

# The *Salvia divinorum* User's Guide

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## 1 Why you were given this guide

Perhaps a friend gave you a *Salvia divinorum* cutting, or maybe you bought dried leaves, an extract, or a living plant. If so, you need to read this guide. It was written to teach you how to work with this herb in a way that is personally rewarding, and how to do so as safely as possible. It will also teach you how to grow and care for your own *Salvia divinorum* plants.

*Salvia divinorum* is an extraordinary visionary herb. It is not a recreational drug. It produces a profoundly introspective state of awareness that is useful for meditation, contemplation, and self-reflection. Its effects are unique and cannot be compared with the effects of other drugs. The effects of Salvia do not appeal to many people (young or old). The people who are most drawn to it are both mature and philosophically minded. Beware of inaccurate information. There are many unethical vendors who try to lure naive customers by portraying the effects of Salvia as more appealing than they are. The news media often sensationalizes stories about Salvia, exaggerating its effects, risks, and popularity. Much of what has appeared in the popular press is inaccurate and misleading. Salvia is not “legal pot”. It is not “legal acid”. It is not a substitute for any other drug. Before trying Salvia, it is important that you know about its effects, appropriate uses, and the potential risks associated with irresponsible use.

Do **NOT** use Salvia until you have read through this guide. Salvia is unique. You cannot make assumptions about its effects based on experiences you may have had with other herbs or drugs. Salvia has much to offer: fascinating psychoactive effects, sensual enhancement, magical journeys, enchantment, apparent time travel, philosophical insights, spiritual experiences, and perhaps even healing and divination. It should not be used casually. It should always be used in a thoughtful, intelligent manner, and only by responsible adults that are of sound mind and clear intent.

## 2 It’s free

No one should have charged you for this guide. It should be given to people free of charge whenever plants, leaves, or extracts are given away, or sold. No one should make a profit from it. It was written as a public service. The authors will not receive any royalties.

## 3 Print out copies freely, but completely

This guide should be given free of charge to anyone who is interested in Salvia. Please print this guide in its entirety. Give it free of charge to everyone with whom you share leaves or plants. If you copy it, copy **ALL** of it. Do not change it. Supply it as is. As more is learned about Salvia, this guide will be updated. For this reason, it is important that the version date (above) be included in the copy you give out. That way, the person getting it will be able to know if their copy is up to date.

## 4 Do not copy to other websites

This guide is updated frequently. The most recent version can always be found at: <http://sagewisdom.org/usersguide.html>. We do not want to see obsolete versions floating around on the Internet. So please do not copy it to other web sites. If you want to make the guide accessible from another web site, simply include a link to the above URL.

## 5 Just a beginning

This guide is just a beginning. After reading it, you may wish to learn more. An excellent resource for additional information is *The Salvia divinorum Research and Information Center* web site at: <http://sagewisdom.org>. This website, created by Daniel Siebert, provides a wealth of information, including:

- The most up-to-date version of *The Salvia divinorum User's Guide*.
- The *Salvia divinorum* FAQ.
- Images of *Salvia divinorum* plants and the chemical structure of salvinorin A.
- Experiential reports.
- Scientific papers and articles about *Salvia divinorum*.
- Links to many other Salvia sites.
- Information on joining various on-line *Salvia divinorum* discussion forums.
- *Salvia divinorum* inspired artwork.
- A calendar of Salvia-related conferences, seminars, and lectures.

## 6 *Salvia divinorum* basics

*Salvia divinorum* is a species of sage (the genus *Salvia*). There are approximately 1000 species of *Salvia* worldwide, but *Salvia divinorum* is the only vision-inducing species known. *Salvia* is a member of a very large family of plants known as the Labiatae. Because mint is a well-known member of this family, it is sometimes referred to as the mint family. *Salvia divinorum* makes a beautiful house plant, and it can be grown just for that reason, but most people who grow this plant are interested in its fascinating psychoactive effects.

The botanical name *Salvia divinorum* means “Sage of the Diviners”. Under the right conditions, taken in the right way, *Salvia* produces a unique state of “divine inebriation”. For hundreds of years, it has been used in religious and healing ceremonies by the Mazatec Indians, who live in the province of Oaxaca, in Mexico.

The effects of Salvia are very different from those of alcohol; but like alcohol, it impairs coordination. **Never, ever, attempt to drive under the influence of salvia—doing so could prove fatal!**

Salvia contains a chemical substance called salvinorin A. Salvinorin A is responsible for Salvia's mind-altering effects. It is not chemically related to any other psychoactive drug. Unlike most visionary compounds, it is not an alkaloid. Pure salvinorin A is extremely potent. Doses of only several hundred micrograms (millionths of a gram) will have an effect, and doses above 1 milligram (1/1000 of a gram) are too much for most people to handle comfortably. Because of its extreme potency, pure salvinorin A should never be used unless the dosage has been precisely measured with an extremely accurate chemist's scale. Fortunately, Salvia leaf is hundreds of times weaker than pure salvinorin A; therefore, Salvia leaf can be used much more safely.

