Psilocybin

WHAT IS PSILOCYBIN?

Psilocybin is a chemical obtained from certain types of fresh or dried mushrooms.

WHAT IS ITS ORIGIN?

Psilocybin mushrooms are found in Mexico, Central America, and the United States.

What are common street names?

Common street names include:

- Magic Mushrooms, Mushrooms, and Shrooms

What does it look like?

Mushrooms containing psilocybin are available fresh or dried and have long, slender stems topped by caps with dark gills on the underside. Fresh mushrooms have white or whitish-gray stems; the caps are dark brown around the edges and light brown or white in the center. Dried mushrooms are usually rusty brown with isolated areas of off-white.

How is it abused?

Psilocybin mushrooms are ingested orally. They may also be brewed as a tea or added to other foods to mask their bitter flavor.

What is its effect on the body?

The physical effects include:

- Nausea, vomiting, muscle weakness, and lack of coordination

Psilocybin mushrooms

What is its effect on the mind?

The psychological consequences of psilocybin use include hallucinations and an inability to discern fantasy from reality. Panic reactions and a psychotic-like episode also may occur, particularly if a user ingests a high dose.

What are its overdose effects?

Effects of overdose include:

- Longer, more intense "trip" episodes, psychosis, and possible death

Abuse of psilocybin mushrooms could also lead to poisoning if one of the many varieties of poisonous mushrooms is incorrectly identified as a psilocybin mushroom.

Which drugs cause similar effects?

Psilocybin effects are similar to other hallucinogens, such as mescaline and peyote.

What is its legal status in the United States?

Psilocybin is a Schedule I substance under the Controlled Substances Act, meaning that it has a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision.

Psilocybin mushrooms

Image by Erik Fenderson

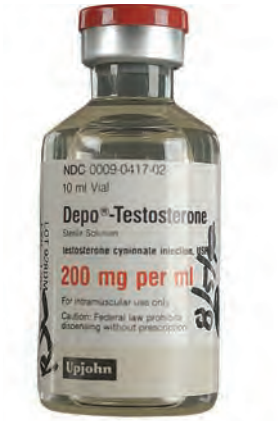
WHAT ARE STEROIDS?

Anabolic steroids are synthetically produced variants of the naturally occurring male hormone testosterone that are abused in an attempt to promote muscle growth, enhance athletic or other physical performance, and improve physical appearance.

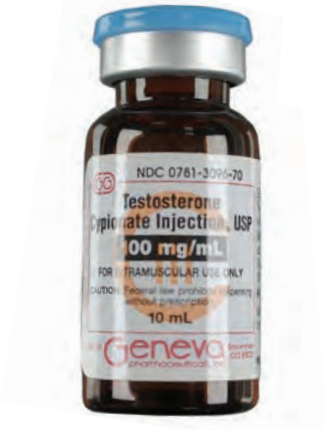
Testosterone, trenbolone, oxymetholone, methandrostenolone, nandrolone, stanozolol, boldenone, and oxandrolone are some of the anabolic steroids that are most commonly encountered by United States law enforcement.

WHAT IS THEIR ORIGIN?

Most illicit steroids are smuggled into the U.S. from abroad. Steroids are also illegally diverted from legitimate sources (theft or inappropriate prescribing). The Internet is the most widely used means of buying and selling anabolic steroids. Steroids are also bought and sold at gyms, bodybuilding competitions, and schools from teammates, coaches, and trainers.



Depo-Testosterone



Testosterone Cypionate Injection, USP

What are common street names?

Common street names include:

- Arnolds, Juice, Pumpers, Roids, Stackers, and Weight Gainers

What do they look like?

Steroids are available in:

- Tablets and capsules, sublingual-tablets, liquid drops, gels, creams, transdermal patches, subdermal implant pellets, and water-based and oil-based injectable solutions

The appearance of these products varies depending on the type and manufacturer.

How are they abused?

Steroids are ingested orally, injected intramuscularly, or applied to the skin. The doses abused are often 10 to 100 times higher than the approved therapeutic and medical treatment dosages. Users typically take two or more anabolic steroids at the same time in a cyclic manner, believing that this will improve their effectiveness and minimize the adverse effects.

What is their effect on the mind?

Case studies and scientific research indicate that high doses of anabolic steroids may cause mood and behavioral effects.

In some individuals, anabolic steroid use can cause dramatic mood swings, increased feelings of hostility, impaired judgment, and increased levels of aggression (often referred to as "roid rage").

When users stop taking steroids, they may experience depression that may be severe enough to lead one to commit suicide.

Anabolic steroid use may also cause psychological dependence and addiction.

What is their effect on the body?

A wide range of adverse effects is associated with the use or abuse of anabolic steroids. These effects depend on several factors including:

- Age, sex, the anabolic steroid used, amount used, and duration of use

In adolescents, anabolic steroid use can stunt the ultimate height that an individual might otherwise achieve.

In boys, anabolic steroid use can cause early sexual development, acne, and stunted growth.

In adolescent girls and women, anabolic steroid use can induce permanent physical changes, such as deepening of the voice, increased facial and body hair growth, menstrual irregularities, male pattern baldness, and lengthening of the clitoris.

In men, anabolic steroid use can cause shrinkage of the testicles, reduced sperm count, enlargement of the male breast tissue, sterility, and an increased risk of prostate cancer.

In both men and women, anabolic steroid use can cause high cholesterol levels, which may increase the risk of coronary artery disease, strokes, and heart attacks. Anabolic steroid use can also cause acne and fluid retention. Oral preparations of anabolic steroids, in particular, can damage the liver.

Users who inject anabolic steroids run the risk of contracting various infections due to non-sterile injection techniques, sharing of contaminated needles, and the use of steroid preparations manufactured in non-sterile environments. All these factors put users at risk for contracting viral infections such as HIV/AIDS or hepatitis B or C, and bacterial infections at the sight of injection.

Users may also develop endocarditis, a bacterial infection that causes a potentially fatal inflammation of the heart lining.

What are their overdose effects?

Anabolic steroids are not associated with overdoses. The adverse effects a user would experience develop from the use of steroids over time.

Which drugs cause similar effects?

There are several substances that produce effects similar to those of anabolic steroids. These include human growth hormone (hHG), clenbuterol, gonadotropins, and erythropoietin.

What is their legal status in the United States?

Anabolic steroids are Schedule III substances under the Controlled Substances Act. Only a small number of anabolic steroids are approved for either human or veterinary use. Anabolic steroids may be prescribed by a licensed physician for the treatment of testosterone deficiency, delayed puberty, low red blood cell count, breast cancer, and tissue wasting resulting from AIDS.

