



## MÜV™ Tinctures

150 mg THC

150 mg CBD

75 THC and 75 mg CBD (1:1)



POWERED BY  
**müv™**

## Dose

2 drop equals 2 mg or 20 mg/ 1 mL

### THC TOTAL PRODUCT DOSES:

1 bottle contains 150 mg THC and <15 mg CBD, with 150 x 1 mg doses per bottle

### CBD TOTAL PRODUCT DOSES:

1 bottle contains 150 mg CBD and <15 mg THC, with 150 x 1 mg doses per bottle

### THC/CBD TOTAL PRODUCT DOSES:

1 bottle contains 75 mg THC and 75 mg CBD with 150 x 1 mg doses per bottle

## Encapsulation for enhanced bioavailability

Because cannabinoids are fat-soluble their ability to get into the water-based bloodstream through the skin is minimal - this has been the main challenge for cannabis topicals seeking full-body effects. Evolve Encapsulated Technology is the solution to this problem.



This enhanced permeability enables fast-acting, highly effective sublingual delivery for products like MÜV Tinctures.

\*Patient Information

## Introduction

This pamphlet provides a summary of information about MÜV™ Tinctures\*. Please read this pamphlet thoroughly and keep it with your medicine. If you have any questions, please consult your physician.

MÜV Tinctures contain 150 mg active ingredient extracted and distilled from Cannabis spp. plants meticulously grown without the use of harmful pesticides.

**IMPORTANT: Your physician has recommended this medication for your use only. DO NOT LET ANYONE ELSE USE IT. KEEP THIS MEDICINE OUT OF THE REACH OF CHILDREN AND PETS.**

If a child puts contents on skin or in mouth, remove immediately and contact a poison control center. Do not drive a car or operate heavy machinery until you know how this medication affects you. While taking this medication, do not drink alcohol or take other drugs that have an effect on the central nervous system, such as antidepressants or sleep aids. Unless advised by your physician, do not use this drug if you are pregnant or nursing.

## Clinical Pharmacology

The endocannabinoid system is a series of receptors located throughout the body, which control important biological functions. Your body produces its own endocannabinoids, and cannabinoids like Δ9-tetrahydrocannabinol (THC) and cannabidiol (CBD) engage these receptors to produce various effects that can promote symptom relief. THC is an agonist of the CB1 receptor located throughout the central nervous system (CNS) and brain. For this reason, THC is known as the psychoactive cannabinoid, which can produce euphoria or the “high” commonly associated with cannabis use. CB1 receptors are located throughout the central nervous system (CNS) and brain; while CB2 receptors are associated with the immune and gastrointestinal systems and also found in the brain but not as densely as CB1 receptors. CBD works indirectly, as an antagonist, on the CB1 and CB2 receptors by interacting with other receptors to disrupt endocannabinoid function and binding.

Because of its unique mode of action, CBD is non-psychoactive and can even reduce the side effects of THC.

The Tincture can be dosed sublingually, under the tongue, but some of the medication will be swallowed and will be absorbed by the gastrointestinal tract (GIT). Oral ingestion of cannabinoids undergoes a first-pass effect through the liver, causing oxidation of THC to 11-hydroxy-THC, a constituent that is significantly more psychoactive than THC itself. The effects of oral delivery can be delayed up to 2 hours and can last 6-8 hours. The EnCap Encapsulation Technology used in this product is a patented encapsulation of cannabis-derived compounds using FDA-approved ingredients that quickens onset time and improves the overall bioavailability of cannabinoids. Common effects of THC include euphoria, relaxation, sedation, increased appetite, and nausea reduction while side effects can include decreased blood pressure, anxiety, or paranoia. Common effects of CBD include relaxation, sedation, and alertness, depending on dose amount and individual. Side effects of CBD are rare and mild but could include anxiety, depression, dizziness, or feeling faint. Lethal overdose has never been reported with THC, CBD or cannabis use.

