

## METHAMPHETAMINE

December 2022

(Trade Name: Desoxyn®; Street Names: Meth, Speed, Crystal, Glass, Ice, Crank, Yaba)

### Introduction:

Methamphetamine is a highly addictive drug with potent central nervous system (CNS) stimulant properties. In the 1960s, methamphetamine pharmaceutical products were widely available and extensively diverted and abused. The placement of methamphetamine into schedule II of the Controlled Substance Act (CSA) in 1971 and the removal of methamphetamine injectable formulations from the United States market, combined with a better appreciation for its high abuse potential, led to a drastic reduction in the abuse of this drug. However, a resurgence of methamphetamine abuse occurred in the 1980s and it is currently considered a major drug of abuse.

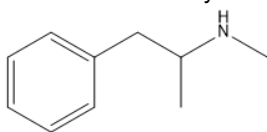
### Licit Uses:

Methamphetamine was originally used in nasal decongestants and bronchial inhalers (the levo isomer of methamphetamine is still utilized for these indications). Later it was available in tablets and injectable formulations and used for weight control, depression, and to increase alertness and prevent sleep. A broad segment of society used methamphetamine products for stimulant effects. Today, there is only one product, Desoxyn®, currently marketed in 5 mg tablets. Desoxyn® has very limited use in the treatment of obesity and attention deficit hyperactivity disorder. According to IQVIA National Prescription Audit™, total prescriptions dispensed for methamphetamine were approximately 12,000 in 2015, 9,700 in 2017, 8,500 in 2019, and 8,000 in 2021.

### Chemistry:

Methamphetamine is chemically similar to amphetamine. The chemical structure is shown below.

There are many ways to manufacture methamphetamine. The methods used are directly impacted by the availability of precursor chemicals and ease of synthesis. Drug traffickers



are continually looking for loopholes in chemical control regulations and altering their methods of synthesis in order to continue their illegal activity. Phenylacetone (P2P) was the most widely used precursor in the synthesis of amphetamine/methamphetamine in the U.S. until 1980 when it was controlled in Schedule II of the CSA. P2P was then replaced by ephedrine and pseudoephedrine as the most widely used precursors for methamphetamine production. In the late 1990s, the use of P2P increased in clandestine methamphetamine labs because of the increased controls on pseudoephedrine and ephedrine. Traffickers are currently using new precursors to P2P in efforts to circumvent international chemical controls. This trend continues today.

### Pharmacology:

Methamphetamine is pharmacologically similar to amphetamine although it has more potent effects on the CNS that can last for 6 to 8 hours. Methamphetamine increases the release of the neurotransmitter, dopamine, which stimulates brain cells, enhancing mood and energy.

Methamphetamine is abused for its stimulant and euphoric effects. It can be taken orally, snorted, smoked, and

injected. Smoking or injecting methamphetamine results in intense euphoria and is often associated with binge use, large escalation in dose with rapid tissue tolerance, and high rates of addiction.

At low doses, methamphetamine produces such effects as increased wakefulness, increased physical activity, increased heart rate and blood pressure, decreased appetite, increased respiration and body temperature (hyperthermia), and euphoria. High-dose chronic use has been associated with irritability, tremors, convulsions, anxiety, paranoia, and neurotoxic effects that cause damage to neurons and blood vessels. Aggressive and violent behavior, often directed at spouses and children, pose a significant risk to those individuals in contact with methamphetamine addicts. Death has resulted from extreme anorexia, hyperthermia, convulsions, and cardiovascular collapse (including stroke and heart attacks).

### User Population:

According to the National Survey on Drug Use and Health (NSDUH), for 2016, 14.5 million individuals, aged 12 and older, reported nonmedical use of methamphetamine at least once in their lifetime, and 1.4 million within the past year. By 2018, lifetime use increased to 14.9 million individuals, aged 12 and older, with 1.9 million in the past year. And, for the same age group in 2020, lifetime use was 15.4 million with 2.5 million in the past year. Consequently, the American Association of Poison Control Centers (AAPCC) reported an increase in human exposure cases to methamphetamine from 2016 to 2020. In 2016, the AAPCC reported a total of 6,576 poison exposures, 3,343 single substance exposures, and 12 deaths related to methamphetamine. In 2017, there were a total of 7,519 case mentions, 3,503 single exposures, and 191 deaths. In 2020, there were a total of 8,978 case mentions, 3,715 single exposures, and 230 deaths. The 2021 Monitoring the Future (MTF) survey indicates a past year prevalence of 0.2% for 8th graders, 0.2% for 10th graders, and 0.2% for 12th graders. These levels are the lowest ever recorded for 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders.

### Illicit Distribution:

Mexican drug trafficking organizations have become the primary manufacturers and distributors of methamphetamine to cities in the Midwest and West. These criminal organizations are able to supply large amounts of methamphetamine at high purity and low cost. Domestic independent laboratory operators also produce and distribute methamphetamine but usually on a smaller scale. Of particular concern is the toxic waste associated with these labs and the fact that many individuals, including children, are at risk of exposure to these toxic chemicals.

According to DEA's National Forensic Laboratory Information System (NFLIS) database, methamphetamine was identified by reporting federal, state, and local forensic drug laboratories in approximately 280,000 items in 2015, 383,000 in 2017, 467,000 in 2019, and 432,000 in 2021.

### Control Status:

Methamphetamine is controlled in schedule II of the CSA.

Comments and additional information are welcome by the Drug and Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249, or Email [DPE@dea.gov](mailto:DPE@dea.gov).