Marijuana/Cannabis

WHAT IS MARIJUANA?

Marijuana is a mind-altering (psychoactive) drug, produced by the *Cannabis sativa* plant. Marijuana has over 480 constituents. THC (delta-9-tetrahydrocannabinol) is believed to be the main ingredient that produces the psychoactive effect.

WHAT IS ITS ORIGIN?

Marijuana is grown in the United States, Canada, Mexico, South America, Caribbean, and Asia. It can be cultivated in both outdoor and indoor settings.

What are common street names?

Common street names include:

- Aunt Mary, BC Bud, Blunts, Boom, Chronic, Dope, Gangster, Ganja, Grass, Hash, Herb, Hydro, Indo, Joint, Kif, Mary Jane, Mota, Pot, Reefer, Sinsemilla, Skunk, Smoke, Weed, and Yerba

What does it look like?

Marijuana is a dry, shredded green/brown mix of flowers, stems, seeds, and leaves from the *Cannabis sativa* plant. The mixture typically is green, brown, or gray in color and may resemble tobacco.

How is it abused?

Marijuana is usually smoked as a cigarette (called a joint) or in a pipe or bong. It is also smoked in blunts, which are cigars that have been emptied of tobacco and refilled with marijuana, sometimes in combination with another drug. Marijuana is also mixed with foods or brewed as a tea.

What is its effect on the mind?

When marijuana is smoked, the active ingredient THC passes from the lungs and into the bloodstream, which carries the chemical to the organs throughout the body, including the brain. In the brain, THC connects to specific sites called cannabinoid receptors on nerve cells and influences the activity of those cells.

Many of these receptors are found in the parts of the brain that influence:

- Pleasure, memory, thought, concentration, sensory and time perception, and coordinated movement

The short-term effects of marijuana include:

- Problems with memory and learning, distorted perception, difficulty in thinking and problem-solving, and loss of coordination

The effect of marijuana on perception and coordination are responsible for serious impairments in learning, associative processes, and psychomotor behavior (driving abilities).

Long term, regular use can lead to physical dependence and withdrawal following discontinuation, as well as psychological addiction or dependence.

Clinical studies show that the physiological, psychological, and behavioral effects of marijuana vary among individuals and present a list of common responses to cannabinoids, as described in the scientific literature:

- Dizziness, nausea, tachycardia, facial flushing, dry mouth, and tremor initially
- Merriment, happiness, and even exhilaration at high doses

Marijuana Leaves

- Disinhibition, relaxation, increased sociability, and talkativeness
- Enhanced sensory perception, giving rise to increased appreciation of music, art, and touch
- Heightened imagination leading to a subjective sense of increased creativity
- Time distortions
- Illusions, delusions, and hallucinations are rare except at high doses
- Impaired judgment, reduced coordination, and ataxia, which can impede driving ability or lead to an increase in risk-taking behavior
- Emotional lability, incongruity of affect, dysphoria, disorganized thinking, inability to converse logically, agitation, paranoia, confusion, restlessness, anxiety, drowsiness, and panic attacks may occur, especially in inexperienced users or in those who have taken a large dose
- Increased appetite and short-term memory impairment are common

What is its effect on the body?

Short-term physical effects from marijuana use may include:

- Sedation, bloodshot eyes, increased heart rate, coughing from lung irritation, increased appetite, and increased blood pressure (although prolonged use may cause a decrease in blood pressure).

Marijuana smokers experience serious health problems such as bronchitis, emphysema, and bronchial asthma. Extended use may cause suppression of the immune system. Withdrawal from chronic use of high doses of marijuana causes physical signs including headache, shakiness, sweating, and stomach pains and nausea.

Withdrawal symptoms also include behavioral signs such as:

- Restlessness, irritability, sleep difficulties, and decreased appetite

What are its overdose effects?

No deaths from overdose of marijuana have been reported.

Which drugs cause similar effects?

Hashish and hashish oil are drugs made from the cannabis plant that are like marijuana, only stronger.

Hashish (hash) consists of the THC-rich resinous material of the cannabis plant, which is collected, dried, and then compressed into a variety of forms, such as balls, cakes, or cookie like sheets. Pieces are then broken off, placed in pipes or mixed with tobacco and placed in pipes or cigarettes, and smoked.

The main sources of hashish are the Middle East, North Africa, Pakistan, and Afghanistan.

Hashish oil (hash oil, liquid hash, cannabis oil) is produced by extracting the cannabinoids from the plant material with a solvent. The color and odor of the extract will vary, depending on the solvent used. A drop or two of this liquid on a cigarette is equal to a single marijuana joint. Like marijuana, hashish and hashish oil are both Schedule I drugs.

What is its legal status in the United States?

Marijuana is a Schedule I substance under the Controlled Substances Act, meaning that it has a high potential for abuse, no currently accepted medical use in treatment in the United States, and a lack of accepted safety for use under medical supervision.

Although some states within the United States have allowed the use of marijuana for medicinal purpose, it is the U.S. Food and Drug Administration that has the federal authority to approve drugs for medicinal use in the U.S. To date, the FDA has not approved a marketing application for any marijuana product for any clinical indication. Consistent therewith, the FDA and DEA have concluded that marijuana has no federally approved medical use for treatment in the U.S. and thus it remains as a Schedule I controlled substance under federal law.

Marinol is a synthetic version of THC in a capsule (also referred to as dronabinol, the generic or International Nonproprietary Name given to THC), prescribed for the control of nausea and vomiting caused by chemotherapeutic agents used in the treatment of cancer and to stimulate appetite in acquired immune deficiency syndrome (AIDS) patients. Marinol is a Schedule III drug under the Controlled Substances Act.

Syndros is an oral dronabinol (THC) solution that is used for the treatment of anorexia associated with weight loss in patients who have failed to respond adequately to conventional antiemetic treatments. Syndros is a Schedule II drug under the Controlled Substances Act.

Epidoloex is an oral solution of cannabidiol (CBd) that has no more that 0.1% THC, used to treat two epilepsy conditions, Dravet syndrome and Lennox-Gestaut syndrome. Epidoloex is a Schedule V drug under the Controlled Substances Act.

WHAT ARE MARIJUANA CONCENTRATES?

A marijuana concentrate is a highly potent concentrated form of THC (tetrahydrocannabinol) that is most similar in appearance to either honey or butter, and commonly referred to or known on the street as "honey oil" or "budder."

