Audible Book Charts and Resources

Psilocybin (Chart 1)

How It Works

- Classic psychedelic tryptamine.
- Non-specific partial agonist at 5HT receptors, effects likely mediated by 5HT2A/1A/2C receptors although binds several other serotonin receptors 5HT/2B/1D/1E/7/6.
- Weak SERT, alpha 2A/2B/2C, and imidazoline 1 binding.
- Functionally selective partial agonism at 5HT2A receptors most implicated in psychedelic mechanism of action.

Metabolism of Psilocin and Psilocybin

- Rapidly dephosphorylated by alkaline phosphatase or non-specific esterase to psilocin.
- Psilocin is primarily glucuronidated by UGT1A10.
- Psilocin is partially metabolized by monoamine oxidase (MAO).
- Duration of psilocybin/psilocin is about three to six hours.

Typical Dosing of Psilocybin

Used as either pure psilocybin or dried mushrooms (~1% w/w, variable species*).

- **Micro:** 0.5-3 mg Psilocybin or 50-300mg of Dried Psilocybin Mushrooms.
- **Light:** 10mg Psilocybin or 1 gm of Dried Psilocybin Mushrooms.
- **Moderate:** 20-30 mg psilocybin or 2-3 gms Dried Psilocybin Mushrooms.
- **High:** 30+mg or >3 gms Dried Mushrooms).

*some strains of mushrooms may be considerably stronger than others; dosing of dried mushrooms are approximated.

Common Journey Experiences with Psilocybin

- Empathogenic heart opening.
- Enhanced visualization of colors & sounds. Geometry is common.

Potential Therapeutic Uses of Psilocybin

- Treatment-resistant unipolar depression.
- Depression and Anxiety associated with life-threatening illness.
- Demoralization in long-term AIDS survivors.
- Obsessive-Compulsive Disorder.
- Alcohol or Tobacco Use Disorder.

Potential Adverse Effects of Psilocybin

Physical	Psych/Neuro
Nausea	Transient anxiety
Increased blood pressure & heart rate	Emotional discomfort
Discomfort	Paranoia or confusion
	Post-use headache

Drug Interactions & Contraindications of Psilocybin

Drug Interactions

- Lithium → Increased risk of seizures or dysphoric experience quality, contraindicated.
- Chronic SSRI/SNRI or MAOI use → Possible diminished effects.
- Buspirone → Possible diminished effects.
- Acute MAOI use → Intensified psychedelic effects.
- Benzodiazepines → Possible diminished effects.
- Atypical antipsychotics → Reduced psychedelic effects.
- Triptan migraine agents → Vasoconstriction and increased cardiovascular risks.

Contraindicated

- Bipolar I or severe bipolar conditions.
- Schizophrenia, psychosis, or psychotic conditions.

Legality

Psilocybin and psilocybin-containing products are regulated as illicit or Schedule I substances by the United States federal government. However, the legality of psilocybin is a rapidly evolving area and some states and local jurisdictions have passed legalization or decriminalization measures. Check the most recent laws and regulations in your specific jurisdiction to get the latest information on the legality of psilocybin.

- May 2019: Denver, Colorado, became the first city in the United States to decriminalize the possession and use of psilocybin for adults over the age of 21.
- November 2020: Oregon became the first state in the U.S. to legalize psilocybin *therapy* (regulated, licensed therapy sessions) through a ballot measure.
- The list of cities that have decriminalized the possession and use of psilocybin is growing and includes Oakland and Santa Cruz, California; Ann Arbor, Michigan; Washington DC; Somerville, Massachusetts; Detroit, Michigan; Seattle, Washington; etc.

MDMA(Chart 2)

How It Works

- Phenethylamine psychedelic, serotonergic amphetamine, 3,4-methylenedioxymethamphetamine.
- Release of monoamine neurotransmitters: Serotonin > Norepinephrine and Dopamine.
- Binds and stimulates serotonin 2A receptors.
- Neuropeptide release of oxytocin and vasopressin (ADH).

