

Awareness Training
On
Salvia Divinorum



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TAKE TIME TO PREPARE!

One of the best ways to combat illicit drug abuse by Sailors is to stay informed and keep them informed.

Goal: From the information presented, participants will become aware of what Salvia Divinorum is, who is using Salvia Divinorum, the symptoms of Salvia Divinorum use and what health risks are associated with Salvia Divinorum use.

II. Training Objectives: Participants will be able to:

- ◆ explain what Salvia Divinorum is, how Salvia Divinorum is used and who is using it;
- ◆ identify the behavioral and physical symptoms of Salvia Divinorum use;
- ◆ explain the potential health risks associated with Salvia Divinorum use;
- ◆ identify what punitive action can be taken for Salvia Divinorum use by Navy personnel.

V. Information:

◆ This awareness training has been developed so the information can be delivered, in whole as part of command GMT or in part via Plan-of-the-Day notes, memos, Division/Workcenter notices, flyers, posters, etc.

◆ Before conducting training, trainer may wish to get further information from:

National Institute on Drug Abuse (NIDA) by logging on the NIDA website: www.drugabuse.gov or call toll free 1-888-644-6432;

National Clearinghouse for Alcohol & Drug Information (NCADI)

Website: www.health.org or call toll free 1-800-729-6686;

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Salvia Divinorum Awareness Training

INTRODUCTION

Salvia Divinorum is a perennial herb in the mint family native to certain areas of the Sierra Mazateca region of Oaxaca, Mexico. It is one of 500 species of Salvia in the New World and is similar to the sage plant. The plant grows in large groupings to well over 3 feet in height. It's large green leaves, hollow square stems and flowers are it's characteristic features Salvia Divinorum is one of several vision-inducing plants employed by the Mazatec Indians.

There has been a recent interest among young adults and adolescents to re-discover ethnobotanical plants that can induce changes in perception, hallucinations, or other psychologically-induced changes.

Since Salvia Divinorum, or any of its active ingredients are not specifically listed in the Controlled Substances Act, some on-line botanical companies and drug promotional sites have advertised Salvia Divinorum as a legal alternative to other plant hallucinogens like mescaline. The plant material is smoked for the induction of "mystical" or hallucinogenic experience.



Salvia Divinorum is being smoked to induce hallucinations, the diversity of which are described by its users to be similar to those induced by ketamine, mescaline, or psilocybin. It is being widely touted on internet sites aimed at young adults and adolescents eager to experiment with these types of substances.

Salvia Divinorum is grown domestically and imported from Mexico, and Central and South America.

The distribution and abuse of Salvia Divinorum, a plant that contains the hallucinogen Salvinorin A, are becoming an increasing concern for law enforcement officials in the Northeast, Midwest, and Pacific regions of the country. Neither Salvia Divinorum nor Salvinorin A is federally regulated in the United States (except one locale in St. Peters, Missouri) or controlled in any other country except Australia, which adopted controlling legislation in 2002. Thus, Salvia Divinorum is openly distributed via Internet sites and "head shops" located in California, Hawaii, Missouri, New York, Washington, and Wisconsin.

Increasing numbers of young adults and adolescents most likely will experiment with Salvia Divinorum as the drug currently is unregulated and readily available via the Internet and "head shops." Salvia Divinorum most likely will not become widely abused at social events such as raves and dance parties. The drug often causes some individuals to become introverted, and abusers at such events tend to seek drugs that enhance social interaction such as MDMA (3,4-methylenedioxymethamphetamine, also known as ecstasy). Proposed federal legislation to control Salvia Divinorum and Salvinorin A may impact its availability, as distributors may be hesitant to sell the drug openly.

WHAT IS SALVIA DIVINORUM?

Salvia Divinorum (pronounced SAL-vee-ah dee-vin-OR-um)-- frequently referred to as "Ska Maria Pastora" and "Diviner's Sage"--is a perennial herb in the mint family that resembles sage. The plant is native to certain areas of the Sierra Mazateca region of Oaxaca, Mexico, but can be grown in any humid, semitropical climate as well as indoors. Within the United States, the plant primarily is cultivated in California and Hawaii. It grows in large clusters and reaches over 3 feet in height.