WHAT IS ITS ORIGIN?

Marijuana concentrates contain extraordinarily high THC levels that could range from 40 to 80 percent. This form of marijuana can be up to four times higher in THC content than high grade or top shelf marijuana, which normally measures around 20 percent THC levels.

Many methods are utilized to convert or "manufacture" marijuana into marijuana concentrates. One method is the butane extraction process. This process is particularly dangerous because it uses highly flammable butane to extract the THC from the cannabis plant. Given the flammable nature of butane, this process has resulted in violent explosions. THC extraction labs are being reported nationwide, particularly in the western states and in states where local and state marijuana laws are more relaxed.

Marijuana concentrate
Image by Erik Fenderson

What are common street names?

Common street names include:

- 710 (the word "OIL" flipped and spelled backwards), wax, ear wax, honey oil, budder, butane hash oil, butane honey oil (BHO), shatter, dabs (dabbing), black glass, and errl.

What does it look like?

Marijuana concentrates are similar in appearance to honey or butter and are either brown or gold in color

How is it used?

Marijuana concentrates can be mixed with various food or drink products to be consumed orally; however, smoking remains the most popular route of administration by use of water or oil pipes. A disturbing aspect of this emerging threat is the inhalation of concentrates via electronic cigarettes (also known as e-cigarettes) or vaporizers. Many marijuana concentrate users prefer the e-cigarette/vaporizer because it is smokeless, sometimes odorless, and easy to hide or conceal. The user takes a small amount of marijuana concentrate, referred to as a "dab," then heats the substance using the e-cigarette/vaporizer producing vapors that ensures an instant "high" effect upon the user. Using an e-cigarette/vaporizer to inhale marijuana concentrates is commonly referred to as "dabbing" or "vaping."

Vaping

What is Vaping?

Vaping is the act of inhaling and exhaling an aerosol or vapor made from a liquid or dry material that is heated in an electronic powered device, called an electronic cigarette, or e-cigarette. The liquid can contain flavoring, nicotine, or marijuana concentrates. Dry herb vape devices can heat dry marijuana without combusting it and without using additional liquid. Generally, the vaping device consists of a battery, a cartridge for containing the e-liquid or dry marijuana, and a heating component.

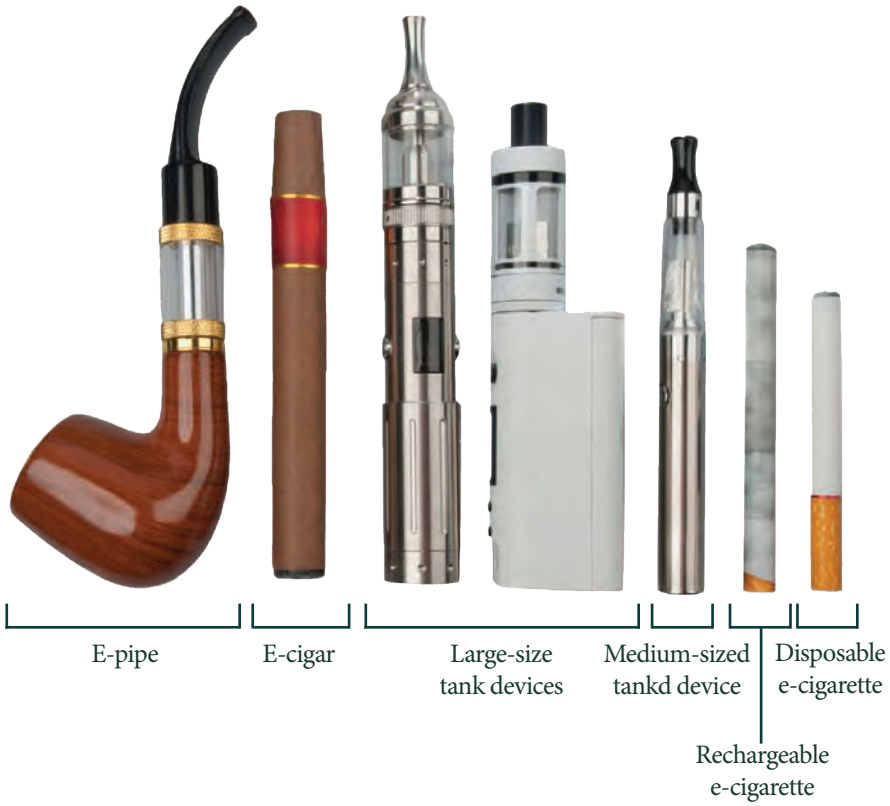
Vaping devices come in a variety of shapes and sizes, with some resembling USB flash drives, pens, or other everyday objects that are often difficult for parents and teachers to recognize.

What are common street names?

- Common street names include: E-cigs, e-hookahs, mods, vape pens, vapes, tank systems, and Juuls or Juuling (after the Juul brand of vaping devices).

What are the effects of vaping?

Vaping is not considered safe, especially for teens and young adults, since the adolescent brain is still developing and inhaling any substance through these devices may be harmful. Additionally, some devices might explode, resulting in burns and other injuries. Most vaping devices contain and release a number of potentially toxic substances including metals and volatile organic compounds from the devices and solvents used. Some of these have been linked to cell and DNA damage.



Source: National Academies of Sciences, Engineering, and Medicine, 2018. Public Health Consequences of E-Cigarettes.

What are the Effects of Using Marijuana Concentrates?

Being a highly concentrated form of marijuana, the effects upon the user may be more psychologically and physically intense than plant marijuana use. To date, long term effects of marijuana concentrate use are not yet fully known; but, the effects of marijuana use are known.

These effects include:

- paranoia, anxiety, panic attacks, and hallucinations. Additionally, the use of plant marijuana increases one's heart rate and blood pressure, although prolonged use can produce hypotension. Plant marijuana users may also experience withdrawal and addiction problems.

Inhalants

WHAT ARE INHALANTS?

Inhalants are invisible, volatile substances found in common household products that produce chemical vapors that are inhaled to induce psychoactive or mind altering effects.

WHAT IS THEIR ORIGIN?

There are more than 1,000 products that are very dangerous when inhaled — things like typewriter correction fluid, air conditioning refrigerant, felt tip markers, spray paint, air freshener, butane, and even cooking spray. See products abused as inhalants at www.inhalants.org/product.htm (National Inhalant Prevention Coalition).

