



LabINFO NEWSLETTER

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This newsletter is provided by the Lorain County Crime/Drug Lab discussing technical and general information dedicated to local agencies within Lorain County. The information has been collected from various sources and journals.

SYNTHETIC CANNABINOIDS (K2/SPICE)

[Source: www.drugabuse.gov/publications/drugfacts/synthetic-cannabinoids] HIH

K2/SPICE is NOT Marijuana!

It's often called synthetic marijuana or fake weed because of its chemicals are like those in marijuana. The effects can be **UNPREDICTABLE** and in some cases, severe or even-life threatening.

You **NEVER KNOW** what you're getting with synthetic cannabinoids!

- 177 different synthetic cannabinoids were reported in 2014.
- The amount and type of chemicals in each batch varies.
- Manufacturers are constantly changing chemicals to doge laws.

Drug Enforcement Administration (DEA)

21 CFR Part 1308

[Docket No. DEA-402]

Schedules of Controlled Substances: Placement of AB-CHMINACA, AB-PINACA and THJ-2201 Into Schedule I

Effective date: October 16, 2017

AGENCY: Drug Enforcement Administration, Department of Justice.

ACTION: Final rule

Mouth alcohol dissipates after 15 minutes.

The DOT (Department of Transportation) alcohol test procedure requires the operator to observe a 15 minute wait after a screening test result of .020 % (20 mg/dl) or greater, and to conduct a confirmation test at the end of the 15 minute waiting period. The reason for this wait is to rule out that the screening test result was due to residual mouth alcohol.

[Source: www.alcopro.com]



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The Afghan Opiate Trade Project (AOTP) [Source: www.unodc.org]

The Afghan Opiate Trade Project aims to address the need for systematic, comprehensive and consolidated analytical information about trends in the global illicit Afghan opiate trade in order to support the international response to that issue. In addition to this, the project also aims to enhance the drug research capacity of those countries most affected by Afghan opiates, and increase the awareness of the data and information needs to support research on the opiate trade. The AOTP has produced a number of research reports relating to aspects of the illicit trade in Afghan opiates, and has also supported a number of countries in producing their own reports.

GLOBAL CONCERN WORLDWIDE

The expansion of the global synthetic drugs market, including amphetamine-type stimulants (ATS) and new psychoactive substances (NPS), is a recent phenomenon and is becoming of increasing concern worldwide. ATS are a group of substances including amphetamine, methamphetamine and ecstasy-type substances. After cannabis, ATS are the second most widely used drugs in the world, with use levels often exceeding those of heroin and/or cocaine. In recent years NPS, such as synthetic cannabinoids, synthetic cathinones, phenethylamines, and others, have established themselves on the drug market. The number of NPS continues to increase and already exceeds the total number of substances under international control. NPS have a wide geographical spread and pose a health risk to the public while awareness remains limited. The negative impact of synthetic drugs on society is profound and there is a need for an integrated and consistent response.

DOES MARIJUANA IMPAIR DRIVING? [Source: alcopro.com]

You'd think the answer would be a simple "yes" and that there would be many studies to support this. But the NHTSA (National Highway Traffic Safety Administration) report decided to get all science-y and fact based and did not give a definitive answer. It turns out there are a lot of studies on this subject; a few studies show less risk of crashing for drivers who were positive for THC, and more studies show increase risk of accidents due to marijuana use.



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NHTSA found methodological issues with most of these studies, however, and so conducted their own study using data from 3,000 crash-involved drivers and 6,000 control drivers. Their initial data showed an increase risk of crashes of 25% for drivers with active THC in their system. However, after normalizing the data for age (younger people have more accidents) and gender (males have more accidents than females) the calculated risk was reduced to a statistically insignificant 5%. And after accounting for those THC-positive drivers who also had alcohol in their system, the risk associated with THC went to zero – meaning the study found no correlation with marijuana and increased risk of crashes.

MENTHOL BOOSTS NICOTINE'S EFFECTS

[Source: www.drugabuse.com]

SCIENCE HIGHLIGHT

Mentholated cigarettes account for about a quarter of the U.S. market, and appeal particularly to adolescents. Menthol gives cigarettes a minty taste and masks the burning sensation of smoking by stimulating cool receptors in the nose and mouth. A study supported by the National Institute on Drug Abuse bolsters evidence that it may also make cigarettes more addictive.

In the study, researchers injected rats with menthol and nicotine in concentrations approximating those absorbed by smokers of mentholated cigarettes. Adolescent animals that received both chemicals exhibited greater locomotor stimulation—that is, moved about their cages more extensively—following the injections than rats that received only nicotine or only menthol. This finding suggests that menthol amplifies nicotine-induced changes in the young brain's reward system that contributes to addictive behaviors.

SYNTHETIC CANNABINOIDS- UNPREDICTABLE DANGER!!!

