

KRATOM (*Mitragyna speciosa korth*) (Street Names: Thang, Kakuam, Thom, Ketum, Biak)

Introduction:

Kratom, (*Mitragyna speciosa korth*), is a tropical tree indigenous to Thailand, Malaysia, Myanmar and other areas of Southeast Asia. Kratom is in the same family as the coffee tree (*Rubiaceae*). The tree reaches heights of 50 feet with a spread of over 15 feet.

Kratom has been used by natives of Thailand and other regions of Southeast Asia as an herbal drug for decades. Traditionally, kratom was mostly used as a stimulant by Thai and Malaysian laborers and farmers to overcome the burdens of hard work. They chewed the leaves to make them work harder and provide energy and relief from muscle strains. Kratom was also used in Southeast Asia and by Thai natives to substitute for opium when opium is not available. It has also been used to manage opioid withdrawal symptoms by chronic opioid users.

Kratom is promoted as a legal psychoactive product on numerous websites in the United States. On those websites, topics range from vendors listings, preparation of tea and recommended doses, to alleged medicinal uses, and user reports of drug experiences.

Licit Uses:

Kratom has no legitimate medical use in the United States.

Chemistry:

Over 25 alkaloids have been isolated from kratom; mitragynine and 7-hydroxymitragynine are the primary psychoactive alkaloids in the plant.

Pharmacology:

Pharmacology studies show that mitragynine and 7-hydroxy mitragynine have mu-opioid receptor agonist activity. Kratom has been described as producing both stimulant and sedative effects. At low doses, kratom produces stimulant effects, with users reporting increased alertness, physical energy, talkativeness, and sociable behavior. At high doses, opioid effects are produced, alongside sedative and euphoric effects. Effects occur within 5 to 10 minutes after ingestion and last for 2 to 5 hours. Acute side effects include nausea, itching, sweating, dry mouth, constipation, increased urination, and loss of appetite.

Kratom consumption can lead to addiction. A study of Thai kratom addicts observed that some addicts chewed kratom daily for 3 to 30 years (with a mean of 18.6 years). Long-term use of kratom produced anorexia, weight loss, insomnia, skin darkening, dry mouth, frequent urination, and constipation. A withdrawal syndrome was observed, consisting of symptoms of hostility, aggression, emotional lability, wet nose, achy muscles and bones, and jerky movement of the limbs. Furthermore, several cases of kratom psychosis were observed, during which kratom addicts exhibited psychotic symptoms that included hallucinations, delusion, and confusion. In the United States, the use of kratom has been associated with numerous cases of overdose and fatalities.

Illicit Uses:

In recent years, kratom and kratom-based products have increased in popularity on the recreational drug market. Kratom is mainly abused orally as a tea or by chewing its leaves. Doses of 2 to 10 grams are recommended to achieve the desired effects.

The American Association of Poison Control Centers' 2022 report indicates that kratom accounted for 1,278 case mentions, 794 single exposures, and 586 cases that involved treatment in a healthcare facility. According to data from the Food and Drug Administration's adverse event reporting system, mitragynine was co-involved in 1,255 cases from 2008 to September 2024. Of those cases, 1,171 cases were classified as serious and 637 cases involved death.

Other countries are reporting emerging new trends in the use of kratom. In the United Kingdom, kratom is promoted as an "herbal speedball." In Malaysia, kratom (known as ketum) juice preparations are illegally available.

User Population:

Kratom is commonly used as an alternative to prescription opioid, self-treatment of opioid use disorder or other substance use disorder, including withdrawal.

Illicit Distribution:

The Drug Enforcement Administration's National Forensic Laboratory Information System (NFLIS) Drug database collects scientifically verified data on drug items and cases submitted to and analyzed by federal, state, and local forensic drug laboratories. NFLIS-Drug received 506 reports of mitragynine, the primary active alkaloid in kratom, in 2019. Since then, the annual number of mitragynine reports has steadily decreased, totaling 368 in 2020, 356 in 2021, 281 in 2022, and 256 in 2023.

Kratom is widely available on the internet and is also sold in ethnobotanical retail stores; numerous vendors within and outside of the United States sell kratom. On the internet, kratom forms available include leaves (whole or crushed), powder, extract, encapsulated powder, and extract resin "pies" (40 gram pellets made from reduced extract). Seeds and whole trees are also available through some online vendors, suggesting the possibility of domestic cultivation.

Control Status:

Kratom is not scheduled under the Controlled Substances Act.