Metabolism of MDMA

- Complex hepatic metabolism via multiple CYP enzymesCYP2D6 (major), CYP2B6, CYP3A4, CYP2C19, CYP1A2.
- Converted to active (MDA) or potentially neurotoxic metabolites (HHMA, HMMA)
- Auto-inhibitor of CYP2D6.
- CYP2D6 poor metabolizers may have higher concentrations of MDMA.
- Duration of journey, about three to six hours, possibly longer if booster dose is used.

Typical Dosing

- Typical doses are moderate and begin with 75 to 125 mg by mouth, followed by booster dose equal to 50% of initial dose (37.5-62.5mg) 90 to 150 minutes later.
- Clinical studies show that the use of MDMA in three sessions spaced about one month apart has increased benefits.

Common Journey Experiences with MDMA

- Fear reduction and empathogenic heart opening.
- Deep unconditional love for your partner, those in circle and oftentimes love to the greater world around you.
- Major increase in tactile sensation or sensitivity to touch.
- Improved communication to your partner (opening of throat chakra).

Potential Therapeutic Uses of MDMA

- Treatment refractory Post-Traumatic Stress Disorder (PTSD).
- Alcohol Use Disorder.
- Social Anxiety in autistic adults.
- Depression and Anxiety associated with life-threatening illness.
- Couples therapy.

Potential Adverse Effects of MDMA

Physical	Psych/Neuro
Nausea	Emotional discomfort
Lowered appetite	Anxiety
Fatigue	Low mood & irritability (post-journey)
Increased blood pressure & heart rate	Insomnia
Seizures**	Poor cognition*
Serotonin Toxicity**	Addiction**

*Commonly reported after use.

**Associated with high doses, overdoses, unsafe drug combinations, or recreational use.

Potential Drug Interactions & Contraindications with MDMA

- SSRI/SNRI → Muted effects & reduced efficacy.
- MAOIs → Contraindicated, Serotonin Toxicity.
- Lithium → Contraindicated, increased risk of seizures.
- Benzodiazepines → Possible reduced efficacy.
- Stimulants → Increased risk of stimulant toxicity.
- Ritonavir/cobacistat → Serotonin Toxicity.
- CYP2D6 Inhibitors → Increases blood concentrations of MDMA.
- Other CYP (CYP1A2, CYP2C19, CYP2B6, or CYP3A4) Inhibitors → May increase blood concentrations of MDMA.

Legality of MDMA

MDMA is regulated as illicit or Schedule I substances by the United States federal government, although has been given a “breakthrough designation” by the Food and Drug Administration (FDA) due to its potential as a treatment of PTSD. The FDA has also granted an expanded access program to allow persons to receive the investigational drug ahead of approval. https://maps.org/mdma/ptsd/expanded-access/

Australia made headlines in 2023 as it became the first country to allow prescription access to MDMA. It is expected MDMA assisted therapy will be FDA approved in 2024. https://www.nature.com/articles/d41586-023-02093-8

Mescaline (Chart 3)

(The psychoactive component in Peyote & San Pedro)

How It Works

- Classic phenethylamine psychedelic, 3,4,5-trimethoxyphenethylamine.
- Release of monoamine neurotransmitters: Serotonin > Norepinephrine and Dopamine.
- Binds and stimulates serotonin 2A receptors.

Metabolism of Mescaline

- Unclear metabolic enzymes, likely undergoes hepatic metabolism due to O-demethylation (CYP2D6?) and amine oxidation (MAO?) are two predominant metabolic schemes, although mescaline can also be eliminated unchanged.

Typical Dosing of Mescaline

Dosing of Mescaline

- Threshold: 100 mg
- Light: 100 to 200 mg
- Moderate: 200 to 300 mg
- Strong: 300 to 700 mg
- Different salt forms of mescaline have different molecular weights, making dosing strengths somewhat dependent on salt form used (HCl vs. Sulfate).
- Relative to other psychedelics, mescaline has low potency.

Dosing of Mescaline Containing Plants

- Mescaline is commonly dosed in dried Peyote (lophophora williamsii) buttons or in a prepared beverage or dehydrated power from San Pedro (trichocereus or echinopsis pachanoii, as well as related cactus species). Note that Peyote is an endangered species and official sacrament of the Native American Church.

