

**Mission:**

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



**Ron DeSantis**  
Governor

**Scott A. Rivkees, MD**  
State Surgeon General

**Vision:** To be the **Healthiest State** in the Nation

## KRATOM

Kratom is a type of tree in the coffee family found in Southeast Asia. It is native to Thailand, Indonesia, Malaysia, Myanmar and Papua New Guinea, where it has been used in traditional medicine since the 19th century. Its leaves contain compounds that have psychotropic (mind-altering) effects ranging from being stimulant to sedative. Based on research, negative side effects are possible when used.

The purpose of this factsheet is to provide an overview of frequently asked questions regarding kratom and its products, the use, its potential health effects, its regulation and biomonitoring (measurements in, e.g., blood and urine).

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### General Facts

#### What is kratom?

The term “kratom” is used for both a tree itself in the coffee family native to Southeast Asia named *Mitragyna speciosa*, as well as the leaves from this tree. The kratom leaves are the part of the tree that are used and sold either fresh or dried. When dried, the kratom leaves are typically sold in the form of green powder. Dried leaves are also used to make tablets, capsules, extracts and gum. These are sold commercially under the name “Kratom.”

#### What are other commercial names of products containing kratom leaves?

Products containing kratom leaves are known by a number of different, commercial names (depending on the region it is sold in) :

- ❖ Herbal Speedball
- ❖ Biak
- ❖ Ketum
- ❖ Kakuam
- ❖ Krathom
- ❖ Thang
- ❖ Thom

#### What is kratom used for?

Initially, in Southeast Asia, kratom leaves were used in wound care, for fever and to treat withdrawal symptoms from opioids as well as illegal drugs. In the United States, kratom leaf products have been primarily used for acute and chronic pain relief, as well as mental health disorders like depression and anxiety.

Some consumers use kratom leaf products in the management of pain as an alternative to prescribed opioid medications, (e.g. morphine and oxycodone), however, current scientific research does not provide enough information on the successful remedy and safety of kratom leaf products in the treatment of pain.

### What are the main effects of kratom when consumed?

Kratom consumption has a psychological, opioid-like reaction. Opioid receptors in the brain are activated causing sedation in lower doses, and euphoria and pain relief in higher doses.

Users of kratom reported the following side-effects:

- ❖ An increase in energy, focus and alertness.
- ❖ A decrease in depressed mood and anxiety.
- ❖ A decrease in symptoms related to Post-traumatic stress disorder (PTSD).
- ❖ A decrease in pain.

### What are the compounds in kratom causing the opioid-like effects?

Research shows that there is not one specific compound found in kratom/kratom leaves, but a combination of compounds that naturally occur. Examples of compounds knowing to cause psychological, opioid-like responses are (see end of factsheet for further description):

- ❖ Mitragynine
- ❖ 7-hydroxymitragynine
- ❖ Speciociliatine

### Why is the use of kratom a concern?

Kratom is of concern because its opioid-like features can lead to abuse and addiction which can cause negative health effects on the body. The use of kratom products may also interact with approved prescription and over-the-counter medications which can lead to more health problems.

Between January 2011 and December 2017, the National Poison Control Center documented approximately 1,807 calls related to kratom exposure. Postmortem toxicology results from 32 states and the District of Columbia between July 2016 and December 2017 showed that out of over 27,000 drug overdose cases, 152 cases showed traces of compounds found in kratom. In 91 of those 152 deaths, the consumption of kratom was reported as the cause of death by a medical coroner. Roughly 80 percent of those deaths were also linked to substances such as fentanyl, heroin, benzodiazepines, prescription opioids and cocaine.

### How does kratom consumption impact human health?

Low to moderate amounts of kratom tend to be stimulating and do not produce the same strong effects associated with opioids. Consuming high amounts of kratom can lead to tolerance and addictive behaviors.

There is no specific study available that helps us understand the effects of kratom on the general population. Children, pregnant women and other sensitive populations are most likely to be at greater risk of the adverse health effects.

