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U.S. Department of Justice
Drug Enforcement Administration

Clandestine Laboratory Seizures in the United States–1993

Drug Intelligence Report

Intelligence Division

December 1994
DEA-94080

CAVEAT

The information in this study is based on reporting from Drug Enforcement Administration (DEA) offices and regional laboratories that participated in the seizure of clandestine manufacturing sites used for the illicit production of dangerous drugs. Seizure data from State and local agencies also is included, when available. Although reporting from non-DEA sources is limited, this study accurately reflects illicit drug production trends from the perspective of DEA participation in clandestine laboratory seizures.

Cover Photo: Agents wearing Saranex body suits and self-contained breathing apparatus (SCBA) assemble prior to entering a clandestine laboratory in the southwestern United States.

The Attorney General has determined that publication of this periodical is necessary in the transaction of the public business required by law of the Department of Justice.

Drug Enforcement Administration

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This report was prepared by the Domestic Unit of the Strategic Intelligence Section. Comments and requests for copies are welcome and may be directed to the Publications Unit, Intelligence Division, DEA Headquarters at (202) 307-8726.

December 1994

ADMINISTRATOR'S MESSAGE

This report, *Clandestine Laboratory Seizures in the United States–1993*, provides information concerning the number and type of clandestine laboratories seized in the United States. During 1993, 270 clandestine laboratories involved in the illicit production of controlled substances were seized, marking a 19-percent decline from the previous year's total.

This is the fourth consecutive year in which laboratory seizures have decreased. The reason for this decline in laboratory seizures is believed to be due, in part, to the ongoing enforcement of the Chemical Diversion and Trafficking Act of 1988 (CDTA) and related State legislation. The CDTA became effective on March 18, 1989, and enables the Federal Government to regulate listed precursor/essential chemicals used by traffickers to synthesize dangerous drugs.

Clandestine laboratories not only produce illegal, often deadly drugs, but their presence in urban and suburban neighborhoods poses a significant threat to public health and safety. Therefore, we must continue drug law enforcement efforts against those laboratories and their operators who endanger the well-being of our citizens and our communities.

Thomas A. Constantine
Administrator

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EXECUTIVE SUMMARY

Clandestine laboratories produce the overwhelming majority of the illicit dangerous drugs available in the United States. Laboratory seizures, to a large degree, reflect both regional and national trends in manufacturing, trafficking, and availability of clandestinely produced controlled substances.

During 1993, 270 clandestine laboratories were seized in this country, primarily in the West and Southwest. This total represented a 19-percent decrease from 1992. While the percentage decrease in 1993 laboratory seizures is less dramatic than the percentage decreases in 1990 and 1991 (35% and 28%, respectively), it nonetheless marks the fourth consecutive year that seizures declined. Since 1989, in fact, clandestine laboratory seizures in the United States have decreased by more than 66 percent.

The continuing enforcement of Federal and State legislation to regulate chemicals required for clandestine drug manufacture may be credited, in part, for decreases in the number of illicit laboratories. Enacted in March 1989, the Chemical Diversion and Trafficking Act (CDTA) of 1988 enables the Federal Government to regulate listed chemicals used in the clandestine synthesis of dangerous drugs. Over the past 4 years, most States have passed legislation similar to the CDTA, or have refined existing legislation in order to counter attempts by laboratory operators to thwart chemical control laws.

Traditionally located in sparsely populated, rural areas to avoid detection, laboratories increasingly are being situated in urban and suburban neighborhoods where they pose significant threats to the health and safety of large numbers of people. Not only do these laboratories manufacture illegal and often deadly drugs, they also produce explosions, fires, toxic fumes, and irreparable damage to the well-being of citizens, communities, and the environment. The process of cleaning up a clandestine laboratory site is expensive. For example, in fiscal year 1993, the Drug Enforcement Administration (DEA) obligated approximately $2.6 million for hazardous waste cleanup and disposal.

Although the number of seizures of clandestine methamphetamine laboratories declined in 1993, methamphetamine remained the most prevalent illicitly manufactured controlled substance in the United States. Authorities seized 218 methamphetamine laboratories during the year, accounting for 81 percent of all clandestine laboratory seizures. The DEA Divisions in San Francisco, San Diego, Los Angeles, Denver, Dallas, Phoenix, St. Louis, and New Orleans accounted for 85 percent of all methamphetamine laboratories seized in 1993, indicating that clandestine manufacture of methamphetamine was concentrated in the western and southwestern United States.

