



### D72 Trends in Phencyclidine (PCP): History, Synthesis, and Analysis

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Attendees will become aware of the history and present situation concerning phencyclidine (PCP) production and use. Attendees will also be familiarized with analytical techniques that may be used to handle any future submissions.

Phencyclidine use is on the rise. This presentation will impact the forensic community and/or humanity by providing forensic scientists and law enforcement officers who may not have had previous experience with the dangerous nature of this drug, both in the laboratory and on the street.

PCP was originally developed as an anesthetic in the 1950s, but after a wave of extreme side effects, its use in humans was discontinued in 1965. In the late 1960s, PCP became available for use as a veterinary anesthetic under the trade name of Sernylan® and was placed in Schedule III of the Controlled Substances Act (CSA). With abuse on the rise, the variety of side effects encountered was disconcerting. In 1978, it was transferred to Schedule II of the CSA and manufacture of Sernylan® was discontinued. It has been documented that peak use occurred around 1979. Consequently, the Drug Enforcement Administration's (DEA) laboratory system saw an incredible surge in exhibits analyzed in the early to mid 1980s. In 1986, the laboratory system analyzed nearly 5,000 PCP exhibits. The overwhelming majority of these exhibits were collected in the Washington, D.C. area and forwarded to the Mid-Atlantic Laboratory for analysis. The Mid-Atlantic Laboratory continually received the majority of exhibits for the rest of the decade. They accounted for approximately 90% of the PCP exhibits submitted to DEA laboratories between 1982 and 1989.

In recent years, the abuse of PCP has increased. Recent emergency room surveys indicate PCP abuse is increasing with over 6000 admissions in 2001. The DEA laboratory system has seen a steady increase of PCP submissions. There has been a 40% annual average increase in submissions from 1998 to 2003. The Washington, D.C. area still accounts for over 80% of those submissions. According to the El Paso Intelligence Center (EPIC), seizure of clandestine PCP laboratories is also on the rise. From 1998 to 2003, 54 clandestine PCP laboratory seizures were reported with the majority being in the state of California.

This presentation will take a look at the history of PCP and examine recent trends to see if PCP is making a comeback to the levels that it attained in the 1980s. It will discuss synthesis routes that have been and are currently being used, i.e. Maddox method, via enamines, and analogue synthetics. Techniques being used by forensic chemists to analyze routine and non-routine samples will also be addressed. Finally, a case that made local headlines in Baltimore, Maryland will be evaluated. A very large-scale clandestine PCP laboratory was seized in November 2002. The laboratory had the capacity of producing over 1000 gallons of liquid PCP. This seizure reveals that large-scale production is still a distinct possibility.

#### Phencyclidine, Clandestine Laboratories, Synthesis