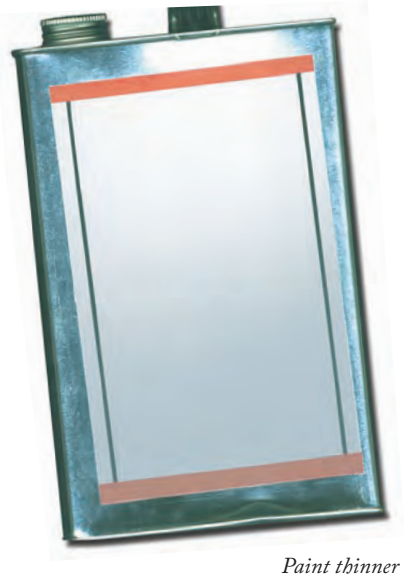
What are common street names?

Common street names include:

- Gluey, Huff, Rush, and Whippets

What do they look like?

Common household products such as glue, lighter fluid, cleaning fluids, and paint all produce chemical vapors that can be inhaled.



Paint thinner

How are they abused?

Although other abused substances can be inhaled, the term "inhalants" is used to describe a variety of substances whose main common characteristic is that they are rarely, if ever, taken by any route other than inhalation.

Inhalants are breathed in through the nose or the mouth in a variety of ways, such as:

- "Sniffing" or "snorting"
- "Bagging"— sniffing or inhaling fumes from substances sprayed or deposited inside a plastic or paper bag
- "Huffing" from an inhalant-soaked rag stuffed in the mouth, or inhaling from balloons filled with nitrous oxide

Inhalants are often among the first drugs that young children use. About 1 in 5 kids report having used inhalants by the eighth grade. Inhalants are also one of the few substances abused more by younger children than by older ones.

What is their effect on the mind?

Inhalant abuse can cause damage to the parts of the brain that control thinking, moving, vision, and hearing. Cognitive abnormalities can range from mild impairment to severe dementia.

What is their effect on the body?

Inhaled chemicals are rapidly absorbed through the lungs into the bloodstream and quickly distributed to the brain and other organs. Nearly all inhalants produce effects similar to anesthetics, which slow down the body's function. Depending on the degree of abuse, the user can experience slight stimulation, feeling of less inhibition, or loss of consciousness.

Within minutes of inhalation, the user

Highlighter markers

experiences intoxication along with other effects similar to those produced by alcohol. These effects may include slurred speech, an inability to coordinate movements, euphoria, and dizziness. After heavy use of inhalants, users may feel drowsy for several hours and experience a lingering headache.

Additional symptoms exhibited by long-term inhalant users include:

- Weight loss, muscle weakness, disorientation, inattentiveness, lack of coordination, irritability, depression, and damage to the nervous system and other organs

Some of the damaging effects to the body may be at least partially reversible when inhalant abuse is stopped; however, many of the effects from prolonged abuse are irreversible.

Prolonged sniffing of the highly concentrated chemicals in solvents or aerosol sprays can induce irregular and rapid heart rhythms and lead to heart failure and death within minutes. There is a common link between inhalant use and problems in school — failing grades, chronic absences, and general apathy.

Other signs include:

- Paint or stains on body or clothing; spots or sores around the mouth; red or runny eyes or nose; chemical breath odor; drunk, dazed, or dizzy appearance; nausea; loss of appetite; anxiety; excitability; and irritability

What are their overdose effects?

Because intoxication lasts only a few minutes, users try to prolong the high by continuing to inhale repeatedly over the course of several hours, which is a very dangerous practice. With successive inhalations, users may suffer loss of consciousness and/or death.

"Sudden sniffing death" can result from a single session of inhalant use by an otherwise healthy young person. Sudden sniffing death is particularly associated with the abuse of butane, propane, and chemicals in aerosols.

Inhalant abuse can also cause death by asphyxiation from repeated inhalations, which lead to high concentrations of inhaled fumes displacing the available oxygen in the lungs, suffocation by blocking air from entering the lungs when inhaling fumes from a plastic bag placed over the head, and choking from swallowing vomit after inhaling substances.

Which drugs cause similar effects?

Most inhalants produce a rapid high that is similar to the effects of alcohol intoxication.

What is their legal status in the United States?

The common household products that are misused as inhalants are legally available for their intended and legitimate uses. Many state legislatures have attempted to deter youth who buy legal products to get high by placing restriction on the sale of these products to minors.

Even though some substances are not currently controlled by the Controlled Substances Act, they pose risks to individuals who abuse them. The following section describes these drugs of concern and their associated risks.

Designer Drugs

Recently, the abuse of clandestinely synthesized drugs has re-emerged as a major worldwide problem. These drugs are illicitly produced with the intent of developing substances that differ slightly from controlled substances in their chemical structure while retaining their pharmacological effects. These substances are commonly known as designer drugs and fall under several drug categories. The following section describes these drugs of concern and their associated risks.

Bath salts

Bath Salts

WHAT ARE "BATH SALTS?"

Synthetic stimulants often referred to as "bath salts" are from the synthetic cathinone class of drugs. Synthetic cathinones are central nervous stimulants and are designed to mimic effects similar to those produced by cocaine, methamphetamine, and MDMA (ecstasy). These substances are often marketed as "bath salts," "research chemicals," "plant food," "glass cleaner," and labeled "not for human consumption," in order to circumvent application of the Controlled Substance Analogue Enforcement Act. Marketing in this manner attempts to hide the true reason for the products' existence—the distribution of a psychoactive/stimulant substance for abuse.

WHAT IS THEIR ORIGIN?

Synthetic cathinones are manufactured in East Asia and have been distributed at wholesale levels throughout Europe, North America, Australia, and other parts of the world.

What are common street names?

- Bliss, Blue Silk, Cloud Nine, Drone, Energy-1, Ivory Wave, Lunar Wave, Meow Meow, Ocean Burst, Pure Ivory, Purple Wave, Red Dove, Snow Leopard, Stardust, Vanilla Sky, White Dove, White Knight, White Lightning

What does it look like?

Websites have listed products containing these synthetic stimulants as "plant food" or "bath salts," however, the powdered form is also compressed in gelatin capsules. The synthetic stimulants are sold at smoke shops, head shops, convenience stores, adult book stores, gas stations, and on Internet sites and often labeled "not for human consumption."

How are they abused?

"Bath salts" are usually ingested by sniffing/snorting. They can also be taken orally, smoked, or put into a solution and injected into veins.

What is their effect on the mind?