Common Journey Experiences with Mescaline

- Fear reduction and empathogenic heart opening.
- Less intensive effects than MDMA or psilocybin over a much longer duration of time
- “Peakless” psychedelic with onset of effects in ~one hour, peak effects from ~three to eight hours, and comedown phase from ~eight to14 hours.
- Single episodes of emesis during hours one to three is relatively common.

Potential Therapeutic Uses of Mescaline

- Anthropologic records suggest that ritual Peyote use can help Native Americans suffering from alcohol use disorder, however, there have been no modern-day clinical research trials using mescaline for any therapeutic indication. This may be due to the prolonged duration of action, limiting suitability for psychedelic-assisted psychotherapy applications.

Potential Adverse Effects of Mescaline

Physical	Psych/Neuro
Nausea; One-time emesis possible	Emotional discomfort
Lowered appetite	Anxiety
Increased blood pressure & heart rate	Insomnia

Potential Drug Interactions & Contraindications Mescaline

There has been very little biomedical research performed regarding drug interactions and mescaline. The following are predicted from known drug interaction potential with MDMA and/or psilocybin. It may be reasonable to extrapolate from these molecules due to their metabolic, structural, and pharmacologic overlap.

- SSRI/SNRI → Muted effects & reduced efficacy.
- MAOIs → Contraindicated, Serotonin Toxicity.
- Lithium → Contraindicated, Increased risk of seizures.
- Benzodiazepines → Possible reduced efficacy.
- Stimulants → Increased risk of stimulant toxicity.
- CYP2D6 Inhibitors? → Increases blood concentrations of mescaline.

Legality of Mescaline

Check the specific laws and regulations in your state and local area to determine the current legal status of San Pedro (Mescaline).

- It is illegal to possess, distribute, or use mescaline under federal law.
- Some states have specific laws regulating the possession, sale, or use of mescaline-containing cacti.
- Some states have made it legal to possess San Pedro cactus for ornamental or horticultural purposes.
- Local ordinances can also impact the legality of San Pedro cactus.

LSD (Chart 4)

How It Works

- Classic psychedelic ergoline contains rigidified phenethylamine and tryptamine backbones within chemical ring structure.
- Primary targets are 5HT1A/2A/2C receptors.
- Also interacts with dopamine (D1 and D2), adrenergic (α1A/2A), and 5HT2B receptors.

Metabolism of LSD

- Extensively metabolized by liver enzymes – 1% excreted unchanged.
- Several enzymes involved, CYP450, glucuronidases, peroxidases – not fully described.
- Primarily inactive metabolites although nor-LSD and hydroxyl-LSD have activity.
- 2-Oxo-3-hydroxy-LSD (O-H-LSD) major human metabolite of LSD.

Typical Dosing*

- Microdosing 5-25 µg
- Low 25-50 µg
- Moderate 50-200 µg
- High ≥ 300 µg
- Standard dose is 100-150 µg orally or sublingually

*LSD is dosed in micrograms (ug) and 1000 ug is equal to a single milligram. This means that LSD is incredibly potent and cannot be accurately measured with normal jewelry scales (accurate to ~one mg). Serial dilution is necessary for accurate dosing. For these reasons LSD is often found in a liquid or on blotter paper.

Common Journey Experiences with LSD

- Empathogenic heart opening.
- Enhanced visualization of colors & sounds.
- Onset of effects ~30 to 60 minutes, peak effects ~two to four hours, total experience duration ~eight to 10 hours.

Potential Therapeutic Uses of LSD

LSD has not been employed in as many modern-day trials for treatment of illness relative to MDMA or psilocybin. This is perhaps due to its longer duration of action or lingering negative reputation from the 1960s. However, LSD is popular as a neurobiological probe into the mechanisms of psychedelics and is being developed for clinical use.

- Depression and Anxiety that is life-threatening.
- Alcohol Use Disorder.
- Cluster headaches.