Salvia leaf is physically quite safe. It is very gentle on the body. Toxicological studies have shown that salvinorin A is extraordinarily non-toxic. No one has ever died from a Salvia overdose. Salvia is not habit-forming or addictive. People who choose to use Salvia, tend to do so quite infrequently. Salvia is not a stimulant, it is not a sedative, it is not a narcotic, it is not a tranquilizer. Like many entheogens, at sufficiently high doses it can induce visions, yet it is quite different from other entheogens. Dale Pendell, in his book *Pharmako/poeia*, assigns *Salvia divinorum* to a unique pharmacological class, which he calls "existentia". This term alludes to the philosophical illumination Salvia seems to shine on the nature of existence itself.

## 7 Salvia is not a party drug

This is important to understand. Salvia is not "fun" in the way that alcohol or *Cannabis* can be. If you try to party with Salvia you probably will not have a good experience.

Salvia is a consciousness-changing herb that can be used in a vision quest, or in a healing ritual. In the right setting, Salvia makes it possible to see visions. It is an herb with a long tradition of sacred use. It is useful for deep meditation. It is best taken in a quiet, nearly darkroom; either alone (if a sitter will not be used, see below for discussion of sitters), or with one or two good friends present. It should be taken either in silence or (sometimes) with soft pleasant music playing.

## 8 Current legal status

*Salvia divinorum* is a legal plant in most countries. Missouri, Louisiana, Tennessee, and Delaware are the only states in the USA that prohibit its use. *Salvia divinorum* is entirely legal in all other US states. Australia, Denmark, Belgium, Italy, and South Korea are the only countries that have enacted legislation making possession of *Salvia divinorum* and/or salvinorin A illegal. Spain

prohibits the sale of *Salvia divinorum*, but not possession or use. In Finland, Norway, Iceland, and Estonia, it is illegal to import *Salvia divinorum* without a relevant prescription from a doctor. Additional information about Salvia's legal status, and pending legislation that might affect it, is available at: <http://sagewisdom.org/legalstatus.html>.

## 9 Salvia experiences: what to expect

Salvia experiences range in intensity from subtle to extremely powerful. This holds true for chewed leaves, smoked leaves, and for oral tinctures, such as “Sage Goddess Emerald Essence®”. The strength of the effects will depend on how much you take, the way you take it, and your individual body chemistry.

Salvia experiences differ from those produced by other visionary drugs or herbs, and Salvia has many advantages:

- You cannot take a fatal overdose of Salvia leaves.
- Salvia is not habit forming.
- Salvia is legal in most countries.
- Its effects are brief in duration, so you quickly return to normal.
- Salvia seldom produces adverse side-effects or hangover.

Noise and distraction will interfere with the experience. When on Salvia, watching TV is nothing but annoying; sitting around a campfire in the woods at night, is wonderful.

Because *Salvia divinorum* can alter perception and behavior, it must never be used in a public environment—doing so could draw unwelcome attention. When the effects are intense, people often become immersed in a dream-like inner visionary state of awareness. Sometimes people in this state will move around as if sleepwalking. For this reason, you should always have a sober sitter present when using strong doses. The sitter is there to make sure that you don't do anything dangerous, like knocking over lit candles, or falling over furniture.

When Salvia is smoked the effects come on very quickly, in less than a minute. The effects are only strong for 5-6 minutes, and then they quickly taper off over another 20-30 minutes.

When the leaves are chewed, the first effects come on at about 15 minutes and gradually develop to peak about 30 minutes after ingestion. The peak level of effects lasts 30 minutes to an hour, and then gradually diminish over an additional 30 minutes to an hour.

When taken as a tincture held in the mouth, the effects begin in 10-15 minutes, and quickly develop to a peak level that lasts 20-40 minutes. The effects then gradually diminish over an additional 30 minutes to an hour. To be on the safe side, it is important not to drive or use machinery for at least an hour after the experience appears to be ended.

Usually people feel clearheaded and mentally refreshed after a Salvia experience. Occasionally some people experience mild headaches after smoking Salvia. It appears that such headaches are the result of smoke-induced sinus irritation. Like tobacco smoke, Salvia smoke is probably somewhat irritating to the lungs.

Salvia experiences can be divided into various levels of intensity. The SALVIA Experiential Rating Scale has been constructed to rate the various levels of effects produced by salvia. Each letter of the word *SALVIA* stands for another level of effects. The scale describes six different levels of intoxication, each one more intense than the previous. The overall intensity of effects is scored according to the highest scale level attained during the course of the experience.

## 9.1 The SALVIA Experiential Rating Scale

Level - 1 “S” stands for SUBTLE effects. A feeling that “something” is happening, although it is difficult to say just what. Relaxation and increased sensual appreciation may be noted. This mild level is useful for meditation and may facilitate sexual pleasure.

Level - 2 “A” stands for ALTERED perception. Colors and textures are more pronounced. Appreciation of music may be enhanced. Space may appear of greater or lesser depth than is usual. But visions do not occur at this level. Thinking becomes less logical, and more playful; short-term memory difficulties may be noted.