These synthetic substances are abused for their desired effects, such as euphoria and alertness. Other effects that have been reported from the use of these drugs include psychological effects such as confusion, acute psychosis, agitation, combativeness, aggressive, violent, and self-destructive behavior.

What is their effect on the body?

Adverse or toxic effects associated with the abuse of cathinones, including synthetic cathinones, include rapid heartbeat; hypertension; hyperthermia; prolonged dilation of the pupil of the eye; breakdown of muscle fibers that leads to release of muscle fiber contents into bloodstream; teeth grinding; sweating; headaches; palpitations; seizures; as well as paranoia, hallucinations, and delusions.

What are their overdose effects?

In addition to effects above, reports of death from individuals abusing drugs in this class indicate the seriousness of the risk users are taking when ingesting these products.

Which drugs cause similar effects?

They cause effects similar to those of other stimulants such as methamphetamine, MDMA, and cocaine.

What is their legal status in the United States?

In July 2012, the U.S. Government passed Pub.L. 112- 144, the Synthetic Drug Abuse Prevention Act (SDAPA), that classified a number of synthetic substances under Schedule I of the Controlled Substances Act. SDAPA placed these substances in the most restrictive category of controlled substances. Cannabimimetic agents, including 15 synthetic cannabinoid compounds identified by name, two synthetic cathinone compounds (mephedrone and MDPV), and nine synthetic hallucinogens known as the 2C family, were restricted by this law. In addition, methylone and ten (10) synthetic cathinones that were subject to temporary control were permanently controlled by DEA through the administrative process. Another synthetic cathinone, N-ethylbentylone, was temporarily controlled in 2018.

Other synthetic cathinones may be subject to prosecution under the Controlled Substance Analogue Enforcement Act which allows these dangerous substances to be treated as Schedule I controlled substances if certain criteria can be met.

K2/Spice

WHAT IS K2?

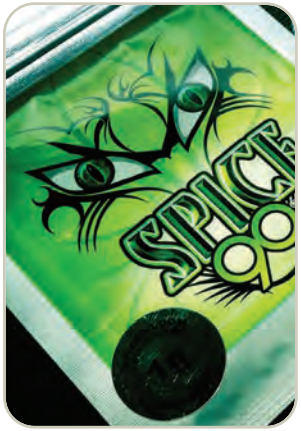
K2 and Spice are just two of the many trade names or brands for synthetic designer drugs that are intended to mimic THC, the main psychoactive ingredient of marijuana. These designer synthetic drugs are from the synthetic cannabinoid class of drugs that are often marketed and sold under the guise of "herbal incense" or "potpourri."

Synthetic cannabinoids are not organic, but are chemical compounds created in a laboratory. Since 2009, law enforcement has encountered hundreds of different synthetic cannabinoids that are being sold as "legal" alternatives to marijuana. These products are being abused for their psychoactive properties and are packaged without information as to their health and safety risks.

Synthetic cannabinoids are sold as "herbal incense" and "potpourri" under names like K2 and Spice, as well as many other names, at small convenience stores, head shops, gas stations, and via the Internet from both domestic and international sources. These products are labeled "not for human consumption" in an attempt to shield the manufacturers, distributors, and retail sellers from criminal prosecution. This type of marketing is nothing more than a means to make dangerous, psychoactive substances widely available to the public.

WHAT IS ITS ORIGIN?

The vast majority of synthetic cannabinoids are manufactured in Asia without manufacturing requirements or quality control standards. The bulk products are smuggled into the United States typically as misbranded imports and have no legitimate medical or industrial use.



K2/Spice

What are common street names?

There are numerous and various street names of synthetic cannabinoids as drug manufacturers try to appeal and entice youth and young adults by labeling these products with exotic and extravagant names. Some of the many street names of K2/Spice synthetic marijuana are:

- "Spice, K2, Blaze, RedX Dawn, Paradise, Demon, Black Magic, Spike, Mr. Nice Guy, Ninja, Zohai, Dream, Genie, Sence, Smoke, Skunk, Serenity, Yucatan, Fire, and Crazy Clown.

What does it look like?

These chemical compounds are generally found in bulk powder form, and then dissolved in solvents, such as acetone, before being applied to dry plant material to make the "herbal incense" products. After local distributors apply the drug to the dry plant material, they package it for retail distribution, again without pharmaceutical-grade chemical purity standards, as these have no accepted medical use, and ignoring any control mechanisms to prevent contamination or to ensure a consistent, uniform concentration of the powerful and dangerous drug in each package. The bulk powder can also be dissolved in solution intended to be used in e-cigarette or other vaping devices.

How is it abused?

Spraying or mixing the synthetic cannabinoids on plant material provides a vehicle for the most common route of administration - smoking (using a pipe, a water pipe, or rolling the drug-laced plant material in cigarette papers). In addition to the cannabinoids laced on plant material and sold as potpourri and incense, liquid cannabinoids have been designed to be vaporized through both disposable and reusable electronic cigarettes.

What are its overdose effects?

Severe adverse effects have been attributed to the abuse of synthetic cannabinoids, including agitation, anxiety, seizures, stroke, coma, and death by heart attack or organ failure. Acute kidney injury requiring hospitalization and dialysis in several patients reportedly having smoked synthetic cannabinoids has also been reported by the Centers for Disease Control and Prevention.

Which drugs cause similar effects?

Synthetic cannabinoids are marketed as an alternative to THC, the main psychoactive constituent of marijuana, however they are much more potent and have been shown to cause side effects that are more severe than those reported from THC.

What is its effect on the mind?

Acute psychotic episodes, dependence, and withdrawal are associated with use of these synthetic cannabinoids. Some individuals have suffered from intense hallucinations. Other effects include severe agitation, disorganized thoughts, paranoid delusions, and violence after smoking products laced with these substances.

What is its effect on the body?

State public health and poison centers have issued warnings in response to adverse health effects associated with abuse of herbal incense products containing these synthetic cannabinoids. These adverse effects included tachycardia (elevated heart rate), elevated blood pressure, unconsciousness, tremors, seizures, vomiting, hallucinations, agitation, anxiety, pallor, numbness, and tingling. This is in addition to the numerous public health and poison centers which have similarly issued warnings regarding the abuse of these synthetic cannabinoids.

What is its legal status in the United States?

These substances have no accepted medical use in the United States and have been reported to produce adverse health effects. Currently, 43 substances are specifically listed as Schedule I substances under the Controlled Substances Act either through legislation or regulatory action. In addition there are many other synthetic cannabinoids that meet the definition for "cannabimimetic agent" under the Controlled Substances Act and thus are Schedule I substances.