Potential Adverse Effects of LSD

Physical	Psych/Neuro
Nausea	Transient anxiety
Increased blood pressure & heart rate	Emotional discomfort
Discomfort	Paranoia or confusion

Potential Drug Interactions & Contraindications of LSD

Drug Interactions

- Lithium → Increased risk of seizures or dysphoric experience quality, contraindicated.
- Chronic SSRI/SNRI or MAOI use → Possible diminished effects.
- Buspirone → Possible diminished effects.
- Acute MAOI use → Intensified psychedelic effects.
- Tricyclic Antidepressants → Intensified effects.
- Benzodiazepines → Possible diminished effects.
- Atypical antipsychotics → Reduced psychedelic effects.
- Triptan or ergoline migraine agents → Vasoconstriction and increased cardiovascular risks.

Contraindicated use of LSD

- Bipolar I or severe bipolar conditions.
- Schizophrenia, psychosis, or psychotic conditions.

Legality

- LSD is regulated as illicit or Schedule I Substances by the United States federal government. However, the legal status of LSD can vary at the state level.
- LSD is illegal to manufacture, possess, distribute, or use under federal law.
- Some clinical trials and studies are ongoing to assess the safety and efficacy of LSD-assisted psychotherapy for conditions such as depression, anxiety, distress associated with life-threatening illness, alcohol use disorder, and cluster headaches.

References: 16, 17, 18, 19 & 20.

Cannabis and THC (Chart 5)

How It Works

- THC is a partial agonist of cannabinoid 1 and 2 (CB1 and CB2) receptors, although activity at CB1 receptors is more important to psychoactive effects.

Metabolism of THC

- CYP2C9 and CYP3A4 are the primary enzymes involved in metabolizing THC, although CYP2C19 may also play a role.

Typical Dosing of THC*

- Low 2.5-5 mg
- Moderate 5-20 mg
- High ≥ 20 mg
- The standard oral dose is 5 to 10 mg of THC

*Persons who use Cannabis regularly often have tolerance to its effects and some persons may be able to tolerate doses much higher than others.

Common Journey Experiences of THC

- Increased tactile sensation, a feeling of time passing differently.
- Enhanced visualization of colors & sounds.
- Onset of effects for oral THC ~30 to 60 min, peak effects ~two to four hours, total experience duration ~eight hours.
- Onset of effects for inhaled THC <15 seconds, peak effects five to 15 min, total experience duration one to two hours.

Potential Therapeutic Uses of THC

Cannabinoids and THC have varying degrees of evidence and are popularly used for a number of indications. Some of the better researched uses are:

- Appetite regulation and prevention of cachectic wasting.
- Reduction of nausea or emesis association with chemotherapy.
- Reduction of muscle spasticity in neurodegenerative illness (e.g. Multiple Sclerosis),
- Chronic pain.

Potential Adverse Effects of THC

Physical	Psych/Neuro
Increased blood pressure & heart rate	Transient anxiety
Conjunctivitis (red eyes)	Emotional discomfort
Xerostomia (dry mouth)	Paranoia or confusion
Increased appetite	

Potential Drug Interactions & Contraindications of THC

Cannabis and cannabinoids likely carry clinically significant drug interaction potential under certain circumstances and not others, For example, dose, route of administration, and frequency of use are all likely major factors in whether there's a drug interaction that is "significant" or not.

Drug Interactions

- THC concentrations can be increased by strong CYP3A4 inhibitors (verapamil, clarithromycin) and decreased by strong CYP3A4 inductors (rifampicin, carbamazepine).

- THC and CBD inhibit CYP2C9 and CYP3A4 although they may not produce clinically relevant drug interactions with doses of THC < 30 mg/day or CBD doses < 300 mg/day.
- Smoking Cannabis can induce CYP1A2 metabolism which could diminish concentrations of drugs such as theophylline, clozapine, or olanzapine.
- Other additive effects (cardiovascular, psychoactive) are possible with use of other drugs that raise cardiovascular parameters or have pronounced psychoactivity.

THC Contraindicatications

- Bipolar I or severe bipolar conditions.
- Schizophrenia, psychosis, or psychotic conditions.
- Cannabinoid hyperemesis syndrome.