The use of ephedrine reduction methods for synthesizing methamphetamine has increased considerably over the past several years. Although first employed in clandestine laboratories located in southern California, its use has become widespread throughout much of the United States. Of the 218 methamphetamine laboratories seized in 1993, 180 (83%) were identified as, or suspected of, using this method of synthesis. Sixteen percent of the methamphetamine laboratories seized during the year used the P2P method of synthesis; however, authorities seized only one laboratory that was set up to produce P2P exclusively.

Twenty-two laboratories that were producing methcathinone, a potent, easily manufactured stimulant known on the street as "cat," were confiscated in 1993, compared to six in 1992. Furthermore, illicit production, previously confined to Michigan's Upper Peninsula, has spread throughout Michigan and to locations in Colorado, Illinois, Indiana, Washington, and Wisconsin.

In 1993, authorities seized 12 amphetamine laboratories, of which 8 were confiscated by the Dallas Field Division. All amphetamine laboratories seized during the year used the P2P method of synthesis.

Six phencyclidine (PCP) production sites were seized in 1993, an increase of two from the previous year; two of these laboratories were located in California.

Clandestine manufacture of 3,4-methylenedioxymethamphetamine (MDMA or "ecstasy") decreased during the year; three MDMA laboratories were confiscated in 1993, compared to nine in 1992.

Seizures of cocaine conversion laboratories remained low during 1993. One laboratory that converted cocaine base to cocaine hydrochloride was confiscated by the DEA during that year. This compares to four laboratories seized in each of the years 1990, 1991, and 1992.

Also in 1993, authorities seized two fentanyl, one aminorex, and one 4-Bromo 2,5 Dimethoxyamphetamine/2,5-Dimethoxyamphetamine (DOB/DMA) clandestine laboratories.

INTRODUCTION

Clandestine laboratory seizure data are one of several indicators that are used to monitor and assess the effectiveness of DEA's counterdrug strategy. Types and numbers of laboratories seized, to a large degree, reflect regional and national trends in the types and amounts of illicitly produced controlled substances being manufactured, trafficked, and abused.

DEA defines a clandestine laboratory as "an illicit operation consisting of a sufficient combination of apparatus and chemicals that either has been or could be used in the manufacture or synthesis of controlled substances."[1]

This definition serves as the basis for the inclusion of statistics compiled in this report. It does not include the seizure of chemicals, glassware, or other equipment by themselves as constituting a laboratory. The definition specifically excludes lysergic acid diethylamide (LSD) blotter or other dosage-unit production operations, heroin and cocaine "cutting mill" or dilution operations, freebase and "crack" cocaine production operations, hashish oil extraction operations, and marijuana, psilocybin, and mescaline cultivation operations. While each of these activities is a unique and significant enforcement problem, they have not been classified as clandestine laboratories for purposes of this report.

This report contains information on clandestine laboratories seized in the United States during 1993. These data were derived primarily from reporting by DEA field divisions (appendix A) and laboratories. Seizure information from State and local agencies also is included when available.