Salvinorin A is the active component of Salvia Divinorum. Other plants with similar properties include Cannabis sativa, which contains tetrahydrocannabinol (THC), the primary psychoactive compound in marijuana and Artemisia absinthium, known as wormwood and used to make absinthe. At this time there is no accepted medical use for Salvia Divinorum; however, Mazatec Indians in Mexico use the plant in traditional healing ceremonies and to induce visions. The manner in which Salvia Divinorum interacts with the brain to produce its hallucinogenic effect remains unclear.

Law enforcement officials in St. Peters, Missouri, indicate that Salvia Divinorum abuse by young people in that area is extremely high. Abuse levels among youths are so high that St. Peters became the first community to enact a local ordinance designed to regulate the distribution of Salvia Divinorum. The ordinance--enacted in January 2003--makes it unlawful "for any person to engage in the sale or distribution of Salvia Divinorum a/k/a Salvinorin A, or any variation thereof, to an individual who is seventeen years of age or younger." The ordinance does not apply to the distribution of Salvia Divinorum by a family member on private property. Violations of the city ordinance are punishable by a \$25 fine for the first offense, \$100 for the second offense, and \$250 for the third and subsequent offenses. According to the city's Board of Aldermen, enactment of the ordinance was necessary due to high rates of abuse by adolescents and concerns that the herb poses a threat to the health, safety, and welfare of residents of St. Peters.



Salvia Divinorum plant.



Salvia Divinorum extract sold on the internet for \$65

an ounce.

**HISTORY OF SALVIA
DIVINORUM**

Salvia Divinorum is used by the Mazatec Indians living in remote regions of Oaxaca, where it first came to the awareness of western researchers in the first half of this century. Little is known regarding the plant's use before this period, although there is some indication that it may have been used by the Aztecs in earlier times. The first description of this plant in western literature was made by Swedish anthropologist Jean Basset Johnson in 1939. Johnson, who was investigating psilocybe mushroom use amongst the Mazatecs, also noted their use of Salvia Divinorum in healing ceremonies.

Salvia Divinorum is a very rare plant, being found in only a few ravine locations in the Sierra Mazateca mountains. The plant is easily propagated by cuttings, and during the past few decades it has made its way into numerous botanical gardens and private collections around the world. Virtually all of the Salvia Divinorum in circulation has been vegetatively propagated from two parent clones of this species. The first specimen was collected by R. Gordon Wasson in 1962. A second, so called "palatable" strain was collected by Bret Blosser in 1991. The "palatable" variety is quite bitter, although less so than the Wasson clone. There are a few other strains being maintained, some of which were grown from seed, but these are not in general circulation.

It is thought by many botanists that Salvia Divinorum is a cultigen. It is not known to exist in the wild, and the few patches that are known in the Sierra Mazateca appear to be the result of deliberate planting. A Mazatec shaman informed Wasson that the Indians believe the plant is foreign to their region and do not know from where it came. And if Salvia Divinorum is a hybrid, there are no commonly held theories on what its prospective parents may be.

R. Gordon Wasson, an ethnobotanist who introduced psilocybe mushrooms to western society, was also the first to personally

describe an experience with Salvia Divinorum. In July of 1961 he participated in a healing ceremony performed by a Mazatecan medicine man. Wasson ingested the squeezed juice of 34 pairs of leaves, and described the results as "coming on sooner (than the mushrooms), being less sweeping, and lasting a shorter time." It did not go beyond the initial effects of the mushrooms dancing colors in elaborate, three-dimensional designs." In 1962 Wasson was joined in Oaxaca by Swiss pharmacologist Albert Hofmann, inventor of LSD, who also first isolated psilocybin from mushrooms gathered in this same region. Hofmann brought an alcohol extract of Salvia Divinorum back to Switzerland where he attempted to isolate the active component. He was unsuccessful, finding the extract to no longer be active, and suggested that the plant's active principal was unstable.



A young Mazatec girl grinding Salvia Divinorum leaves to extract juice.

**EFFECTS OF SALVIA
DIVINORUM USE**

The long-term effects of Salvia Divinorum abuse are unknown, as medical studies undertaken to examine the drug's physiological effects have focused only on short-term effects. However, information provided by abusers indicates that the negative long-term effects of Salvia Divinorum may be similar to those produced by other hallucinogens such as LSD (lysergic acid diethylamide) including depression and schizophrenia. Some abusers also indicate that long-term abuse can cause hallucinogen persisting perception disorder, or "flashbacks." Numerous individuals report experiencing negative effects during their first experience with Salvia Divinorum and indicate that they would not use it a second time. Some others report that the drug caused them to become introverted and sometimes unable to communicate clearly.