Legality

While THC and Cannabis remain illegal at the federal level and the DOJ/DEA did interfere with state programs at one time, the Rohrabacher–Farr Amendment was passed by Congress in 2014 to bar the DOJ from spending funds on prosecutions and asset forfeiture actions against medical marijuana patients and providers, including businesses that operate legally under state law.

- Medical Marijuana: Some states have legalized medical marijuana, which allows patients with qualifying medical conditions to use products that contain THC for therapeutic purposes.
- Recreational Marijuana: Some states have legalized recreational marijuana, which allows anyone over the age of 21 to purchase marijuana with no medical indication.
- Several states have decriminalized the possession of small amounts of marijuana, reducing the penalties associated with personal use.

Ketamine (Chart 6)

How It Works

- Arylcyclohexylamine dissociative anesthetic.
- Non-competitive glutamate antagonist at NMDA receptors.
- Available as racemic formulation of R-Ketamine and S-Ketamine or intranasal formulation of S-Ketamine.
- Racemic and S-Ketamine formulations may differ in therapeutic or adverse effects.

Duration of Journey with Ketamine

- Hepatically metabolized by CYP3A4/5, CYP2B6, and CYP2C9.
- First-pass metabolism and kinetics may depend on the route of administration.
- Journey/session duration of 2 to 4 hours. Varies with mode administered. For example, with IM (intramuscular injection) most of the deep journey is finished within an hour, and then you are in a blissful relaxed state as the Ketamine is cleared over the next few hours.

Typical Dosing of Ketamine

Variable, depending on use purpose and route of administration. Usually used 2-3x/week for two to four weeks during induction of treatment for Treatment-Resistant Depression (TRD).

- 0.5 mg/kg IV infusion over 40 minutes.
- 56 or 84 mg intranasal (IN) esKetamine
- 0.25-1 mg/kg IM or SC injection
- 50-200mg oral Lozenge

Common Journey Experiences with Ketamine

- Provides an opportunity to let go of stress, negativity, traumas, and the weight of the world around us.
- Going to a place of blissful love.
- Geometrical imagery, images of nature, matrix-like imagery, filmstrip-like imagery, and portals are possible at higher doses.
- At higher doses, flowing into oneness, dissolving your ego.
- Improved mood and reduced anxiety.
- Caution—Please do not take this or any other sedating psychedelic or medication in a bathtub, pool, or hottub. We saw what happened to the “Friends” actor when he did.

Potential Therapeutic Uses of Ketamine

- Treatment Resistant Depression (TRD) in persons with unipolar or bipolar depression.
- Depressive symptoms in persons with suicidal ideation.
- Off-label or experimentally used for PTSD, anxiety disorders, pain conditions, and substance use disorder (cocaine).

Potential Adverse Effects of Ketamine

Physical	Psych/Neuro
Nausea	Dizziness, vertigo
Increased blood pressure and heart rate	Ataxia or motor incoordination
Lower Urinary Tract Symptoms*	Dysgeusia (weird tastes)
	Cognitive changes and dissociation
	Sedation/headache
	Habit-forming/addiction*

* Not common in therapeutic settings, frequent use of higher doses or Ketamine use disorder are most associated with development of LUTS, although it is possible and has been reported even with therapeutic dosing regimens.

Potential Drug Interactions & Contraindications of Ketamine

- Benzodiazepines, Lamotrigine, Clozapine → Diminishes effect of Ketamine.
- Opioids, Benzodiazepines, Alcohol, or GHB → Increased sedation effects, increased ataxia, dizziness, nausea, or emesis.
- CYP3A4/5, CYP2B6, and CYP2C9 Inhibitors → Increased blood concentrations.
- CYP3A4/5, CYP2B6, and CYP2C9 Inducers → Decreased blood concentrations.

Legality of Ketamine

- Legal in the United States and most countries under physician supervision/prescribing as a Schedule III medication.
- Illegal in the US and most countries for recreational production and use.