Level - 3 “L” stands for LIGHT visionary state. Closed-eye visuals (clear imagery with eyes closed: fractal patterns, vine-like and geometric patterns, visions of objects and designs). The imagery is often two dimensional. If open-eyed visual effects occur, these are usually vague and fleeting. At this level, phenomena similar to the hypnagogic phenomena that some people experience at sleep onset occur. At this level, visions are experienced as “eye candy” but are not confused with reality.

Level - 4 “V” stands for VIVID visionary state. Complex three-dimensional realistic appearing scenes occur. Sometimes voices may be heard. With eyes open, contact with consensual reality will not be entirely lost, but when you close your eyes you may forget about consensus reality and enter completely into a dreamlike scene. Shamanistic journeying to other lands—foreign or imaginary; encounters with beings (entities, spirits) or travels to other ages may occur. You may even live the life of another person. At this level you have entered the shaman’s world. Or if you prefer: you are in “dream time”. With eyes closed, you experience fantasies (dream like happenings with a story line to them). So long as your eyes are closed you may believe they are really occurring. This differs from the “eye candy” closed-eye imagery, of level 3.

Level - 5 “I” stands for IMMATERIAL existence. At this level one may no longer be aware of having a body. Consciousness remains and some thought processes are still lucid, but one becomes completely involved in inner experience and loses all contact with consensual reality. Individuality may be lost; one experiences merging with God/dess, mind, universal consciousness, or bizarre fusions with other objects—real or imagined (e.g. experiences such as merging

with a wall or piece of furniture). At this level it is impossible to function in consensual reality, but unfortunately some people do not remain still but move around in this befuddled state. For this reason a sitter is essential to ensure the safety of someone voyaging to these deep levels. To the person experiencing this the phenomenon may be terrifying or exceedingly pleasant; but to an outside observer the individual may appear confused or disoriented.

Level 6 - "A" stands for AMNESIC effects. At this stage, either consciousness is lost, or at least one is unable to later recall what one had experienced. The individual may fall, or remain immobile or thrash around; somnambulistic behavior may occur. Injuries can be sustained without pain being felt; on awakening, the individual will have no recollection of what he/she did, experienced, or said in level 6. People cannot recall what they experience in this very deep trance state. This is not a desirable level, because nothing can latter be recalled of the experience.

## **10 Methods of use**

Salvia is never taken by injection. There are many different methods of use. Several will be discussed here.

### **10.1 Traditional Mazatec methods**

The two traditional Mazatec methods are quite inefficient in that they require many more leaves than do the other methods. But they are very safe. Traditionally the leaves are taken in a semi-darkened room as part of a healing or religious ceremony. At least one sober person is present to watch over the people who have taken Salvia. A water-based drink made from ground-up fresh leaves is one of the traditional Mazatec ways of using this herb. It requires a lot of leaves and tastes somewhat unpleasant, so this method is seldom used by non-Mazatecs. Salvinorin is very poorly absorbed from the stomach so it requires enormous amounts of leaves to make the drink effective. But it does work, and the effects last longer than from any other method. Chewing and swallowing a large number of fresh leaves is the other Mazatec method. When this is done the leaves are nibbled slowly for about 1/2 hour. Although the chewed-up leaves are swallowed, most of the effect is due to salvinorin that is absorbed through the tissues of the mouth during the chewing. This is a less efficient way of chewing Salvia than the quid method (see below). Most people find chewing and swallowing fresh leaves to be unpleasantly bitter, and for some, it causes gagging.

### **10.2 Modern methods**

#### **10.2.1 The Quid Method**

A ball or cylinder of rolled-up leaves is made. This is called a quid. It is to be chewed. The leaves are chewed slowly—about one chew every 10 seconds. They



are kept under your tongue between chews. For half an hour keep the quid that is being chewed, and the juice that forms, in your mouth. If you can, hold it in your mouth without spitting or swallowing. Then, after the half-hour chewing time is over, spit it all out. Have a bowl to spit into, and a towel handy. Salvia juice stains carpets and other fabrics, so be sure the bowl won't tip over.

Quids can be made from either fresh leaves or dried leaves. Those made from dry leaves are less bitter. To make a quid from dried leaves, weigh out 2-8 grams of dried leaves. A gram scale accurate enough for this can be purchased for under \$50. If you have no scale, count out 8 to 28 large whole dried leaves. Place the leaves in a small bowl of cool water for 10 minutes. Once the leaves are wet and have been soaking for about 10 minutes, remove the leaves from the water, squeeze the excess water out of them, and ball them up into a quid. Some people skip this soaking step when they are in a hurry, but chewing on brittle dry leaves may be unpleasant. If you wish, you can sweeten the quid with sugar, honey, Stevia extract or an artificial sweetener like Equal®. This will make it less bitter and more pleasant to chew.

If fresh leaves are used instead of dry ones, you will need from 8 to 28 large fresh leaves.