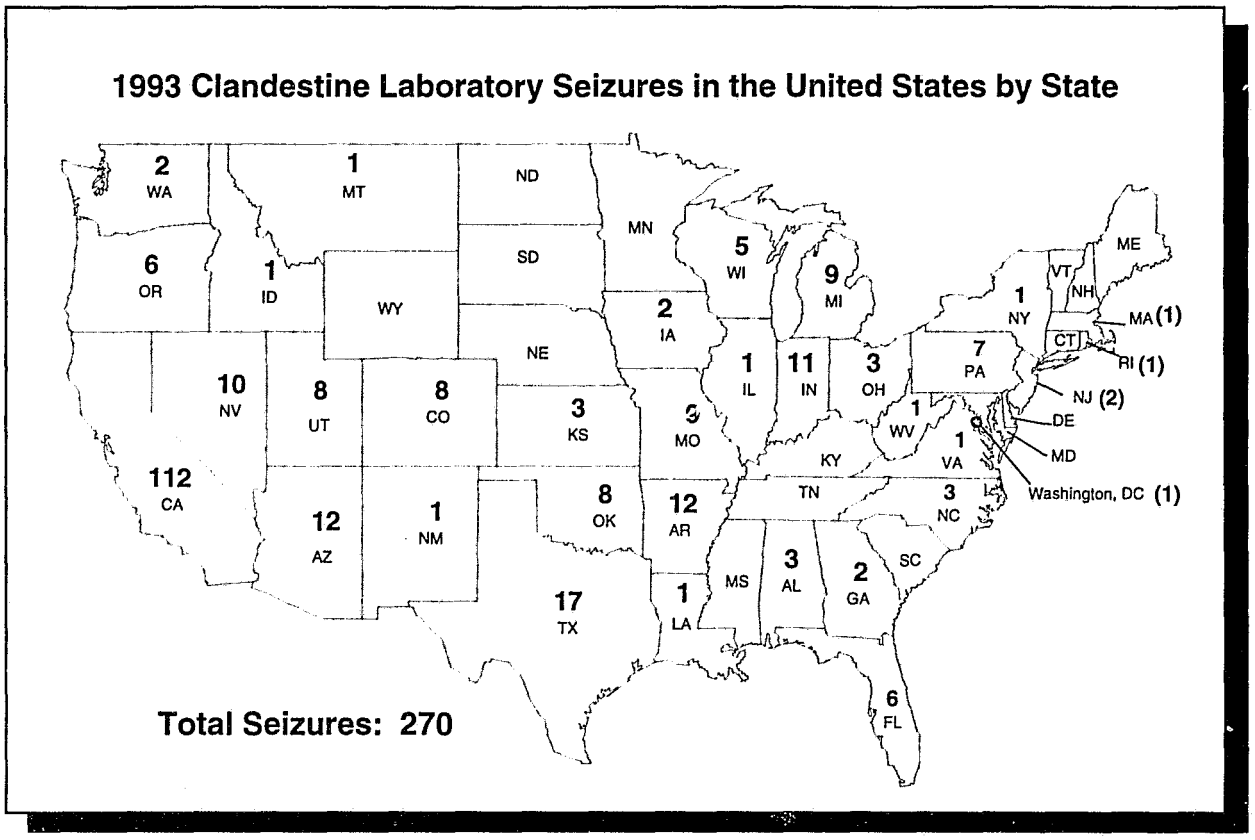
OVERVIEW

DEA special agents, often in conjunction with State and local law enforcement authorities, seized 270 laboratories in 1993, primarily in the western and southwestern United States (see figure 1). This was a 19-percent reduction from the previous year and was the fourth consecutive year in which a significant decrease in laboratory seizures occurred.

The reason for this decline may be due, in part, to the enforcement of Federal and State laws designed to control those materials that are an integral part of illicit drug manufacture. The CDTA of 1988 and subsequent chemical control legislation place under Federal control the distribution of 33 chemicals (appendix B) used to produce illicit drugs, as well as the distribution of tableting and encapsulating machines. Most States have passed similar legislation or have refined existing legislation to counter laboratory operators who thwart the intent of the law by altering their synthesis routes and by purchasing alternative chemicals. Clandestine laboratory seizures have declined by more than 66 percent since Federal and State chemical control laws were implemented (figure 2).

[1] DEA Agents Manual, paragraph 6674.11a, states that laboratory apparatus could include either commercial or homemade glassware, heating devices, ring stands, stirrers, and other equipment.