Ayahuasca (Chart 7)

How It Works

- Ayahuasca contains the classic tryptamine psychedelic N,N-dimethyltryptamine (DMT) in combination with beta carboline or harmala alkaloid monoamine oxidase inhibitors (MAOIs).
- Use of harmala MAOIs that block MAO within the GI tract and liver are necessary for the oral use or bioavailability of DMT and subsequent production of psychedelic effects.

DMT

- DMT is a non-specific agonist at serotonin receptors: 5-HT1A/1B/1D, 5-HT2A/2B/2C, 5-HT5A, 5-HT6 and 5-HT7.
- DMT also interacts with glutamate receptors, Trace Amine Associated Receptor (TAAR) & σ-1 receptors as well as gene transcription factors.

Metabolism of Ayahuasca

Metabolism of DMT

- DMT is primarily metabolized by MAO-A, although may be metabolized via other metabolic routes, including aldehyde dehydrogenase, kynureninase, and other enzymes capable of N-oxidation.
- In combination with harmala MAOIs, the bioavailability, intensity of subjective effect, and duration of DMT's effects increase.

Metabolism of Harmala Alkaloids

- Harmine and harmaline can undergo metabolism by CYP2D6 and their systemic concentrations are sensitive to genetic variation of CYP2D6 phenotypes.
- Harmala alkaloids may be able to block CYP2D6, CYP3A4 as well as MAO-A.

Typical Dosing of Ayahuasca*

Standard dose serving of Ayahuasca for a 75kg (165lb) adult contains approximately:

- 0.5-1 mg/kg DMT = 37.5-75mg DMT
- 60-125 mg harmine
- 4-9 mg harmaline
- 50-100 mg tetrahydroharmine (THH)

*Strength and contents of Ayahuasca brews can vary considerably. Typical doses of liquid Ayahuasca range between five to 45 ml. (Average dose close to a shot glass typically, varies based on individual assessment)

Common Journey Experiences with Grandmother Ayahuasca

- Ayahuasca is notorious for heavy or purgative somatic effects such as nausea, vomiting, GI upset, or diarrhea.
- DMT often produces intense hallucinations and a sense of another being or entity being present.
- Onset of effects ~15 to 60 minutes, peak effects 45 to 120 minutes, total duration of effects three to six hours.

Potential Therapeutic Uses of Ayahuasca

The complex botanical nature, use of MAOIs, and heavy somatic “side effects” of Ayahuasca have limited interest in conducting clinical trials, however, small and positive studies exist for the treatment of refractory depression as well as substance use disorders. There are likely several therapeutic uses, purposes, or indications for this sacrament. It’s unlikely Ayahuasca is referred to as “the medicine” due to lack of therapeutic application.

- Treatment-resistant unipolar depression.
- Substance Use Disorders.

Potential Adverse Effects of Ayahuasca

Physical	Psych/Neuro
Nausea, vomiting	Transient anxiety
Increased blood pressure & heart rate	Emotional discomfort
Discomfort	Paranoia or confusion

Potential Drug Interactions & Contraindications for Ayahuasca

Drug Interactions

The mechanism of Ayahuasca itself is dependent upon the drug interaction of MAOI harmala alkaloids and DMT. The use of MAOIs in Ayahuasca carries special significance when considering drug interaction potential. The use of other drugs or medications that can boost monoamine (5HT, NE, DA) neurotransmission carry dangers of extreme adverse reactions such as serotonin toxicity, hypertensive crisis, seizures, or death. The following is a list of substances currently known to carry clinically significant drug interaction potential with MAOIs and be contraindicated with Ayahuasca. Times of avoidance prior to safe use of Ayahuasca vary by drug listed. There may be other medications or supplements of concern:

- Antidepressants (SSRI, SNRI, clomipramine, imipramine)
- Lithium
- Ziprasidone
- Amphetamine, methamphetamine
- Methylphenidate
- Cocaine
- St. John’s Wort
- Dextromethorphan (Robitussin)

- Pseudoephedrine (Sudafed)
- Chlorpheniramine
- Phentermine (Adipex)
- Ephedra (Ma Huang)
- Methadone
- Tramadol
- Meperidine
- Tapentadol
- Ergotamine
- Phenethylamines—MDMA, 2Cx, DOx, NBOMe
- Tryptamines— 5-MeO-DMT
- Cathinones—Mephedrone, methylone, MPDV
- Purgative Sacraments—Kambo, Systemic (PO/PR) tobacco cleanses