The effect of Salvia quids can probably be increased by first treating your mouth in a special way to increase its ability to absorb salvinorin A. To do this you will need a toothbrush and an alcohol/menthol containing mouthwash such as Cool Mint Listerine®, (or any other brand that contains alcohol and menthol). Gently brush the lining of your mouth, including the tissue under your tongue, and the top surface of your tongue. This removes layers of dead cells normally present. Do not brush hard enough to cause bleeding. Then rinse with the mouthwash for at least 30 seconds. Be sure to get mouthwash everywhere in your mouth, including under your tongue. Then spit out the mouthwash and rinse once with water.

You will experience very little in the first 12 to 15 minutes of chewing. Don't be misled by this. Full effects are usually felt by 30 minutes (the time you spit out the quid). They remain on this level for about 30-60 minutes more, then start to decrease. The whole experience seldom lasts longer than an hour and a half, but this varies.

### **10.2.2 Smoking**

Dried leaves can be smoked in a pipe. They need to be smoked hot and the smoke must be inhaled deeply and quickly to have an effect. Because salvinorin requires high temperatures to vaporize, it is best to hold a flame immediately above the leaves, drawing it down into the leaves the whole time you inhale. The leaves can be smoked in a short-stemmed tobacco pipe, in a bong, or in a "steamroller" pipe. Fill up a medium size bowl with leaves. Use a hand-held butane lighter that will go out when you are no longer pressing it, not a match. Have a large ashtray or tip-proof bowl to set the pipe in when you feel you've had enough. Remember that when you are immersed in the experience you may forget you are holding a lit pipe. You could drop it, causing a burn or a fire;

therefore, it is best to have a sitter present when smoking. First effects will be noticed within a minute of inhaling. After 5-6 minutes the effects will gradually begin to subside. The total duration of the experience may be less than 30 minutes or as long as an hour.

Extract-enhanced leaves can also be smoked. Extract-enhanced leaves can be very strong and should only be smoked when a sitter is present. It is possible to vaporize leaves or extract in a special vaporizer that heats up material without burning it. Vaporization can be deceiving. Because very little smoke is produced, it is possible to inhale a very large dose without realizing it. Anyone trying vaporization absolutely MUST have a sitter present. Many commercial vaporizers made for *Cannabis* will not work for Salvia. Special Salvia vaporizers can be built easily, but vaporization is not for those new to Salvia.

Vaporization of pure Salvinorin A is also possible, but it is not recommended! Unless the dose has been measured very precisely, this is extremely dangerous, as it's very easy to vaporize too large a dose. To be done safely, vaporization of salvinorin A requires weighing the dose on a very precise chemical balance capable of weighing in micrograms (millionths of a gram). These analytical balances cost well over \$1000. There are now available standardized doses of Salvinorin A on leaves, using such preparations enables one to inhale a known precisely-measured dose of salvinorin A. This makes it possible to experiment with salvinorin A without having to buy an analytical balance, and it greatly reduces the risk of overdose.

There is now a commercially available Salvia tincture. It is marketed by Daniel Siebert as "Sage Goddess Emerald Essence®". This fluid extract of *Salvia divinorum* is intended to be kept in one's mouth until its salvinorin content has been absorbed. While it can be taken undiluted, it is quite irritating to the mouth if taken in this way. The irritation is due to its high alcohol content. It is better to take it diluted with hot water. The amount of alcohol taken even in a large dose of the extract is not sufficient to produce alcohol intoxication. The effect of the tincture is that of Salvia, not that of whiskey. The alcohol is in the tincture solely as a solvent. The tincture comes with two droppers, one for the tincture, and a different one for the hot water. And comes with detailed instructions regarding its use and appropriate dosage. A simple method of using the extract is to dispense the measured dose into a small glass such as a shot glass and then add an approximately equal volume of water that has been heated to the temperature at which one drinks coffee. Immediately after mixing the two, sip the contents of the shot glass, and hold it in your mouth without swallowing. Keep your tongue elevated above the floor of your mouth to allow the sublingual tissues (those under the tongue) to absorb the salvinorin. This means keeping the liquid in your mouth until either the desired effect has been reached or 1/2 hour has passed. Then swallow it or spit it out, whichever you wish.

### 10.3 Which method is best?

There are pros and cons to each method. Some people report that the quid method produces a deeper, more visionary experience than smoking. Others report that chewing doesn't work for them at all, but smoking does. For those who get little effect from either method, the two methods can be combined. First chew a quid, and then, after spitting it out, light up. If you already smoke tobacco or *Cannabis* you will probably be comfortable with smoking Salvia. If you are a non-smoker you will probably prefer the quid method. Bear in mind that smoking anything, even Salvia, can't be good for your lungs. Unlike smoke, orally consumed Salvia does not irritate your lungs.

It requires quite a bit more dried leaf when taking the leaves as a quid than when smoking. Smoking is the most economical way to use the leaves.

The quid method produces effects that come on more gradually and last longer. They are better for exploring Salvia's world. They are better for deep meditation.