Abusers ingest Salvia Divinorum using various methods of administration. Like tobacco, Salvia Divinorum can be smoked or chewed. It also can be brewed and ingested as a tea. When converted into a liquid extract, Salvia Divinorum also can be vaporized and inhaled. Immediately after ingesting the drug, abusers typically experience vivid hallucinations--including out-of-body experiences, sensations of traveling through time and space, and feelings of merging with inanimate objects. Some abusers experience intense synesthesia, an effect that causes the abusers' senses to become confused. For example, abusers may describe hearing colors or smelling sounds. The hallucinogenic effects generally last 1 hour or less unlike other hallucinogens like LSD and PCP. High doses of the drug can cause unconsciousness and short-term memory loss.

A Salvia Divinorum dosage of 6-20 fresh leaves, rolled into a cigar-like shape, and chewed produces a hallucinogenic effect that is similar to the effects of psilocybin mushrooms, although milder. The effect can last between 60 and 90 minutes. There is a harsh "green" taste and the juice, which has a slight anesthetic quality. Users hold the juice in the mouth for at least 5 minutes before swallowing. The leaves can also be dried and smoked.

The effect of salvia Divinorum occur within 10-15 minutes and may include...

- Visual fixation (trance induction)

- Detachment from the environment
- A brownish orange cast to the visual field
- A distinct sense of being in a different "world"

Physical effects include:

- Dizziness
- Nausea
- Lack of coordination
- Slurred speech and awkward sentence patterns
- Decreased heart rate
- Chills

One of the most striking features of a Salvia Divinorum experience is the distortion of linear time. Sometimes, it seems as if one simply escapes linear time altogether and finds that all temporal coordinates are randomly accessible instantaneously.

There are no known physical complications arising from the use of Salvia Divinorum and it is considered episodic rather than addictive. The active ingredient in Salvia Divinorum activates a receptor in the brain normally affected by morphine. But instead of causing a feeling of well-being, it triggers hallucinations.

The fact that so little is known about the effects of Salvia Divinorum could pose a danger to users. Users may risk overdosing if they consume too much or if the potency is too great. Furthermore, the medical community has minimal knowledge about this drug, which could result in a lack of proper treatment for an individual who has overdosed.

SCOPE OF USE

Pharmacists have little information on how many people are using Salvia Divinorum. But they say the numbers are likely on

the rise. Research indicates that only one in ten users who bought and used Salvia Divinorum off the internet came back to make a second purchase.

Experts say this shows the drug's unpredictability among individual users.

There have been no reports of Salvia Divinorum use in the Navy. Salvia Divinorum is classified as a natural substance and is not listed in the Controlled Substances Act, although the Drug Enforcement Agency anticipates a rise in its abuse. The user populations, thus far, seems limited to younger adults and adolescents influenced by the promotion of the drug on internet sites.

Use of Salvia Divinorum, like any other natural substance, with the intent to induce intoxication or excitement, or stupefaction of the central nervous system is prohibited by SECNAVINST 5300.28C and OPNAVINST 5350.4C. Punitive action, adverse administrative action or both can be taken against Navy personnel who use Salvia Divinorum under UCMJ Article 92, Failure to Obey a Direct Order.

FREQUENTLY ASKED QUESTIONS

[What is Salvia Divinorum?](#)

Salvia Divinorum is a plant used for its psychoactive effects. Given the right dose, individual, set and setting, it produces a state of inebriation which has been traditionally used by Mazatec healers. This inebriation is different from that of alcohol. Salvia Divinorum is both similar to, and different from, other drugs that affect the brain and behavior. In many ways Salvia Divinorum is a unique herb. Salvia Divinorum (and the salvinorin it contains) is very difficult to categorize pharmacologically. It does not fit well into any existing pharmacological class.

What's in Salvia Divinorum that is so strong and how strong is it?

Salvia contains a substance called salvinorin-A. Salvinorin-A is the most potent naturally occurring vision inducer. Only LSD is potent at a smaller dose however LSD itself is not present in nature. When vaporized and inhaled, doses of about 250 micrograms (that is 250 millionths of a gram) can have threshold effects and doses of 1 milligram will have extreme effects. Sensitivity varies greatly from person to person. Salvinorin is most effective when inhaled as smoke or vapor and least effective on a milligram basis when swallowed.

Is Salvia Divinorum legal?