There are many synthetic cannabinoid substances that are being sold as "incense," "potpourri," and other products that are not controlled substances. However, synthetic cannabinoids may be subject to prosecution under the Controlled Substance Analogue Enforcement Act which allows non-controlled drugs to be treated as Schedule I controlled substances if certain criteria can be met. The DEA has successfully investigated and prosecuted individuals trafficking and selling these dangerous substances using the Controlled Substance Analogue Enforcement Act.

Synthetic Opioids

WHAT ARE SYNTHETIC OPIOIDS?

Synthetic opioids are substances that are synthesized in a laboratory and that act on the same targets in the brain as natural opioids (e.g., morphine and codeine) to produce analgesic (pain relief) effects. In contrast, natural opioids are naturally occurring substances extracted from the seed pod of certain varieties of poppy plants. Some synthetic opioids, such as fentanyl and methadone, have been approved for medical use.

Clandestinely produced synthetic opioids structurally related to the Schedule II opioid analgesic fentanyl were trafficked and abused on the West Coast in the late 1970s and 1980s. In the 1980s, DEA controlled several of these illicitly produced synthetic opioids such as alpha-methylfentanyl, 3-methylthiofentanyl, acetyl-alpha-methylfentanyl, beta-hydroxy-3-methylfentanyl, alpha-methylthiofentanyl, thiofentanyl, beta-hydroxyfentanyl, para-fluorofentanyl, and 3-methylfentanyl.

As of 2013, there has been a re-emergence in the trafficking and abuse of various clandestinely produced synthetic opioids, including several substances related to fentanyl. Some common illicitly produced synthetic opioids that are currently encountered by law enforcement include, but are not limited to, acetyl fentanyl, butyryl fentanyl, beta- hydroxythiofentanyl, furanyl fentanyl, 4-fluoroisobutyryl fentanyl, acryl fentanyl, and U-47700.

WHAT IS THEIR ORIGIN?

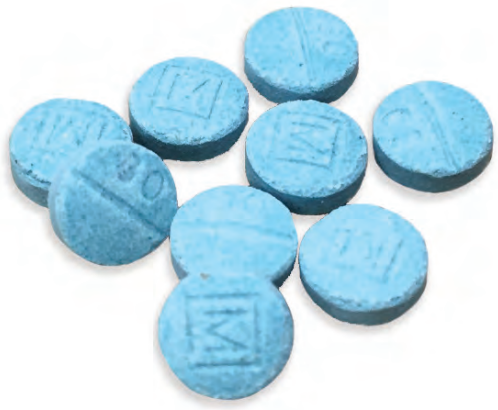
Synthetic opioids are believed to be synthesized abroad and then imported into the United States.

What do they look like?

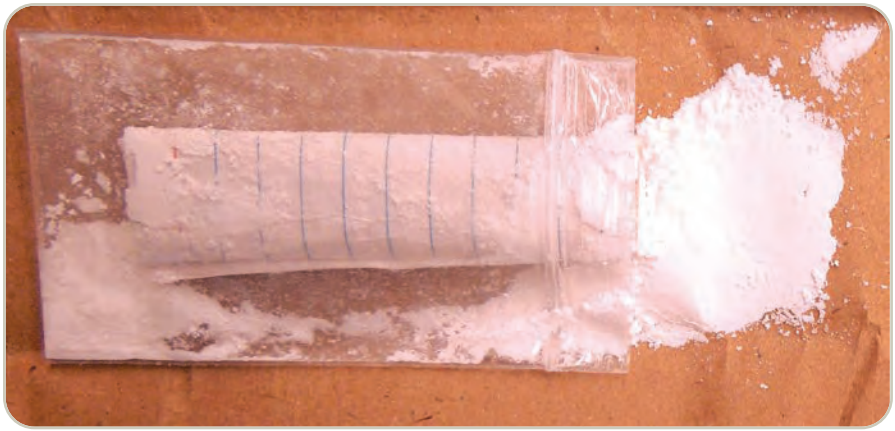
Clandestinely produced synthetic opioids have been encountered in powder form and were identified on bottle caps and spoons, detected within glassine bags, on digital scales, and on sifters which demonstrates the abuse of these substances as replacements for heroin or other opioids. These drugs are also encountered as tablets, mimicking pharmaceutical opioid products. Clandestinely produced synthetic opioids are encountered as a single substance in combination with other opioids (fentanyl, heroin, U-47700) or other substances.

How are they abused?

Abuse of clandestinely produced synthetic opioids parallels that of heroin and prescription opioid analgesics. Many of these illicitly produced synthetic opioids are more potent than morphine and heroin and thus have the potential to result in a fatal overdose.



Clandestinely produced counterfeit oxycodone tablets that contain fentanyl.



Synthetic Opioid powder U-47700.

What are their effects?

Some effects of clandestinely produced synthetic opioids, similar to other commonly used opioid analgesics (e.g., morphine), may include relaxation, euphoria, pain relief, sedation, confusion, drowsiness, dizziness, nausea, vomiting, urinary retention, pupillary constriction, and respiratory depression.

What are their overdose effects?

Overdose effects of clandestinely produced synthetic opioids are similar to other opioid analgesics. These effects may include stupor, changes in pupillary size, cold and clammy skin, cyanosis, coma, and respiratory failure leading to death. The presence of triad of symptoms such as coma, pinpoint pupils, and respiratory depression are strongly suggestive of opioid poisoning.

Which drugs cause similar effects?

Some drugs that cause similar effects include other opioids such as morphine, hydrocodone, oxycodone, hydromorphone, methadone, and heroin.

What is their legal status in the United States?

Many synthetic opioids are currently controlled under the Controlled Substances Act. The DEA temporarily placed U-47700 and several other substances that are structurally related to fentanyl, such as acetyl fentanyl, butyryl fentanyl, beta-hydroxythiofentanyl, and furanyl fentanyl, in Schedule I of the Controlled Substances Act. In February 2018, the DEA temporarily placed fentanyl-related substances in Schedule I of the CSA. Other synthetic opioid substances may be subject to prosecution under the Controlled Substance Analogue Enforcement Act which allows non-controlled substances to be treated as Schedule I substances if certain criteria are met. The DEA has successfully investigated and prosecuted individuals trafficking and selling these dangerous substances using the Controlled Substances Analogue Enforcement Act.

Drugs of Concern

Even though some substances are not currently controlled by the Controlled Substances Act, they pose risks to individuals who abuse them. The following section describes these drugs of concern and their associated risks.