Figure 1

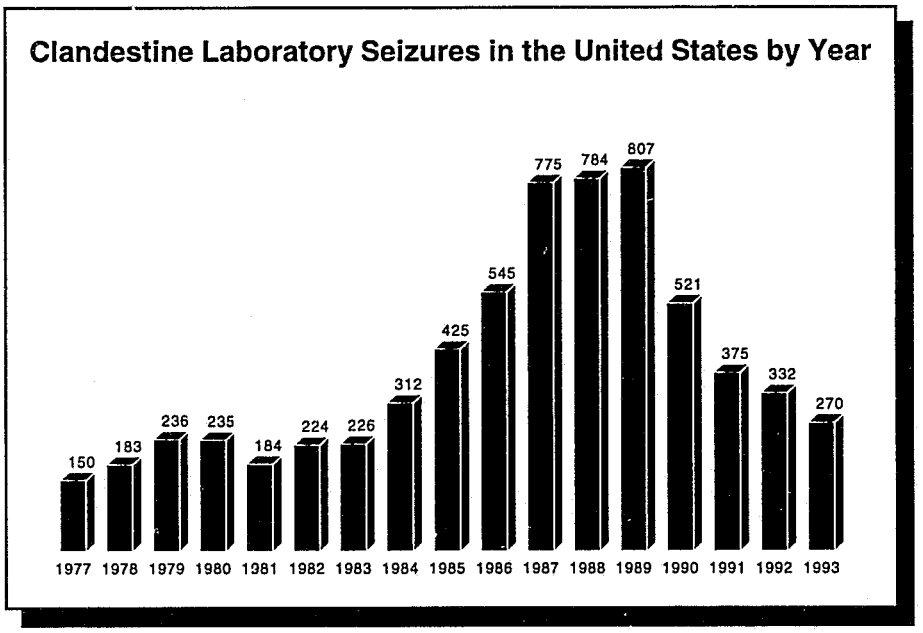


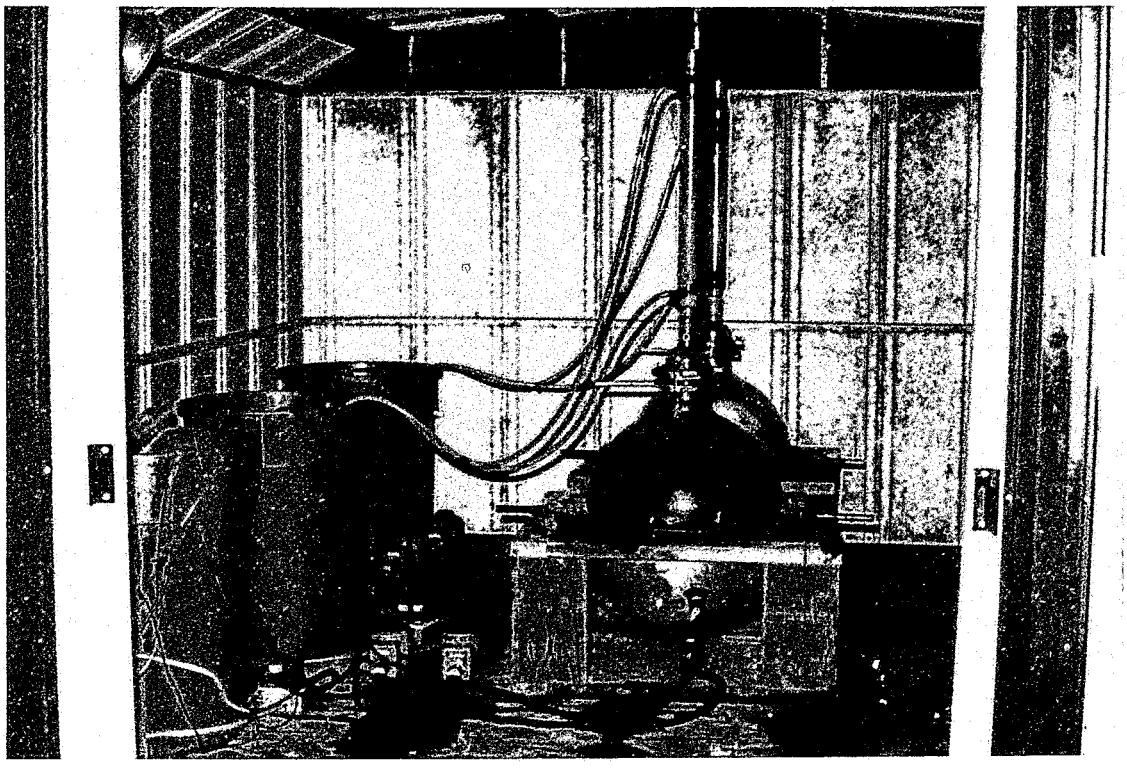
Cooperative efforts by DEA and chemical suppliers have made it more difficult for clandestine laboratory operators to obtain the necessary chemicals. In order to circumvent these joint efforts, laboratory operators have sought alternative chemicals, routes of synthesis, and sources of supply to fulfill their needs.

Laboratory operators have manufactured their own chemicals, employed "runners" to purchase necessary chemicals under the "threshold amount" (the amount at which record-keeping and reporting of chemical transactions are required), or experimented with alternative, non-regulated chemicals. They also have obtained chemicals from rogue chemical companies, from sources of supply located in States without strict chemical regulations, or from other countries, such as Canada and Mexico.

Furthermore, laboratory operators purchased over-the-counter drugs, e.g., inhalers or ephedrine tablets, which were not controlled federally prior to April 1994 or by most State governments. Although ephedrine, a methamphetamine precursor, is regulated under the CDTA, ephedrine tablets, an approved Food and Drug Administration dosage-form drug, were exempt from the record-keeping and reporting requirements of the CDTA and most State legislation. Consequently, millions of 25-milligram ephedrine tablets diverted through this loophole in the law have been encountered at clandestine laboratory sites.