Currently Salvia Divinorum and its primary active principle salvinorin-A, is legal to possess, sell and use everywhere in the world except Australia, Denmark and one locale in the U.S. (St. Peters, Missouri.)

Is Salvia Divinorum known by any other names?

Traditional names for the plant include "ska Pastora" (Shepherdess' herb), "ska María Pastora" (Mary Shepherdess' herb), "hojas de la Pastora" (leaves of the Shepherdess), "hojas de María Pastora" (leaves of Mary Shepherdess), "hierba María" (Mary's herb), "yerba de María" (herb of Mary), and "la hembra" (the female). R. Gordon Wasson proposed that Salvia Divinorum might represent the ancient Aztec herb pipiltzintzintli ("most noble little prince"). There are some modern psychonauts who call it "mint" or "sadi" (short for **Salvia Divinorum**). However, most commonly it is simply referred to by its genus name, "Salvia".

Does Salvia Divinorum show up on drug tests?

No. The active principal, salvinorin-A, is not chemically similar to any illegal drug and will not produce a false-positive on drug tests that test for illegal drugs.

Is Salvia addicting?

Although Salvia is not believed to be addicting, bare in mind that some habit-forming drugs including tobacco, heroin, cocaine and benzodiazepines also were initially thought not to be addicting. No physical dependence on Salvia Divinorum or salvinorin has been reported. Withdrawal symptoms have not been reported. It is quite unlikely that anyone using Salvia Divinorum in the traditional fashion (by chewing leaves occasionally) will become 'addicted'. Whether this freedom from addictive risk also holds for smoking leaves, smoking extract enriched leaves, vaporizing powdered leaves or vaporizing salvinorin is something only time will tell.

Does Salvia Divinorum cause any physical damage?

There are no known health problems from oral Salvia use. However, it is known that smoking tobacco is damaging to your lungs and may cause cancer, emphysema, bronchitis, stroke and cardiovascular disease. These toxic side-effects of tobacco smoking are not due mainly to nicotine but rather to combustion products (tars and carbon monoxide), which are present whenever any type of plant material (e.g. Salvia) is smoked. Smoking Salvia Divinorum, or any material, can be bad for your health. It is not known if Salvia can cause birth defects, but it is prudent to assume that it could.

Can someone overdose on Salvia Divinorum?

Fatal poisoning from Salvia Divinorum appears to be very unlikely to occur. No case of fatal salvinorin poisoning has been reported. The human oral lethal dose is not known but is believed to be extremely high. Swallowed salvinorin is not well absorbed. The chances of inadvertently swallowing a lethal overdose of an oral preparation of leaves, tinctures/elixirs, or soft/hard extracts are extremely low.

If salvinorin is inhaled as multiple inhalations of leaf smoke or vapor one could reasonably expect to pass out before he/she could take a lethal overdose. But significantly, nothing is known about the toxic effects of smoking truly massive "single bolus"

doses of pure salvinorin, such a practice might be quite dangerous, and should certainly be avoided.

Does Salvia cause brain damage?

Not so far as is known. However salvinorin has some phenomenological similarities to dissociatives such as PCP and ketamine, and these dissociatives can cause brain damage (Olney's Lesions) if taken in very high dose. Therefore the possibility that salvinorin might cause brain damage if taken in excessive dosage cannot be completely discounted. However, there have been no reports of any brain damage from salvinorin in man or animals.

Are there medical or psychiatric uses of Salvia?

There are no accepted uses for Salvia Divinorum in standard medical practice at this time.

Can disciplinary action be taken against someone who uses Salvia Divinorum?

Yes. SECNAVINST 5300.28C and OPNAVINST 5350.4C prohibits sailors from illicitly using of inhalants (huffing) and natural substances for the primary purpose of inducing intoxication or excitement, stupefaction of the central nervous system. Punitive action can be taken against violators under the UCMJ (Article 92). In addition to punitive action, adverse administrative action can be taken.

**FOR MORE INFORMATION ON
SALVIA DIVINORUM USE**

More information can be obtained from:

National Institute on Drug Abuse (NIDA) by logging on the NIDA website: www.drugabuse.gov or call toll free 1-888-644-6432;

National Clearinghouse for Alcohol & Drug Information (NCADI)

Website: www.health.org or call toll free 1-800-729-6686;

U.S. Department of Justice Drug Enforcement Agency

Website: <http://www.usdoj.gov/dea/>

Navy Drug Detection and Deterrence Branch (Pers-603)

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