of coincidence for cancer and marijuana use was greatest for young men who began smoking the drug as adolescents. Those men who smoked marijuana at least once a week were twice as likely to develop cancer than those who didn't.

The research work was done by the Fred Hutchinson Cancer Center in Seattle; the scientists are unsure why the connection between marijuana smoking and cancer occurred with only the fast spreading (nonseminoma) form of the disease, there was no relationship with the slow (seminoma) spreading version malignancy. Since the 1950's both kinds of testicular cancer have increased by 3% to 6% a year in the West, Europe and Australia. This study showed that there was a 70% higher risk factor for this form of cancer if the patient was an active smoker at the time of testicular cancer diagnosis. The findings considered other risk factors in this assessment and were subsequently adjusted.

Marijuana (THC) is a serious drug of abuse. Research has conclusively established that marijuana smoking can lead to drug dependency, withdrawal and an uncomfortable abstinence syndrome. Marijuana screening systems should be part of any serious and competent drug testing protocol.

### What's the Depth of Your Drug Knowledge?



This drug was first introduced to the American market following the conclusion of WW II. It is one member of a family of drugs that among other things are used to control manic and schizophrenic outbursts; the drug is not thought to be capable of producing physical dependency.

This drug became available as a generic medication several years ago; the drug is used singularly or it is mixed with other drugs to form a compound. When compounded, the drug is wedded to codeine. For pediatrics and the elderly, the drug can be administered in suppository form. Physicians might prescribe this drug for cases of colic in infants. Identified by its chemical features as a "phenothiazine," the drug's most productive use is as an anti-emetic (to counter nausea and vomiting) and as a sedative to suppress unproductive cough.

In the past 10 years, the syrup version (mixed with codeine) of this drug has become a popular drug of abuse. A person who has gotten "high" on this drug may display DAR signs of central nervous system depression, but at higher doses a person may become hyperactive or very agitated. Although this drug is not a controlled substance, it can only be acquired by prescription.

This drug cannot be purchased over the counter. In the urban drug scene, the drug is known as "LEAN" or "PHIZ." Several large seizures of this drug have occurred where bottles of syrup were concealed in 18 wheel trailer-trucks destined for delivery to inner-city gang drug dealers. The codeine containing syrup form of the drug is sometimes mixed with Mountain Dew and Jolly Rancher candies to make a "fizzy" cocktail. This latter concoction is popular with teens and young adults. LEAN can be found at inner city nightclubs and rave parties. The drug has a chemical sibling that goes by the name of Compazine.

What drug am I?

Answer: Promethazine (generic), Phenergan, Phenergan with Codeine (Schedule III)

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