Figure 2



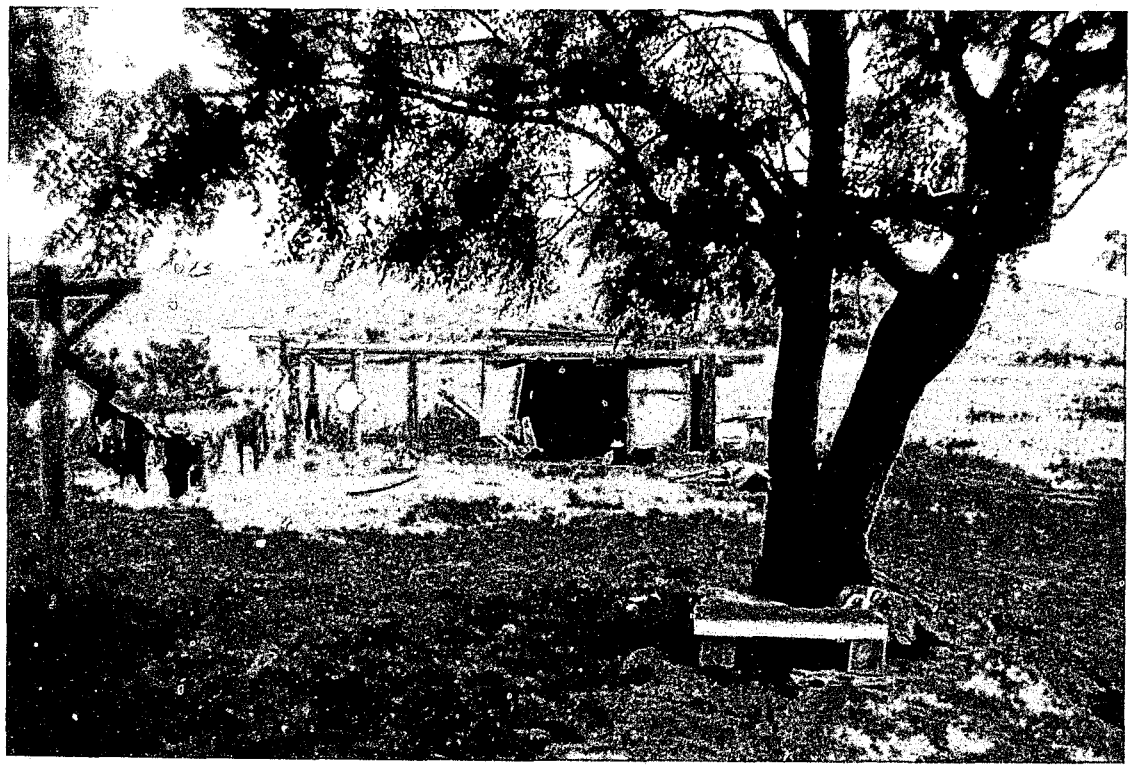


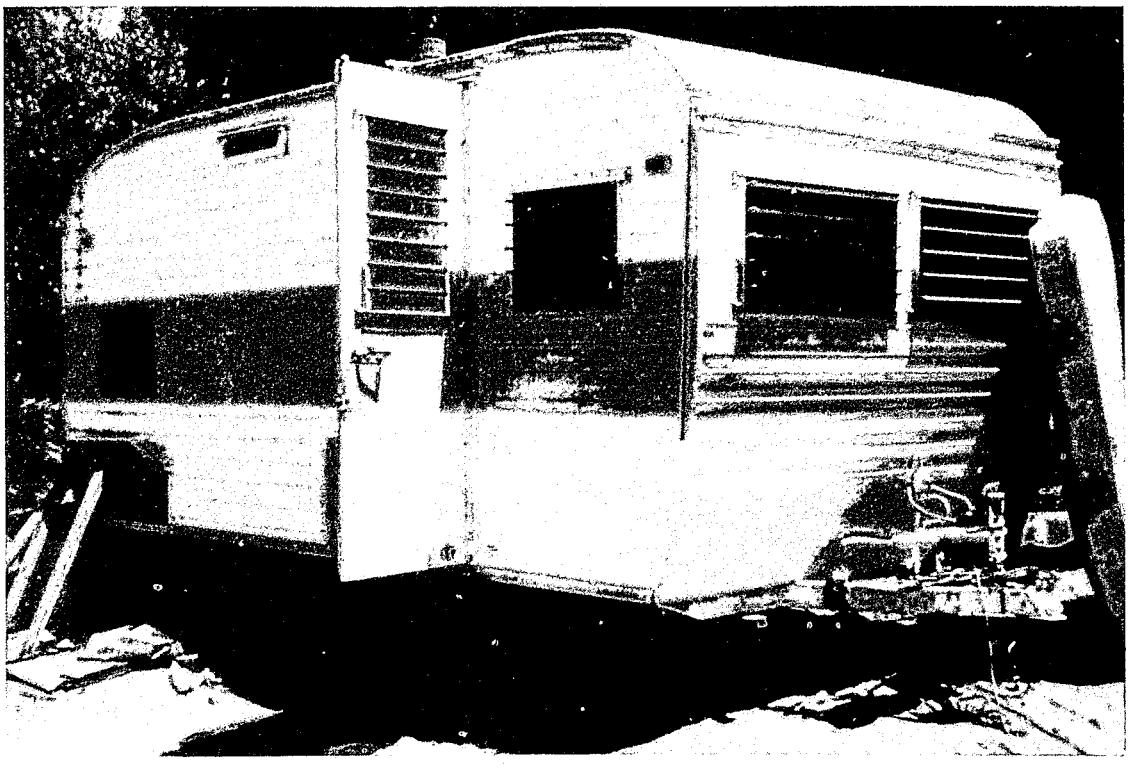
Authorities seized these 72-liter cookers (reaction vessels) from a shed in a rural location.

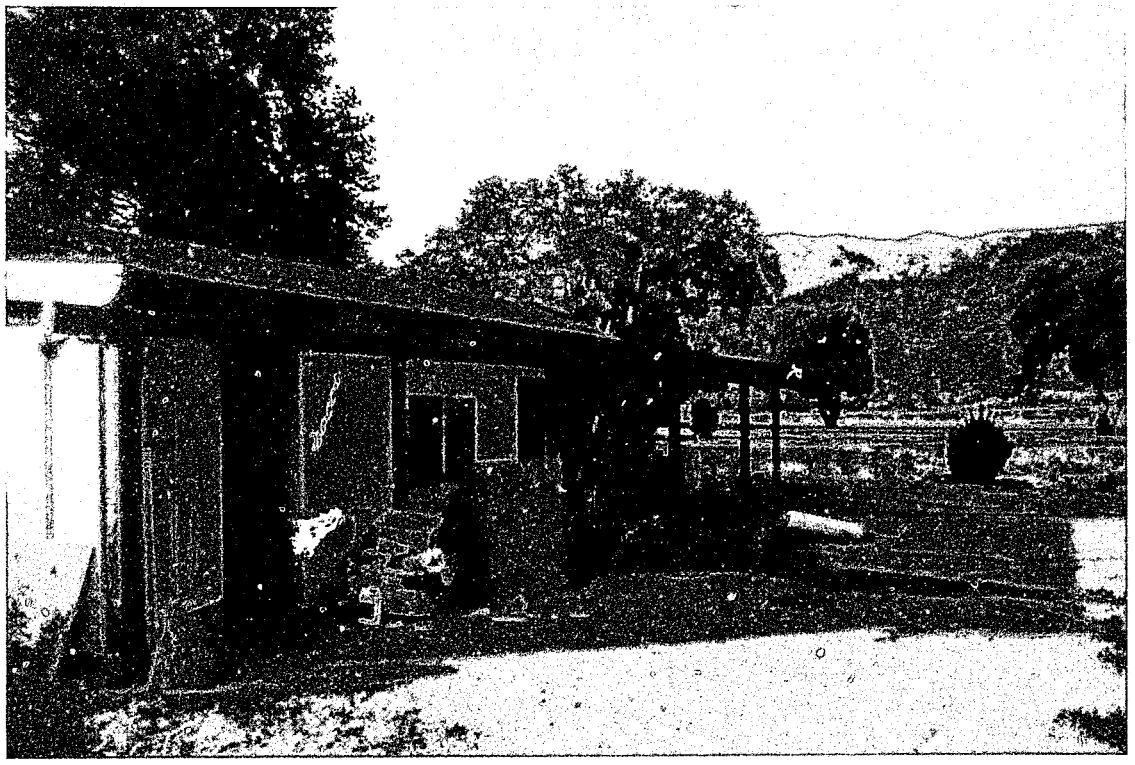
LABORATORY LOCATIONS

During 1993, small-scale laboratories were being operated increasingly in single and multifamily residences in urban and suburban neighborhoods, where they posed a significant threat to public health and safety. Although traditionally located in sparsely populated or isolated rural areas to avoid detection, approximately half of the clandestine laboratories seized during the year were located in urban and suburban sites. Rural locations were reported in 39 percent of the seizures and industrial or commercial sites in 2 percent. Locality information was not available 10 percent of the laboratory seizures.