Drug interaction studies between DMT and many other substances are lacking at this time, although are likely similar to drug interactions with psilocybin/psilocin:

- Lithium → Increased risk of seizures or dysphoric experience quality, contraindicated.
- ChronicLong-term (4+ weeks) of SSRI/SNRI or MAOI use → Possible diminished effects.
- Buspirone → Possible diminished effects.
- Acute MAOI use (necessary for Ayahuasca) → Intensified psychedelic effects.
- Benzodiazepines → Possible diminished effects.
- Atypical antipsychotics → Reduced psychedelic effects.
- Triptan migraine agents → Vasoconstriction and increased cardiovascular risks.

<u>Contraindicated use of Ayahuasca</u>

- Bipolar I or severe bipolar conditions.
- Schizophrenia, psychosis, or psychotic conditions.
- Hereditary fructose intolerance (Ayahuasca is high in fructose).

Legality of Ayahuasca

Ayahuasca contains dimethyltryptamine (DMT), which is classified as a Schedule I controlled substance under federal law. This means that DMT is illegal to possess, distribute, or use for recreational purposes at the federal level. However, there are no legal restrictions on harmala alkaloids.

- Several religious groups, such as the Santo Daime and the União do Vegetal (UDV), have successfully argued that their sacramental use of Ayahuasca is protected under the RFRA, which grants exemptions for religious practices that involve controlled substances like DMT.
- The legal status of Ayahuasca for religious purposes is not uniform across the United States.
- The importation, distribution, and sale of Ayahuasca can still be subject to prosecution under federal drug laws.

N,N-dimethyltryptamine (DMT) (Chart 8)

How DMT Works

- DMT is a non-specific agonist at serotonin receptors: 5-HT1A/1B/1D, 5-HT2A/2B/2C, 5-HT5A, 5-HT6 and 5-HT7.
- DMT also interacts with glutamate receptors, Trace Amine Associated Receptor (TAAR) & σ-1 receptors as well as gene transcription factors.

Metabolism of DMT

- DMT is primarily metabolized by MAO-A, although may be metabolized via other metabolic routes, including aldehyde dehydrogenase, kynureninase, and other enzymes capable of N-oxidation.
- In combination with harmala MAOIs, the bioavailability, intensity of subjective effect, and duration of DMT's effects increase.

Typical Dosing DMT*

- Threshold: 1-3 mg
- Low: 4-10 mg
- Moderate: 10-30 mg
- High: >30 mg

*Based on use via inhalation route via an efficient device (e.g., Mighty vaporizer) it is possible to achieve a "breakthrough" dose of DMT with as little as 30 mg. However, less efficient devices or less sensitive persons may need 50 to 100 mg to achieve a "breakthrough" dose. This information is not to be construed as suggesting "breakthrough" doses are the goal or necessary for healing effects or greater communion with your partner.

Common Journey Experiences with DMT

- DMT often produces intense hallucinations and a sense of another being or entity being present.
- As inhaled DMT w/o MAOIs: Onset of effects <10 seconds; peak effects two to five minutes; total experience duration 10 to 20 minutes.

Potential Therapeutic Uses of DMT

- Treatment-resistant unipolar depression.

Potential Adverse Effects of DMT

Physical	Psych/Neuro
Nausea, vomiting	Transient anxiety
Increased blood pressure & heart rate	Emotional discomfort
Discomfort	Paranoia or confusion
	Tinnitus

Potential Drug Interactions & Contraindications of DMT

Drug Interactions

Drug interaction studies between DMT and many other substances are lacking at this time, although are likely similar to drug interactions with psilocybin/psilocin:

- Lithium → Increased risk of seizures or dysphoric experience quality, contraindicated.
- ChronicLong-term (four+ weeks) of SSRI/SNRI or MAOI use → Possible diminished effects.
- Buspirone → Possible diminished effects.
- Acute MAOI use (necessary for Ayahuasca) → Intensified psychedelic effects.
- Benzodiazepines → Possible diminished effects.
- Atypical antipsychotics → Reduced psychedelic effects.
- Triptan migraine agents → Vasoconstriction and increased cardiovascular risks.