Salvia tincture (e.g. "Sage Goddess Emerald Essence®") has the same effects as a quid method, however the dosage can be adjusted more precisely, the effects come on somewhat faster, and holding the not-unpleasant tasting tincture in one's mouth is much nicer than holding chewed up leaves in your mouth. The only side-effects reported that are unique to the tincture have been "burning" of the lining of one's mouth. This occurs if the alcohol in the tincture has not been sufficiently diluted. It may leave one's mouth mildly sore the next day, in much the way that it would be if you drank soup that was scalding hot. This problem can be prevented by diluting the tincture with enough water.

Generally speaking, it is best to avoid overly-concentrated extracts, vaporizers, and pure salvinorin A. Chewing quid, using tincture, smoking leaves, or smoking mild to medium-strength extracts will produce sufficiently strong effects for most people. There is no need to experiment with stronger and more dangerous ways of taking Salvia.

There are some people—albeit a minority—who, even after many experiments, find they remain "Salvia-hardheads". They never experience more than a slight Salvia effect from smoking, or from a quid. Some of these hardheads will get satisfactory results if they chew a quid, and then immediately smoke after spitting out the quid. Others will find even this ineffective. For them, extract-enhanced leaves are necessary to produce effects. See how sensitive you are before experimenting with stronger forms of Salvia. With a little practice, quid chewing, or smoking, or combining the two ("boosting"), works quite well for most people. Many people find it takes several meetings with Salvia before a "breakthrough" experience occurs. So don't label yourself a "Salvia-hardhead" too soon.

## 11 Sitters and Safety

### 11.1 When you need a sitter

A sitter is absolutely essential if you are taking doses on which you may freak out, become confused, injure yourself, fall, or do anything that might harm others. Have a sitter present if you are new to Salvia, are experimenting with a stronger form than you have used before, or are using a more effective method of ingestion.

An experienced Salvia user who is chewing a quid, may often choose to do it alone, and may be quite safe in doing so. But having a pleasant, sensible, sober sitter is an absolute must if you are trying vaporization, smoking high doses of extract-enhanced leaves, or using pure salvinorin. Smoking leaves usually falls in between in terms of risk. Many people do so without a sitter, but a sitter is never a bad idea. Use sound judgment.

### 11.2 What a sitter should know and do

The sitter must remember that no matter how strangely the person acts, the effects of salvia are short lived. don't take the person to the emergency room (unless, of course, there is a true medical emergency). Keep the person safe and wait it out. If you can't keep the person safe, get help. Otherwise keep the matter private. Within an hour or so (usually much less) the person will be back to normal. It is very reassuring to hold onto this knowledge if things get messy. It helps to have experienced Salvia yourself before sitting for another person. Experience with other visionary materials may be only partially helpful. The sitter should know that Salvia is different from these. Touching to "ground" the person works for some people on some entheogens, but may be frightening for someone on Salvia. If you plan on touching, clear it with the person BEFORE they begin their experience.

### 11.3 The roles of the sitter

The sitter has three essential jobs. The most important of these is to keep the person, and others who may be present, safe. This comes before all else. The main danger is accidental injury. Your job is to be a gentle guardian. Be as unobtrusive as possible, but remain alert in case the person should suddenly start moving about recklessly. Do not use physical force unless nothing else will do. Use of physical force may result in injury. It could be misinterpreted as an assault. NEVER LET SALVIA BE USED WHERE FIREARMS, KNIVES, OR OTHER DANGEROUS OBJECTS ARE PRESENT. Take the person's car keys for safe keeping before the experience begins. Keep the person safe from falls, head banging, sharp objects, walking into walls, walking into furniture, walking through windows, wandering out into the street or other public areas, open flames, hot surfaces, and breakable objects. But let the person move about in a safe area. Do not grab or try to physically restrain him/her, unless absolutely

necessary. Redirect. Speak softly. Gently take dangerous objects away. Use the minimum touching necessary (in their altered state, the person may think your touching is an assault and react to the imagined danger). You may have to handle unexpected intrusions of strangers and other awkward social situations.

The second job of the sitter is to reassure. Often, simple repeated explanations may help if they appear frightened, e.g. “You’re safe, I won’t let anything harm you.” “You’re just having a Salvia experience, you’ll feel better in a few minutes.” “Your name is..... I’m your friend .....” If speech is not called for, be silent. Silence is often less threatening to the person than trying to decipher what a sitter is saying.

The third job of the sitter is to help the person to later recall the details of their experience. There are several ways. Use a notebook and record the person’s actions. Later you can ask about these. This may help jog the person’s memory about what was experienced. Another technique, if the person is not too far gone to talk during the experience, is to ask repeatedly “what are you experiencing now?” A notebook, or a tape recorder, can be used to record responses. Since some people will prefer that you remain silent and don’t record, clear it with them in advance.

## **12 Interactions between Salvia and other drugs**

One should be particularly cautious about combining salvia with other drugs. As is the case with most drugs, some combinations may interact in unexpected and possibly negative ways.

Many people who are taking regular medications do use salvia with no adverse effects. Although salvia appears to be relatively safe when combined with many medications, there probably are some drugs that it should not be combined with. It is important to remember that each individual is unique. The fact that some people do not experience problems with a particular combination does not guarantee that that combination is safe for everyone.