DXM

WHAT IS DXM?

Dextromethorphan (DXM) is a cough suppressor found in more than 120 over-the-counter (OTC) cold medications, either alone or in combination with other drugs such as analgesics (e.g., acetaminophen), antihistamines (e.g., chlorpheniramine), decongestants (e.g., pseudoephedrine), and/ or expectorants (e.g., guaifenesin). The typical adult dose for cough is 15 to 30 mg taken three to four times daily. The cough-suppressing effects of DXM persist for 5 to 6 hours after ingestion. When taken as directed, side effects are rarely observed.

WHAT IS ITS ORIGIN?

DXM users can obtain the drug at almost any pharmacy or supermarket, seeking out the products with the highest concentration of the drug from among all the OTC cough and cold remedies that contain it. DXM products and powder can also be purchased on the Internet.

What are common street names?

Common street names include:

- CCC, Dex, DXM, Poor Man's PCP, Robo, Rojo, Skittles, Triple C, and Velvet

What does it look like?

DXM can come in the form of:

- Cough syrup, tablets, capsules, or powder

How is it abused?

DXM is abused in high doses to experience euphoria and visual and auditory hallucinations. Users take various amounts depending on their body weight and the effect they are attempting to achieve. Some users ingest 250 to 1,500 milligrams in a single dosage, far more than the recommended therapeutic dosages described above.

Illicit use of DXM is referred to on the street as "Robo-tripping," "skittling," or "dexing," derived from the products that are most commonly abused, Robitussin and Coricidin HBP. DXM abuse has traditionally involved drinking large volumes of the OTC liquid cough preparations. More recently, however, abuse of tablet and gel capsule preparations has increased.

These newer, high-dose DXM products have particular appeal for users. They are much easier to consume, eliminate the need to drink large volumes of unpleasant-tasting syrup, and are easily portable and concealed, allowing an abuser to continue to abuse DXM throughout the day, whether at school or work.

DXM powder, sold over the Internet, is also a source of DXM for abuse. (The powdered form of DXM poses additional risks to the user due to the uncertainty of composition and dose.)

DXM is also distributed in illicitly manufactured tablets containing only DXM or mixed with

other drugs such as pseudoephedrine and/ or methamphetamine.

DXM is abused by individuals of all ages, but its abuse by teenagers and young adults is of particular concern. This abuse is fueled by DXM's OTC availability and extensive "how to" abuse information on various websites.

What is its effect on the mind?

Some of the many psychoactive effects associated with high-dose DXM include:

- Confusion, inappropriate laughter, agitation, paranoia, euphoria, and hallucinations
- Other sensory changes, including the feeling of floating and changes in hearing and touch

Long-term abuse of DXM is associated with severe psychological dependence. Abusers of DXM describe the following three dose-dependent "plateaus":

DOSE (MG)	BEHAVIORAL EFFECTS
100-200	Mild Stimulation
200-400	Euphoria and hallucinations
300-1500	Distorted visual perceptions Loss of motor coordination Out of body sensations

What is its effect on the body?

DXM intoxication involves:

- Over-excitability, lethargy, loss of coordination, slurred speech, sweating, hypertension, nausea, vomiting, and involuntary spasmodic movement of the eyeballs

The use of high doses of DXM in combination with alcohol or other drugs is particularly dangerous, and deaths have been reported. Approximately 5-10 percent of Caucasians are poor DXM metabolizers and at increased risk for overdoses and deaths. DXM taken with antidepressants can be life threatening.

OTC products that contain DXM often contain other ingredients such as acetaminophen, chlorpheniramine, and guaifenesin that have their own effects, such as:

- Liver damage, rapid heart rate, lack of coordination, vomiting, seizures, and coma

To circumvent the many side effects associated with these other ingredients, a simple chemical extraction procedure has been developed and published on the Internet that removes most of these other ingredients in cough syrup.

What are its overdose effects?

DXM overdose can be treated in an emergency room setting and generally does not result in severe medical consequences or death. Most DXM-related deaths are caused by ingesting the drug in combination with other drugs. DXM-related deaths also occur from impairment of the senses, which can lead to accidents.

In 2003, a 14-year-old boy in Colorado who abused DXM died when he was hit by two cars as he attempted to cross a highway. State law enforcement investigators suspect that the drug affected the boy's depth perception and caused him to misjudge the distance and speed of the oncoming vehicles.

Which drugs cause similar effects?

Depending on the dose, DXM can have effects similar to marijuana or ecstasy. In moderate to high doses its out-of-body effects are similar to those of ketamine or PCP.

What is its legal status in the United States?

DXM is a legally marketed cough suppressant that is neither a controlled substance nor a regulated chemical under the Controlled Substances Act.

Kratom

WHAT IS KRATOM?

Kratom is a tropical tree native to Southeast Asia. Consumption of its leaves produces both stimulant effects (in low doses) and sedative effects (in high doses), and can lead to psychotic symptoms, and psychological and physiological dependence. Kratom leaves contain two major psychoactive ingredients (mitragynine and 7-hydroxymytragynine). These leaves are crushed and then smoked, brewed with tea, or placed into gel capsules. Kratom has a long history of use in Southeast Asia, where it is commonly known as thang, kakuam, thom, ketum, and biak. In the U.S., the abuse of kratom has increased markedly in recent years.

Kratom tree

How is it abused?

Mostly abused by oral ingestion in the form of a tablet, capsule, or extract. Kratom leaves may also be dried or powdered and ingested as a tea, or the kratom leaf may be chewed.

Leaf of kratom tree

What are the effects?

At low doses, kratom produces stimulant effects with users reporting increased alertness, physical energy, and talkativeness. At high doses, users experience sedative effects. Kratom consumption can lead to addiction.

Several cases of psychosis resulting from use of kratom have been reported, where individuals addicted to kratom exhibited psychotic symptoms, including hallucinations, delusion, and confusion.

Kratom capsules

What does it do to the body?

Kratom's effects on the body include nausea, itching, sweating, dry mouth, constipation, increased urination, tachycardia, vomiting, drowsiness, and loss of appetite. Users of kratom have also experienced anorexia, weight loss, insomnia, hepatotoxicity, seizure, and hallucinations.

What is its legal status?

Kratom is not controlled under the Controlled Substances Act; however, there may be some state regulations or prohibitions against the possession and use of kratom. The FDA has not approved Kratom for any medical use. In addition, DEA has listed kratom as a Drug and Chemical of Concern.