Based on the current, but limited research available, kratom consumption is assumed to cause acute<sup>1</sup> and chronic<sup>2</sup> health effects:

- |                 |  |                                       |  |  |
|-----------------|--|---------------------------------------|--|--|
| <b>Acute:</b>   | <input type="checkbox"/> Anxiety             | <input type="checkbox"/> Irritability | <input type="checkbox"/> Itching                   | <input type="checkbox"/> Sweating            |
|                 | <input type="checkbox"/> Loss of appetite    | <input type="checkbox"/> Dry mouth    | <input type="checkbox"/> Constipation              | <input type="checkbox"/> Confusion           |
|                 | <input type="checkbox"/> Nausea and vomiting | <input type="checkbox"/> Seizures     | <input type="checkbox"/> Hallucinations/ delusions | <input type="checkbox"/> Increased urination |
| <b>Chronic:</b> | <input type="checkbox"/> Anorexia            | <input type="checkbox"/> Weight Loss  | <input type="checkbox"/> Insomnia                  | <input type="checkbox"/> Skin darkening      |
|                 | <input type="checkbox"/> Rapid heartbeat     | <input type="checkbox"/> Liver damage | <input type="checkbox"/> Seizures                  | <input type="checkbox"/> Overdose            |

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<sup>1</sup> Acute: abrupt, short-term

<sup>2</sup> Chronic: long-term, persisting and/or recurring

### What are withdrawal symptoms of excessive kratom consumption (abuse and addiction)?

Withdrawal symptoms may occur when consumption of kratom is interrupted and include:

- ❖ Muscle aches
- ❖ Aggression
- ❖ Emotional changes such as mood swings

### Can a person overdose on and potentially die from kratom use?

Yes, consuming kratom poses a risk of overdose and potential death.

While fatal overdoses have been reported in conjunction with kratom usage, many of these cases involved the use of kratom in combination with other substances such as prescription opioids, alcohol and over-the-counter medications, which could have contributed to the overdose.

### How long do the compounds found in kratom remain in the body?

Although there is limited scientific data related to the consumption of kratom use, it is believed that the half-life<sup>3</sup> of the substance is roughly 24 hours.

### Is there a test that tells me if the compounds found in kratom are in my body?

In the workplace, the current standard drug tests are not designed to detect the compounds found in kratom. However, there are other laboratory tests available that use urine and blood to detect the compounds found in kratom, mainly mitragynine.

## Kratom Regulation and Advisories

### Is kratom consumption medically regulated?

No, kratom products are not regulated at this time because they have not been approved for any medical use.

### Is the consumption of kratom products commercially regulated?

No. Kratom products are not commercially regulated. Though, the U.S. Food and Drug Administration (FDA) issued a warning to consumers of such products as there have been concerns with increased risk of abuse, addiction and dependence.

The U.S. Drug Enforcement Administration (DEA) includes commercial kratom products on its list of “Drugs and Chemicals of Concern.” Kratom products are currently not controlled under the Federal Controlled Substances Act. However, the DEA has been in communication with the FDA and the U.S. Department of Health and Human Services regarding placing kratom products under the Schedule I<sup>4</sup> class of drugs/substances/chemicals.

## Supplemental Facts

### What is mitragynine?

Mitragynine is a compound naturally occurring in the leaves of the kratom tree. It is classified as a new “psychoactive” substance, meaning it is affecting the mind. It has been shown to stimulate the opioid receptors that control pain. Although it is often referred to as an opioid due to its ability to interact with opioid receptors, mitragynine can produce effects that are different from other opioids.

<sup>3</sup> Half-Life: The amount of time it takes for half of a substance to be removed from the body

<sup>4</sup> Schedule I drugs/substances/chemicals are defined as not having any approved medicinal use and having a high potential for abuse and dependence.

**What is 7-hydroxymitragynine?**

7-hydroxymitragynine is a compound naturally occurring in the leaves of the kratom tree. In the body, mitragynine is converted to 7-hydroxymitragynine which is more potent and potentially responsible for the opioid-like effects.

**What is speciociliatine?**

Speciociliatine is a compound naturally occurring in the leaves of the kratom tree. In the body, it's believed that speciociliatine preferably binds to the opioid receptors. The binding causes an activation of the opioid receptors leading opioid-like effects.

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*Please write to:*            *Division of Disease Control and Health Protection  
Bureau of Environmental Health, Public Health Toxicology  
Florida Department of Health  
4052 Bald Cypress Way, Bin # A-08  
Tallahassee, Florida 32399-1720*

*Email:*                      [PhToxicology@flheath.gov](mailto:PhToxicology@flheath.gov)

*Or Call us Toll free at: 877-798-2772*