If you must combine salvia with another drug, you should always do so cautiously. Start with an extremely conservative dose so as to reduce the risk, should a negative reaction occur. If no negative reaction occurs, you can try increasing the dosage slightly on subsequent attempts. Provided that no adverse effects are experienced, you can increase the dose until you obtain the desired level of effects. One should always have an alert, responsible sitter present when experimenting with new combinations. It is important to have someone on hand who can help you, should the need arise. We are aware of one individual who reported that his breathing became somewhat constricted and labored for several minutes when he smoked salvia following a high dose of GABA. While it is not certain that this reaction was due to an interaction of the two drugs, it would be prudent to avoid this combination.

## 13 The neurological mechanism of action for salvinorin-A

Salvinorin A has been identified as a potent, highly selective kappa-opioid receptor agonist. Experimental evidence indicates that the psychoactive effects of salvinorin A result from its activity at these receptors.

## 14 Guidelines for using Salvia intelligently and safely

*Salvia divinorum* is a remarkably safe herb, provided that it is used in a safe manner. It can produce fascinating experiences that are deeply enriching, provided that it is used intelligently. Please pay careful attention to the following basic safety guidelines:

- NEVER USE SALVIA IF GUNS, KNIVES, OR OTHER DANGEROUS OBJECTS ARE WITHIN EASY REACH.
- NEVER DRIVE WHEN TAKING SALVIA.
- Choose the time and place of your salvia experience carefully. Privacy and safety are essential. Be very careful about heights, and open flames such as candles. Do not take Salvia when you may be interrupted by phone calls, visits, pets, children, etc. Turn off your telephone and set your answering machine to silently record incoming calls. You can return the calls in a couple of hours once you are sober.
- Give careful thought to how much you will take, and how you take it.
- After all smoking material is safely out, lie down in bed, on a couch, or on a carpet. You are much safer lying down than you would be stumbling around. Stay put for the rest of the experience. The visionary effects are best perceived with eyes closed.
- Have a sitter (this is especially important if you are new to Salvia, taking a high dose, smoking a strong extract, or using a very strong delivery system (such as vaporization)).
- Volunteer to be a sitter for others.
- If you have mental health problems, don't take Salvia without first discussing it with your therapist, or doctor.
- Practice and encourage responsible use. don't give Salvia to minors, or to violent or unstable people. Don't share it with strangers. Know who you are giving it to and know why they want to use it.

- Never take Salvia while at work or in public. Keep it private. It's not for concerts. It is not for raves. It's not for large noisy parties. Better to use it in a quiet safe private place in the company of a close friend.
- Mixing Salvia with other drugs or large amounts of alcohol may cause out-of-control behavior, or terrifying experiences. While experienced Salvia users have experimented with combinations, these are not for Salvia beginners, and are certainly riskier than just using Salvia by itself. While there are no known toxic drug-drug interactions between Salvia and anything else, this has not been studied scientifically (see above for a discussion of a possible toxic drug-drug interaction of salvia with GABA).
- Be extra careful of flames (candles, lighters, fire, etc.) when using Salvia.
- Be very careful about using vaporized extracts, vaporized leaves, or smoking high-potency extract-enhanced leaves. These require a sitter to be present. Chewing quid or smoking leaves is much less likely to produce out-of-control behavior than these are.
- Never use pure salvinorin A unless the dose you are taking has been weighed with an ultra-accurate balance that can weigh out doses in micrograms, and you know exactly how much you can safely take. Even if you do meet these requirements, you still should have a sitter present.

## 15 The plant and its care

If you will be growing your own Salvia, you should read this. If you will not be growing your own, you may wish to skip this section.

*Salvia divinorum* is a semi-tropical perennial. That means that it can grow year after year, but only if it is not exposed to freezing temperatures. It is a green plant with large leaves and a distinctive thick, hollow, square green stem. It can grow several meters (yards) high if conditions are favorable. When it grows high enough, the branches will bend, or break, and may root if they come in contact with moist earth. Although *Salvia divinorum* can flower under natural lighting conditions, it almost never sets seed that will sprout. So the plant is almost always propagated by cuttings. The leaves are oval, weakly notched (serrated) and can be quite large (up to 9 inches in length). They are usually emerald green, but under some conditions, may be yellow-green or even yellow. They are covered with a fine coating of extremely short hairs (trichomes), giving the leaves a satin like velvety appearance in certain lights. The plants grow best in partial shade, in well-watered, but well-drained, soil. The roots must not be kept constantly soaked, or root-rot will set in and kill the plant. *Salvia divinorum* can be grown indoors in any climate. It makes a beautiful house plant.

You can grow *Salvia divinorum* outdoors all year round if you live in a humid semi-tropical climate, with well-watered, but well-drained soil, with a high humus content. If you live in a colder or drier climate, you can still grow

Salvia outdoors, weather permitting. But you may have to do it with some care, making sure it is protected from frost, watered frequently, and misted when humidity is low. Salvia will not live through freezing or drought. It can be grown outdoors in pots which can be brought indoors when it is cold (below 40 degrees Fahrenheit). That way it can be grown outdoors in summer and indoors in winter.