WHAT IS SALVIA DIVINORUM?

Salvia divinorum is a perennial herb in the mint family that is abused for its hallucinogenic effects.

WHAT IS ITS ORIGIN?

Salvia divinorum is native to certain areas of the Sierra Mazaleca region of Oaxaca, Mexico. It is one of several plants that are used by Mazatec Indians for ritual divination. *Salvia divinorum* plants can be grown successfully outside of this region. They can be grown indoors and outdoors, especially in humid semitropical climates.

What are common street names?

Common street names include:

- Maria Pastora, Sally-D, and Salvia

What does it look like?

The plant has spade-shaped variegated green leaves that look similar to mint. The plants themselves grow to more than three feet high, have large green leaves, hollow square stems, and white flowers with purple calyces.

Leaves of the Salvia divinorum plant

How is it abused?

Salvia can be chewed, smoked, or vaporized.

What is its effect on the mind?

Psychic effects include perceptions of bright lights, vivid colors, shapes, and body movement, as well as body or object distortions. *Salvia divinorum* may also cause fear and panic, uncontrollable laughter, a sense of overlapping realities, paranoia, and hallucinations.

Users typically experience rapid onset of intense hallucinations that can impair judgment and disrupt sensory and cognitive functions.

Salvinorin A is the principal ingredient responsible for the psychoactive effects of *Salvia divinorum.*

What is its effect on the body?

Adverse physical effects may include:

- Loss of coordination, dizziness, and slurred speech

Which drugs cause similar effects?

When *Salvia divinorum* is chewed or smoked, the hallucinogenic effects elicited are similar to those induced by Scheduled hallucinogenic substances.

What is its legal status in the United States?

Neither *Salvia divinorum* nor its active constituent Salvinorin A has an approved medical use in the United States. *Salvia divinorum* is not controlled under the Controlled Substances Act. *Salvia divinorum* is, however, controlled by a number of states. Since *Salvia divinorum* is not controlled by the CSA, some online botanical companies and drug promotional sites have advertised Salvia as a legal alternative to other plant hallucinogens like mescaline.

IV. Resources

DRUG USE PREVENTION RESOURCES

Drug prevention programs are designed and implemented on many levels. The federal government has instituted a number of national drug prevention programs which reach targeted populations through public service announcements, grant programs, educational programs, and the sharing of expertise. State and local governments also have a significant number of prevention programs that are tailored to address particular problems and needs. Law enforcement and the military have brought drug prevention expertise into classrooms and communities; businesses have also contributed significantly to drug prevention through sponsored programs, drug-free policies, and corporate support for community initiatives. Other segments of society, including faith-based institutions, civic organizations, and private foundations are also active forces in drug prevention.

On the next page is a partial list of drug prevention agencies and programs. There are many other outstanding efforts which are ongoing across the nation; it is impossible to include them all. Some programs are aimed at particular populations or specific drugs. Within a given agency, there may be many prevention programs which are aimed at different audiences.

FEDERAL DRUG PREVENTION AGENCIES AND PROGRAMS:

Centers for Disease Control and Prevention (CDC):

CDC's National Center for Injury Prevention and Control helps protect America's health by tracking injuries and deaths to look for dangerous trends, researching the best ways to prevent injuries and violence, developing prevention strategies, evaluating effectiveness of prevention strategies, and supporting states in implementing programs.
www.cdc.gov/injury

Drug Enforcement Administration (DEA):

In addition to dismantling major drug trafficking organizations, DEA is committed to reducing the demand for drugs in America. DEA's community outreach and prevention support is carried out by employees across the United States who work in communities to share expertise and information on drug trends, emerging problems, the dangers of drugs, and available resources.
www.dea.gov
www.deatakeback.com
www.JustThinkTwice.com
www.GetSmartAboutDrugs.com
www.CampusDrugPrevention.gov
www.OperationPrevention.com

National Institute on Drug Abuse (NIDA):

NIDA conducts and disseminates the results of research about the effects of drugs on the body and the brain. NIDA is an excellent source of information on drug addiction.
www.nida.nih.gov

Office of National Drug Control Policy (ONDCP):

ONDCP works to reduce drug use and its consequences by leading and coordinating the development, implementation, and assessment of U.S. drug policy.
www.whitehousedrugpolicy.gov

Substance Abuse and Mental Health Services Administration (SAMHSA):

This agency is responsible for overseeing and administering mental health, drug misuse prevention, and drug addiction treatment programs around the nation. The Center for Substance Abuse Prevention and the Center for Substance Abuse Treatment are part of SAMHSA.
www.samhsa.gov
www.samhsa.gov/prevention

U.S. Department of Education (ED):

ED's Office of Safe and Healthy Students serves states and school communities by providing resources, direct support, and technical assistance on topics that affect the well-being, health, and safety of the nation's young people
www.ed.gov

Other Anti-Drug Organizations:

Community Anti-Drug Coalitions of America (CADCA)
www.cadca.org

National Association of State Alcohol and Drug Abuse Directors (NASADAD)
www.nasadad.org

National Crime Prevention Council (NCPC)
www.ncpc.org

National Families in Action (NFIA)
www.nationalfamilies.org

American Council for Drug Education (ACDE)
www.acde.org

Elks Drug Awareness Program
www.elks.org/dap

Center on Addiction
www.centeronaddiction.org

Partnership for Drug-Free Kids
www.drugfree.org

DEA Educational Foundation Youth Dance Program
www.deaeducationalfoundation.org

Drug Abuse Resistance Education (DARE)
www.dare.com

Law Enforcement Exploring
exploring.learningforlife.org/services/career-exploring/law-enforcement/

Students Against Destructive Decisions (SADD)
www.sadd.org

Young Marines
www.youngmarines.com

National Prevention Network
www.nasadad.org/npn-4

Mentor Foundation USA
www.mentorfoundation.org

Drug Free America Foundation
www.dfaf.org

National Family Partnership
www.nfp.org

Drug Enforcement Administration

Community Outreach and Prevention Support Section

8701 Morrissette Drive
Springfield, VA 22152
202-307-7936

community.outreach@usdoj.gov

GET THE FACTS ABOUT DRUGS

JUST THINK TWICE

A Resource for Teens

www.justthinktwice.com

GET SMART

ABOUT DRUGS

A DEA RESOURCE FOR PARENTS, EDUCATORS & CAREGIVERS

WWW.GETSMARTABOUTDRUGS.COM

Campus Drug Prevention

www.campusdrugprevention.gov

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