



3,4-METHYLENEDIOXYMETHAMPHETAMINE (Street Names: MDMA, Ecstasy, XTC, E, X, Beans, Adams)

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DEA/OD/ODE

Introduction:

3,4-Methylenedioxyamphetamine (MDMA) is a synthetic drug possessing both stimulant and mild hallucinogenic properties. On the street it is known as Ecstasy, XTC, E, X, Beans, and Adams. Adolescents and young adults use it to promote euphoria, feelings of closeness, empathy, sexuality, and to reduce inhibitions. It is considered a "party drug" and obtained at "rave" or "techno" parties. However, its abuse has expanded to include other settings outside of the rave scenes, such as a college campus.

Licit Uses:

There is no accepted medical use in treatment for MDMA in the United States.

Chemistry and Pharmacology:

MDMA, a ring substituted derivative of phenethylamine, has a pharmacological profile similar to the combined effects of amphetamine and mescaline. MDMA increases motor activity, alertness, heart rate, and blood pressure. It also induces perceptual changes, including enhancement of tactile sensations. Other effects include: euphoria, increased energy, increased (sexual) sensual arousal, increased "need" to be touched (i.e., hugged) and increased need for stimulation.

Abuse of MDMA can cause psychological and physical damage. Psychological effects associated with MDMA use include confusion, anxiety, depression, and paranoia. These effects may last weeks after ingestions. High doses of MDMA can interfere with the ability to regulate body temperature, resulting in a sharp increase in body temperature (hyperthermia), leading to liver, kidney, and cardiovascular failure. Other effects include tremors, involuntary teeth clenching, muscle cramps, and blurred vision.

Studies suggest chronic use of MDMA can produce brain damage in humans. Brain imaging techniques have revealed a reduction in serotonin nerve terminals and transporters in former MDMA abusers. Clinical studies suggest that MDMA may increase the risk of long-term, perhaps permanent, problems with memory and learning.

Illicit Uses:

MDMA is mainly ingested orally in tablets (50-150 mg). Other methods of abuse are crushing and snorting or injecting. MDMA abusers usually take MDMA by "stacking" – taking three or more tablets at once; or by "piggy-backing" – taking a series of tablets over a short period of time. One trend among young adults is "candy flipping," the co-abuse of MDMA and LSD. The onset of action after oral ingestion occurs within 30 to 45 minutes and lasts four to six hours.

User Population:

Abusers are adolescents and young adults. The Monitoring the Future (MTF) study revealed that annual use of ecstasy decreased significantly for 8th, 10th, and 12th graders from 2011 to 2012. For 8th graders, ecstasy use decreased from 1.7% in 2011 to 1.1% in 2012. Annual prevalence of ecstasy use decreased from 4.5% to 3.0% for 10th graders and decreased from 5.3% to 3.8% for 12th grade students. According to the 2011 National Survey on Drug Use and Health (NSDUH), there were 14.6 million lifetime users of ecstasy among people age 12 and older. In 2011, there were 2.4 million users of ecstasy in the past year, according to the NSDUH. DAWN ED indicates that there were 22,498 emergency department visit related to MDMA in 2011. The Florida Department of Law Enforcement reports that five deaths in Florida were related to MDMA for January to June 2012.

Illicit Distribution:

Seized MDMA in the U.S. is primarily manufactured in clandestine laboratories in the Netherlands and Belgium. MDMA destined to the U.S. from the Netherlands is transferred through Germany and Poland and smuggled into the U.S. via body carriers, by air/sea cargo, luggage, and by express mail. Another significant source country is Canada. Operation Candy Box identified an international drug trafficking organization through which up to one million MDMA tablets per month were smuggled into the U.S. A small number of MDMA clandestine laboratories have been identified operating in the U.S.

MDMA is mainly distributed in tablet form. Ecstasy tablets most often contain MDMA alone. Many so-called Ecstasy tablets may contain other substances (e.g., MDA, methamphetamine, ketamine, caffeine, amphetamine), either alone or in combination with MDMA. MDMA tablets are sold with logos, creating brand names for users to seek out. MDMA is also distributed in capsules, powder, and liquid forms. Prices for a tablet range from \$3 to \$45.

MDMA is available in every region of the country, principally in large metropolitan areas. Los Angeles, CA; Miami, FL; and New York, NY are the primary market areas for MDMA smuggled into the U.S. from Western European source countries. International traffickers use south Florida as a base of operations for the importation and distribution of MDMA.

According to the National Forensic Laboratory Information System (NFLIS) and the System to Retrieve Information from Drug Evidence (STRIDE) databases, 4,720 exhibits were identified as MDMA in 2012.

Control Status:

MDMA is a schedule I controlled substance under the Federal Controlled Substances Act.