Salvia will tell you when it is getting too dry: its leaves will droop. Be sure to water it at the first sign of mild drooping—do not let the plant become limp. The soil should drain well but should be kept moist. If planting Salvia in pots, make sure the pot is large enough to allow the plant to grow well. Although your available space will limit possible pot size, use the biggest pot that is practical. It must have drainage holes. Placing gravel (or broken up pieces of crockery) in the bottom of the pot will help promote drainage and thus discourage root-rot. Most commercial potting soil will work well. Adding Vermiculite® or Perlite® to the potting soil is helpful but not essential.

Salvia will need fertilizer. Any good general-purpose fertilizer will work. Fish emulsion is a good organic fertilizer choice, but because it has a very unpleasant odor, it is suitable only for outdoor use. Satisfactory results can be achieved with chemical fertilizer products. Some of them are:

Scott's® All-Purpose Plant Food (18-13-13) lightly sprinkled on the soil about once every six weeks. Miracle-Grow® (15-30-15) or MirAcid® (30-10-10) added to the water once a week (1/4 tsp. per gallon). Peter's® Professional Soluble Plant Food (15-30-15) 1/4 tsp. to gallon of water once per week.

If growing indoors, take the plants outdoors when it is warm enough, and let rain fall on them. This will prevent mineral salts from building up in the soil and killing your plant.

*Salvia divinorum* can do well in a variety of different lighting conditions. It does best with a few hours of partial sunlight a day. It can do well when grown indoors near a window. It can handle more sun if kept well watered and misted frequently. It can also handle moderately deep shade. When changing the lighting conditions or the humidity conditions your plants are exposed to, do so gradually. Given enough time, Salvia is very adaptable, but it may take weeks to get used to a new environment.

Many pests can attack Salvia. Whitefly is a big problem for greenhouse grown plants. Aphids, slugs, caterpillars, thrips, spider mites, and scale insects can also damage your plants. Root-rot and stem-rot can be problems. Fungal spots can appear on leaves. It is not known which plant viruses attack *Salvia divinorum*, but probably some do, as many attack other sages. Aphids and scale insects can be removed with a cotton swab dipped in isopropyl (rubbing) alcohol.

Slug damage can be reduced by growing Salvia in pots on a raised deck or palette. Some may still get by and attack your plants. Keep an eye out for these slimy pests. One slug can eat an awful lot of Salvia! Beer can be used to attract and drown slugs. Set a saucer of beer in a slight depression in the ground; the surface of the saucer should be flush with the soil, so slugs can get in, get drunk, and drown.



Spider mites can be controlled by dissolving Castile soap in water and spraying the leaves, including the underside. Repeat at two-week intervals for three applications. Caution: there have been some reports of soap damaging leaves, so don't use too much. Your garden hose is your best friend in fighting most outdoor pests. Spray the leaves hard enough to blow the pests away, but not hard enough to damage the leaves. don't forget to spray the underside of the leaves too. A fine mist nozzle works best for this.

*Salvia divinorum* is usually propagated by cuttings, not by seed. Cuttings may be rooted either in water or directly in soil. Here's how:

### 15.1 Rooting in water

Cut off a branch (4-8 inches long) bearing some leaves. Cut off the leaves that are attached to the lowest node on your cutting then immediately place it in about one and a half inches of water in a small water glass. Only one cutting is to be put in each glass, so if rot develops in one cutting it cannot spread to another.

It is best if the cutting is cut back to just below a node, since nodes are the places from which new roots are most likely to develop. While it is not necessary to make the cut here, doing so has the advantage that there will be no stem material dangling in the water below the node. This is important as the cut stem end is more likely to start to rot than is a node. Make sure the cutting is made with clean shears, or a knife, so the cut stem does not get attacked by germs and fungi that could cause stem rot. Place it where it will get some filtered sunlight. Change the water daily. It may be a good idea to use cooled boiled water. If your water is chlorinated, boiling will drive off chlorine. Non-chlorinated water may be contaminated with plant disease germs, but boiling should kill these. Rooting in water is successful about 75% of the time (the rest of the time stem rot occurs and kills the cutting).

In two weeks roots will start to develop. When they are about 1/2-1 inch long, transplant to potting soil in a well-drained pot. Cover with a clear glass jar or clear plastic bag to serve as a humidity tent until the plant establishes its roots in the soil and appears vigorous (usually 1-2 weeks). Then gradually wean the plant from dependence on the humidity tent. Some growers report that *Salvia* branches that break off spontaneously in summer are more likely to root successfully than those deliberately cut. Rooting in water outdoors may decrease the chance of stem rot occurring. apparently the UV light in unfiltered sunlight acts to kill germs or fungi in the water.

### 15.2 Rooting in soil

*Salvia* can be rooted directly in soil. Materials needed:

- Potting soil.
- Two disposable plastic cups.