[Source: www.drugabuse.gov]

- **177 DIFFERENT SYNTHETIC CANNABINOIDS WERE REPORTED IN 2014**
- **The amount and type of chemicals in each batch varies.**
- **Manufacturers are constantly changing chemicals to dodge laws.**



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- **2,695 calls to poison control centers for harmful exposure from these drugs in 2016.**
- **28,531 Emergency Room (ER) visits in 2011 were linked to synthetic cannabinoids.**
- **30% of these visits involved females, and 70% involved males.**
- **78% of ER visits were among adolescents and young adults ages 12-29.**

ALCOHOL AND TRAFFIC SAFETY

Profiles in Forensic Toxicology by Alan Wayne Jones, PhD, DSc; TIAFT Bulletin, June, 2017

The role played by over-consumption of alcohol as a contributing factor to road-traffic crashes was well recognized already in **1904** not long after automobiles (motor wagons) first became available. In 1914 Dr. Erik Widmark suggested that ethanol should be analyzed in urine from the driver to support any clinical signs and symptoms of intoxications.

This was the basis of the procedure we are currently performing at the County Crime Lab under the Ohio Department of Health Testing Program in recognizing the Alcohol intoxication at 0.08% (80 mg/dl) level.

The name of Erik Widmark is tightly linked with quantitative studies of absorption, distribution, metabolism and excretion of *Ethanol* and the introduction of statutory BAC limits for driving.

HOW ALCOHOL AFFECTS YOUR BODY

[Source: www.webMD.com]

Thirty seconds after your first sip, alcohol races into your brain. It slows down the chemicals and pathways that your brain cells use to send messages. That alters your mood, slow your reflexes, and throws off your balance. You also can't think straight, which you may not recall later, because you'll struggle to store things in long-term memory.

YOUR BRAIN SHRINKS

If you drink heavily for a long time, booze can affect how your brain looks and works. Its cells start to change and even get smaller! Too much alcohol can actually shrink your brain. And that will have big effects on your ability to think, learn, and remember things. It can also make it harder to keep a steady body temperature and control your movements.

DOES IT HELP YOU SLEEP?

Alcohol's slow-down effect on your brain can make you drowsy, so you may doze off more easily. But you won't sleep well. Your body processes alcohol throughout the night. Once the effects wear off, it leaves you tossing and turning. You don't get that good REM sleep your body needs to feel restored.



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MORE STOMACH ACID

Booze irritates the lining of your stomach and makes your digestive juices flow. When enough acid and alcohol build up, you get nauseated and you may throw up. Years of heavy drinking can cause painful sores called ulcers in your stomach. And high levels of stomach juices mean you won't feel hungry. That's one reason long-term drinkers often don't get all the nutrients they need.

DIARRHEA AND HEARTBURN

Your small intestine and colon get irritated, too. Alcohol throws off the normal speed that food moves through them. That's why hard drinking can lead to diarrhea, which can turn into a long-term problem. It also makes heartburn more likely – it relaxes the muscle that keeps acid out of your esophagus, the tube that connects your mouth and stomach.

WHY YOU HAVE TO PEE ... AGAIN

Your brain gives off a hormone that keeps your kidneys from making too much urine. But when alcohol swings into action, it tells your brain to hold off. That means you have to go more often, which can leave you dehydrated. When you drink heavily for years, that extra workload and the toxic effects of alcohol can wear your kidneys down.

THE STEPS TO LIVER DAMAGE

Your liver breaks down almost all the alcohol you drink. In the process, it handles a lot of toxins. Over time, heavy drinking makes the organ fatty and lets thicker, fibrous tissue build up. That limits blood flow, so liver cells don't get what they need to survive. As they die off, the liver gets scars and stops working as well, a disease called *cirrhosis*.

PANCREAS DAMAGE AND DIABETES

Normally, this organ makes insulin and other chemicals that help your intestines break down food. But alcohol jams that process up. The chemicals stay inside the pancreas. Along with toxins from alcohol, they cause inflammation in the organ. Along with toxins from alcohol, they cause inflammation in the organ, which can lead to serious damage. After years, that means you won't be able to make the insulin you need, which can lead to diabetes. It also makes you more likely to get pancreatic cancer.



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WHAT'S A HANGOVER?

That cotton-mouthed, bleary-eyed morning after is no accident. Alcohol makes you dehydrated and make blood vessels in your body and brain expand. That gives you your headache. Your stomach wants to get rid of the toxins and acid that booze churns up, which gives you nausea and vomiting. And because your liver was so busy processing alcohol, it didn't release enough sugar into your blood, bringing on weakness and the shakes.