Contraindicated use of DMT

- Bipolar I or severe bipolar conditions.
- Schizophrenia, psychosis, or psychotic conditions.

Legality of DMT

DMT (N,N-Dimethyltryptamine) is classified as a Schedule I controlled substance under federal law. This means that DMT is illegal to manufacture, possess, distribute, or use for recreational or non-medical purposes at the federal level.

- Some research institutions and scientists may be authorized to use DMT for research purposes, provided they have the necessary permits and approvals.

Resources

Recommended Reading

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Check out the Maps bookshop for more great reads-
https://maps.org/product-category/bookshop/

Psychedelic Podcasts to consider:

Psychedelic Podcast
Psychedelics Today Podcast
Luminous, A Series about Psychedelics by NPR
The Psychedelic Report with Dave Rabin
Huberman Lab

Psychedelic Research Centers

Multidisciplinary Association For Psychedelic Studies (MAPS) Research
https://maps.org/about-maps/mission/

Johns Hopkins Center for Psychedelic and Consciousness Research
https://hopkinspsychedelic.org/

John Hopkins Medicine Psychedelics Research and Psilocybin Therapy
https://www.hopkinsmedicine.org/psychiatry/research/psychedelics-research

Stanford Psychedelic Science Group https://med.stanford.edu/spsg.html?tab=proxy

Library of Research on All Psychedelic Medicines
https://psychedelicmedicineassociation.org/resources/

Imperial College London's Centre for Psychedelic Research
https://www.imperial.ac.uk/psychedelic-research-centre/

Usona Institute
https://www.usonainstitute.org/

Training and Education in Psychedelics

Multidisciplinary Association of Psychedelic Studies
Maps.org

Naropa Center for Psychedelic Studies
https://www.naropa.edu/academics/schools-centers/center-for-psychedelic-studies/

California Institute of Integral Studies (CIIS), Center for Psychedelic Therapies and Research
https://www.ciis.edu/research-centers-and-initiatives/center-for-psychedelic-therapies-and-research

Compass Pathway Training and Research:
https://compasspathways.com/our-work/therapist-training/

Prati Psychedelic Research and Training Institute Ketamine-Assisted Psychotherapy (KAP)
https://pratigroup.org/kap-training/

Psychedelics Today Courses: https://psychedelicstoday.com/online-courses/

Fluence Psychedelic Training https://www.fluencetraining.com/training/

Psychedelic Medicine Association Training:
https://psychedelicmedicineassociation.org/webinars/

Chacruna Institute Training: https://chacruna.net/trainings/

Center for Medicinal Mindfulness https://medicinalmindfulness.org/training/

Non-Profit Psychedelic Organizations

Maps https://maps.org/about-maps/mission/

Zendo Project (https://zendoproject.org/resources/

Fireside Project https://firesideproject.org/

The Nowak Society, https://www.thenowaksociety.org/

Psychedelic clubs in the United States : https://www.psychedeliclub.com/

Psychedelic Association Europe: https://www.psychedelicseurope.org/

Psychedelic Society UK: https://psychedelicsociety.org.uk/

A short list of musicians who resonate well with psychedelic sacred sexuality!

Yaima, Porangui, Alex Cruz, Rufus du Sol, Desert Dwellers, Liquid Bloom, East Forest, Krishna Das, Kumea Sound, El Buho, Nick Barbachano, Jaya Lakshmi, Carbon Based Life Forms, Jonathan Goldman, Paul Temple, Deva Premal, Donna De Lory, Mirabai Ceiba, Snatam Kaur, Ajeet Kaur, Bird Tribe, Ayla Nereo, Ali Maya, Danit. Be sure to explore playlists on Spotify using keywords Tantra, Sensual, Romantic, Ceremony, Psychedelic and artist names. Also use keywords Prati music, RTT KAT, John Hopkins Psilocybin, MAPS music for more playlists in Spotify.

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