- Some Rootone® powder (this is a rooting hormone mixture that also contains a fungicide) it is available at most nurseries in the United States.
- A 1-gallon thin, transparent, polyethylene food storage bag.
- A rubber band.
- Water.

**Method:**

Punch some small holes in one of the cups for drainage. Fill the cup 2/3 the way up with potting soil. Using a pencil or a finger make a hole in the soil about 2 inches deep. The soil is now ready for your cutting. You must now prepare the cutting. With clean shears, cut off a length of stem from a healthy plant. Leave a few leaves (small ones) on top. Harvest the larger leaves from the cut-off stem. Immediately after cutting the stem, place it in clean water. Cut it back to just below a node, as roots will develop from the node. Keep the cut surface wet. Place the cut surface, and the stem for about 1 inch above the cut, into the rooting powder. Shake off the excess. Rooting powder is somewhat toxic, so wash your hands after handling it. Place the powder coated cutting in the hole in the soil. Gently push the soil around the cutting, holding it in place while filling in the hole. Water the planted cutting until some water runs out the drainage holes. Place the cup with the plant in it into the second plastic cup (which is there to catch any runoff water). You may want to put a small piece of wood or plastic in the bottom of the outer cup to act as a spacer. This allows enough space for excess water to drain. Place a 1-gallon clear plastic bag over the rooted cutting, using a rubber band to hold it in place. The rubber band should be outside the bag and the bag outside both cups. The Rubber band holds the bag against the cups. As the plastic bag acts to conserve moisture, frequent watering is not required. After several weeks you can transplant the now rooted plant to a larger pot.

## 16 Processing plant material

Dried *Salvia divinorum* leaves should be stored in sealed containers away from light. Stored this way, the leaves will retain their potency for many, many years, perhaps indefinitely (nobody knows just how long). If you are growing your own, you will probably want to dry leaves for future use. There are several ways to do this.

- **Method 1.) Nature's Bounty**

Wait until the leaves die or are shed. Gather them. Place them on a plate in a room with low humidity. Turn often. Wait until they are dry, then store. It is not known if naturally shed leaves are stronger or weaker than picked leaves.

*Advantage:* you won't be depriving your plants of leaves it needs.

*Disadvantage:* you will have to wait until the plant is ready to make a donation to your cause. Leaves may not be in prime condition.

- **Method 2.) Salvia “Tobacco”**

Take big, freshly picked leaves and place one atop another (like stacking sheets of paper). Then cut through the pile, making 1/2 cm. (1/4 inch) strips. Pile these on a plate into a heap. Turn them twice daily until they are dry but not crispy.

*Advantage:* The resulting “tobacco” is said to give a smoother smoke than thoroughly dried leaves.

*Disadvantage:* It is possible that this slow partial drying results in weaker leaves that may not keep as long as thoroughly dried (crispy) leaves.

- **Method 3.) Food Dehydrator**

Dry in a food dehydrator. These are available where small kitchen appliances are sold. Drying is very fast and thorough. Dry until the leaves, including the leaf stems, are crispy. Touch the leaves with your fingers to see if they are thoroughly dried. If they are, the leaf stems should snap if pressure is applied to it.

*Advantages:* speed, thorough drying, and convenience.

*Disadvantage:* Cost of buying a dehydrator.

- **Method 4.) Conventional Oven Dried Salvia**

Place on an oven-proof dish. Oven dry in an oven set at no more than 175 degrees F.

*Advantage:* speed, thorough drying, and convenience.

*Disadvantages:* Somewhat less convenient than using a food dehydrator. It may be hard to keep oven temperature at an optimal range.

- **Method 5.) Microwave Oven Dried Salvia**

Lay the leaves in a single layer between two paper towels and microwave them on high for 10 seconds at a time, checking after each period, until they are dry enough to store.

- **Method 6.) Calcium Chloride (CaCl<sub>2</sub>) Drying**

Calcium chloride is available from chemical supply houses, or as “Damp-Rid” refills, from most hardware stores. Place a sufficient amount of calcium chloride in the bottom of a polyethylene container. Place a piece of aluminum foil over but not touching the CaCl<sub>2</sub>, and place the leaves to be dried on top of foil. Curling up the edges of the foil, should prevent the leaves from touching the CaCl<sub>2</sub>. Then seal the container. The leaves should be dry in about two days.

*Advantage:* very thorough drying.

*Disadvantages:* less convenient than other methods. Slow.

However you dry the leaves, store them in a sealed jar away from light. A clean glass canning jar works very well (Mason jar). Storing the jar inside a kitchen cabinet or medicine chest will keep it away from light. Stored this way, leaves will retain their potency for many, many years.

## **17 In closing**

Having read this far, you now know enough to start on Salvia's green path. Whether you choose to is up to you. If you do, may you always find it a path with a heart. May this most remarkable teacher-plant guide you toward greater self-knowledge, harmony, wonder and joy. As you get to know this miraculous plant, please keep in mind that Salvia's fate is in your hands. For Salvia to remain legal, you and others must use it safely, responsibly, and privately.