Clandestine methamphetamine laboratories usually were operated on an irregular basis rather than on a consistent production schedule. Operators often produced a batch of finished product, disassembled the laboratory, and either stored or moved it to another location while they acquired additional chemicals. Relocating the laboratory afforded some protection against detection by drug law enforcement authorities. Storage facilities often were used to house or safeguard chemicals, glassware, and finished product. It was not uncommon for operators to have multiple laboratory sites.







Clandestine laboratories have been seized from locations that include farmland (left), a trailer (top), and a rural area (bottom).

Figure 3

Clandestine Laboratory Seizures by Selected Drug Type and Order of Number of 1993 Seizures

Drug Type	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Methamphetamine	46	69	136	126	89	132	119	185	266	412	653	629	652	429	315	288	218
Methcathinone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	22
Amphetamine	10	12	10	20	14	18	25	40	69	63	73	90	93	51	20	12	12
PCP	66	79	53	49	35	47	39	30	20	8	11	21	11	11	3	4	6
MDMA	0	0	0	0	0	0	0	0	1	4	1	2	1	2	1	9	3
Fentanyl	0	0	0	0	0	0	0	0	3	3	0	1	0	1	1	0	2
MDA	0	0	0	0	0	3	5	0	4	2	2	5	5	4	5	2	2
Cocaine	2	4	5	3	5	6	11	21	33	23	14	8	1	4	4	4	1
P2P	0	0	0	0	8	6	5	0	19	24	11	11	33	17	7	3	1
Methaqualone	10	7	9	17	13	7	10	4	4	4	2	5	5	1	1	1	0
Other	16	12	23	20	20	5	12	32	6	2	8	12	6	1	13	3	3
Total Seizures	150	183	236	235	184	224	226	312	425	545	775	784	807	521	375	332	270

NOTE: Included in the above totals are laboratories that produced controlled substance analogues of the drug type.

LABORATORY OPERATORS

Although the illicit manufacture of dangerous drugs traditionally has been associated with white, male operators, there is evidence of an increasing involvement of other ethnic groups, especially Mexican traffickers. Laboratory operators or "cooks" frequently display little concern for public safety or the environment. Cooks vary from high school dropouts with no real chemistry education to professionals with graduate degrees in chemistry. Typically, however, these cooks have little formal training. Instead, they follow a handwritten recipe or have learned to synthesize controlled substances, especially methamphetamine, from underground publications, apprenticeships, or fellow inmates during periods of incarceration. The knowledge level of these self-taught cooks is rudimentary at best, and they generally are not qualified to correct errors that may occur during the synthesis process.

Laboratory operators or "cooks" frequently display little concern for public safety or the environment.