AN OFFBEAT HEART

One night of binge drinking can jumble the electrical signals that keep your heart's rhythm steady. If you do it for years, you can make those changes permanent. And, alcohol can literally wear your heart out. Over time, it causes heart muscles to droop and stretch, like an old rubber band. It can't pump blood as well, and that impacts every part of your body.

A CHANGE IN BODY TEMPERATURE

Alcohol widens your blood vessels, making more blood flow to your skin. That makes you blush and feel warm and toasty. But not for long. The heat from that extra blood passes right out of your body, causing your temperature to drop. On the other hand, long-term, heavy drinking boosts your blood pressure. It makes your body release stress hormones that narrow blood vessels, so your heart has to pump harder to push blood through.

A WEAKER IMMUNE SYSTEM

You might not link a cold with a night of drinking, but there might be a connection. Alcohol puts the brakes on your immune system. Your body can't make the numbers of white blood cells it needs to fight germs. So for 24 hours after drinking, you're more likely to get sick. Long-term, heavy drinkers are much more likely to get illnesses like pneumonia and tuberculosis.

HORMONE HAVOC

These powerful chemicals manage everything from your sex drive to how fast you digest food. To keep it all going smoothly, you need them in the right balance. But alcohol throws them out of whack. In women, that can knock your periods off cycle and cause problems getting pregnant. In men, it can mean trouble getting an erection, a lower sperm count, shrinking testicles, and breast growth.

HEARING LOSS

Alcohol impacts your hearing, but no one's sure exactly how. It could be that it messes with the part of your brain that processes sound. Or it might damage the nerves and tiny hairs in your inner ear that help you hear. However it happens, drinking means you need a sound to be louder so you can hear it. And that become permanent. Long-term drinkers often have hearing loss.



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THIN BONES, LESS MUSCLE

Heavy drinking can throw off your calcium levels. Along with the hormone changes those alcohol triggers that can keep your body from building new bone. They get thinner and more fragile, a condition called osteoporosis. Booze also limits blood flow your muscles and gets in the way of the proteins that build them up. Over time, you'll have lower muscle mass and less strength.

RURAL AMERICA IN CRISIS

[Source: www.cdc.gov]

In America, 15 out of 100 people live in a rural area.

The rate of drug overdose deaths in rural areas has surpassed rates in urban areas, and it is a huge public health concern. Understanding how rural areas are different when it comes to drug use and drug overdose deaths, including opioids, can help public health professionals identify, monitor, and prioritize their response to this epidemic.

One Epidemic – Three Waves

Drug overdoses in the United States have now surpassed other leading causes of death like AIDS or motor vehicle crashes, even when they were at their peak.

The opioid overdose epidemic has come in three waves:

1. Increases in deaths involving prescription opioids starting in 1999
2. Increases in heroin-involved deaths starting in 2010.
3. Since 2013, we have seen more deaths involving synthetic opioids like illicitly manufactured fentanyl.

CDC (Centers for Disease Controls and Prevention) is tracking how these waves of overdose deaths are affecting rural versus urban areas of the country to help states and public health departments identify, monitor, and prioritize customized prevention responses.



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DEA WARNINGS!

[Source: www.deadiversion.usdoj.gov]

Synthetic cannabinoids are substances that have been encountered laced on plant material and in liquid form and misused and abused for their psychoactive effects. They are often sold under names such as Joker, Green Giant, Scooby Snax, and many others. The misuse and abuse of these substances may result in serious adverse health effects including severe agitation and anxiety, racing heartbeat and high blood pressure, intense hallucinations, and psychotic episodes. *Synthetic cannabinoids have also been connected to overdose deaths.* These products are generally sold over the Internet, in head shops, tobacco/smoke shops, convenience stores, and gas stations and are often packaged in shiny plastic bags with bright logos.

Synthetic cathinones have stimulant properties related to cathinone, the psychoactive substance found in the khat shrub, and produce pharmacological effects similar to methamphetamine, cocaine, and MDMA, to name a few. They have been sold as "bath salts", and sold over the Internet, at convenience stores, tobacco/smoke shops, and gas stations and packaged in shiny plastic bags and bright logos. More recently, the cathinone market has been pushed underground, and is being sold in "traditional drug packaging" like little baggies, and can be found in tablet, capsule, or powder form. Users can experience symptoms of nausea, vomiting, paranoia, hallucinations, delusions, suicidal thoughts, seizures, chest pains, increased blood pressure and heart rate, and violent outbursts. *These drugs have also resulted in overdose deaths.*

Synthetic phenethylamines, which mimic hallucinogens, have been encountered as powders, liquid solutions, laced on edible items, and soaked onto blotter papers. Two of the known street names are N-bomb and Smiles. Like Flakka, phenethylamines are not sold over the counter and are sold like other illegal drugs. *The ingestion of extremely small amounts of these substances may result in seizures, cardiac and respiratory arrest, and death.*

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