Due to CB1 activity in the cerebral cortex, hypothalamus, and other regions of the brain and spinal cord, THC can regulate neurological pain reception. THC has been shown to be effective as conventional opiate treatments for pain reduction and analgesia (Noyes et al. 1975; Maurer et al. 1990; Hosking and Zajicek, 2008). Clinical evidence has also shown THC to be effective in pain management and muscle spasticity/spasms especially in multiple sclerosis (MS) and other chronic pain conditions (Darmani, 2001; De Petrocellis et al. 2000). Clinical data has also proven THC to be effective for appetite stimulation in patients with human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). Additionally, THC acts as an anti-emetic and stimulates appetite for cancer patients undergoing chemotherapy treatments.

Sleep is an important aspect of palliative care and quality of life; and anandamide, a naturally occurring human endocannabinoid, has been shown to illicit sleep responses and improve REM sleep (Murillo-Rodriguez et al. 1998). Anandamide activates CB1 receptors, and similarly, THC significantly decreases the time it takes to fall asleep, and once asleep THC led to fewer awakenings during the first half of the night (Cousens and DiMascio, 1973; Nicholson et al. 2004).

There are numerous targets for CBD, but the earliest studies have shown potent neuroprotective properties through antioxidant properties and improvement of certain

neurodegenerative disorders (US Patent; Liput et al. 2013). Potent anti-epileptic effects have been demonstrated clinically for particular forms of epilepsy with neuronal protection in the hippocampus (GWPH Trials). CBD has anti-anxiety and anti-depressant effects (de Mello Schier et al. 2014) through their interaction with hydroxytryptamine serotonin receptors (de Mello Schier et al. 2014); these indications have also been corroborated with social anxiety disorders (Bergamaschi et al. 2011) and THC-induced psychosis (Zuardi et al. 1982; Bhattacharyya et al. 2010). The anti-inflammatory effects of CBD coupled with the location of CB2 receptors in the GI system could provide relief for certain inflammatory bowel diseases (Esposito et al. 2012).

## Indications and Use

MÜV Tinctures are ideally used sublingually for a fast acting treatment option; some medication will be swallowed and undergo slower GIT absorption. Conditions for use include: cancer, glaucoma, HIV and AIDS, MS, hepatitis C, amyotrophic lateral sclerosis (ALS), Crohn's disease, Parkinson's disease, or any other debilitating medical condition that a physician believes would outweigh the potential risks for a patient. It can also be used as a palliative care treatment due to its improvements on general outlook including pain, spasticity, weight loss, anxiety, and sleep promotion.

## Dosage and Administration

When starting a new dosing regimen, it is crucially important that medication is administered in small doses (known as titrating) to determine an effective dose and to minimize side effects. Patients with little or no prior cannabis experience should be particularly careful; as little as one drop (1 mg) should be recommended for new patients.

Shake your MÜV Tinctures well before each use. Each 7.5 ml bottle comes with its own dropper valve only allowing 1 droplet at a time. Turn the bottle upside down over your mouth and allow the desired amount of drops to fall under your tongue and hold for 10-20 seconds prior to swallowing. The unique formulation of this product also means that it can be added and mixed into your favorite food or water-based beverage. This allows for greater product flexibility and minimizing dosing taste. Mix well if incorporated into food or beverages.

## Contraindications

Patients known to be allergic to cannabis should not use cannabis products.

Relative contraindications include: coronary heart diseases, hypotension, drug abuse, alcohol abuse, mania, depression, bipolar, schizophrenia, or a prior negative reaction to cannabis.

## Warnings and Precautions

**Be sure to notify your physician if you have any of the following:**

- Have or had history of heart disorders because of occasional low blood pressure, high blood pressure, rapid heart rate, palpitations, or fainting;
- Present or past issues with drug abuse;
- Present or past issues with alcohol abuse;
- Have or had mental health problems (depression, mania, bipolar, or schizophrenia);
- Present or past history of epilepsy, seizure disorders, and/or seizure-like activity;
- Have any allergies to drugs;
- Are pregnant or nursing, or intend to become pregnant.

If you become pregnant while taking any MÜV cannabis-infused product, stop using immediately and consult with your physician.

MÜV Tinctures should be used with caution, particularly with children and elderly patients, as there are few studies in these patient populations. A physician should monitor children under the age of 18 closely as THC can have adverse effects on brain development.

When consulting with your physician, please include all current medications (both prescription and non-prescription) as MÜV Tinctures can theoretically interact with other drug therapies. Avoid grapefruit or grapefruit juice and other CYP450 inhibitors as these can adversely affect THC treatments. Adverse reactions could also occur with alcohol and other drugs that affect the CNS (such as Valium, Librium, Xanax, Seconal, Nembutal, or Phenobarbital).

## Adverse Reactions

**Tell your physician if any symptoms persist or worsen with time:**

- Cardiovascular: palpitations, tachycardia, vasodilation, hypotension (low blood pressure);
- Digestive: dry mouth, abdominal pain, nausea, vomiting, diarrhea, constipation, anorexia, excessive appetite, hepatic enzyme elevation;
- Nervous System: euphoria, drowsiness, memory loss, confusion, anxiety, paranoia, depersonalization, hallucinations, poor balance, dizziness, somnolence, nightmares, depression, difficulty speaking;
- Musculoskeletal: myalgias;
- Skin: flushing, sweating, irritation;
- Ocular: conjunctivitis, impaired vision, irritation;
- Body: chills, headache, fatigue;
- Respiratory: cough, rhinitis, sinusitis.

## FAQ

### **HOW DOES IT MAKE THC WATER SOLUBLE?**

Essentially, the EnCaps™ process coats the cannabinoids—like THC and CBD—in a substance that is more soluble in water. The shell of the “cell” interacts with the water while the interior is shielded.

### **HOW DOES ENCAPSULATED TECHNOLOGY WORK?**

Cannabinoids are not water soluble and are not easily absorbed into the body. To get around this issue, cannabinoids are enveloped by other oils to form a microscopic “micelle,” or envelope that is soluble in water and able to be released into the bloodstream quickly and effectively.

### **HOW DOES THE BODY PROCESS SUBLINGUAL TINCTURE?**

The tincture can be dosed sublingually, under the tongue, but some of the medication will be swallowed and will be absorbed by the gastrointestinal tract. Oral ingestion of cannabinoids undergoes a first-pass effect through the liver, causing oxidation of THC to 11-hydroxy-THC—a constituent that is significantly more psychoactive than THC. The effects of oral delivery can be delayed up to two hours and can last six to eight hours.

***HOW LONG UNTIL I FEEL EFFECTS?***

The onset of Thrive tincture effects is typically 10-15 minutes.

***HOW LONG WILL THE EFFECTS LAST?***

The effects of the Thrive tincture last between four to eight hours.

***HOW SHOULD I DECIDE BETWEEN TYPES (CBD, 1:1, THC)?***

The formulation is dependent on the symptoms you are trying to treat.

***HOW MUCH DO I USE AT ONCE?***

Atlas Thrive is a firm believer in starting low and going slow, especially if it's your first time using cannabis.

For instance, start with a one drop (1 mg of cannabinoids) dose and wait an hour. If, after an hour, you haven't noticed a difference, try taking another drop. Depending on individual tolerance, you may take several drops at a time.

***HOW LONG WILL THE BOTTLE LAST?***

That depends on your personal dosing requirements. There are 150 drops in each bottle.

***WHAT IS THE POTENCY?***

Each drop contains a 1 mg dose.

***WHY DO THE TINCTURES ONLY COME IN A 7.5 ML FORMAT?***

Because of Health Canada regulations, Atlas is limited to product formats containing a maximum of 7.5g if there is any amount of alcohol in the solution. Because these are alcohol-based tinctures and the alcohol is essential to the encapsulation of the cannabinoids and water solubility, we were restricted to this size format.

***WHY IS THE BOTTLE ONLY ONE QUARTER FULL?***

Due to warning messages required on the labels from Health Canada for any cannabis products, we have to opt for larger size bottles to fit all warning and specification information.

***IS THERE ALCOHOL IN THE TINCTURES?***

There is alcohol in the tinctures due to the formulation enabling faster absorption and water solubility.

***WHAT ARE THE NATURAL FLAVOUR INGREDIENTS IN THRIVE TINCTURES?***

MÜV THC—Grapefruit

MÜV 1:1—Grapefruit

MÜV CBD—Peppermint