LABORATORY HAZARDS

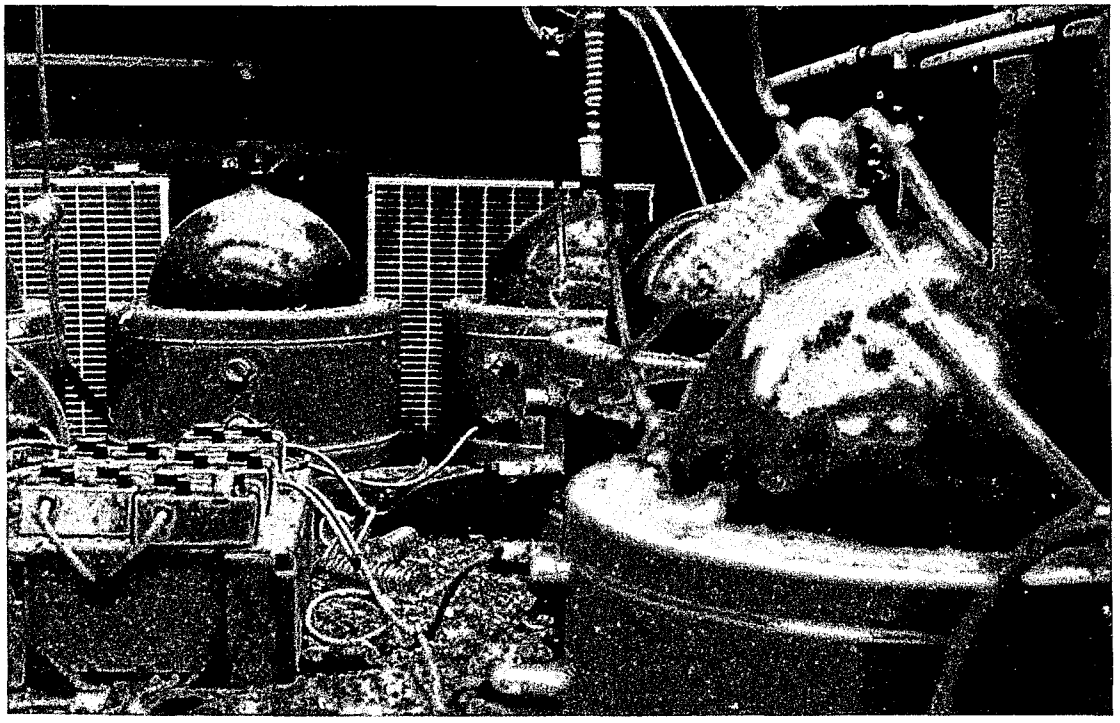
Clandestine laboratory operators often are well-armed, and their laboratories occasionally are booby-trapped and equipped with scanning devices employed as security precautions. Weaponry, ranging from single firearms to arsenals of high-powered weapons and explosives, was found in 41 percent of the laboratory sites seized during 1993.

Not only are clandestine laboratories used to manufacture illegal, often deadly drugs, but they have produced explosions, fires, toxic fumes, and irreparable damage to human health and the environment. Every year, a number of clandestine laboratories suffer fires or explosions, which lead to their discovery. Hazardous chemical wastes are disposed of by unsafe and illegal methods: operators dump them on the ground or in nearby streams and lakes, pour them into local sewage systems or septic tanks, or bury them.

Clandestine laboratories frequently contain toxic (i.e., irritant, corrosive, depressant, or asphyxiant), as well as explosive or flammable substances. Law enforcement personnel engaged in clandestine drug laboratory seizure and analysis require specialized training in the investigation of such facilities, including training in appropriate health and safety procedures and in the use of personal protective equipment.

The production of controlled substance analogues,[2] the so-called "designer drugs," periodically exposes clandestine laboratory investigators to synthetic drugs and by-products with severe debilitating or toxic effects. Clandestine fentanyl/fentanyl analogue and alphaprodine analogue laboratories constitute the greatest hazards due to the minute quantities that can induce physical harm.

[2] The term "controlled substance analogue" is no longer applicable once the drug is added to the controlled substance schedule.



Confined in an attic, these cookers (reaction vessels) were discovered after they exploded.

HAZARDOUS WASTE CLEANUP

Cleaning up a seized clandestine drug laboratory site is a complex, controversial, and expensive undertaking. The amount of waste material from a clandestine laboratory may vary from a few pounds to several tons depending on the size of the laboratory and its manufacturing capabilities. In FY 1993 alone, DEA obligated approximately $2.6 million for hazardous waste cleanup and disposal.

In 1993, DEA obligated approximately $2.6 million for hazardous waste cleanup and disposal.

Under Federal law, DEA becomes the *de jure* generator of hazardous waste as a result of seizing such materials as solvents, reagents, precursors, by-products, and the drug products themselves. In 1989, DEA and the Environmental Protection Agency (EPA) agreed that drug law enforcement responsibilities end when the drug law enforcement official notifies the property owner and State and local environmental or public health agencies in writing of possible site contamination.

As a result, DEA's cleanup program involves only the removal of gross contamination by a qualified hazardous waste disposal firm. Gross contamination includes such materials as chemical containers, contaminated apparatus, and waste material. Incineration of the hazardous waste is generally the preferred disposal option. DEA does not become involved in any phase of remediation of the property, e.g., removal of septic systems used for disposal, removal of contaminated soil, or decontamination of property or dwellings to make them suitable for re-habitation.

A chemical waste dump site.

CLANDESTINE LABORATORY SEIZURES BY DRUG TYPE

METHAMPHETAMINE

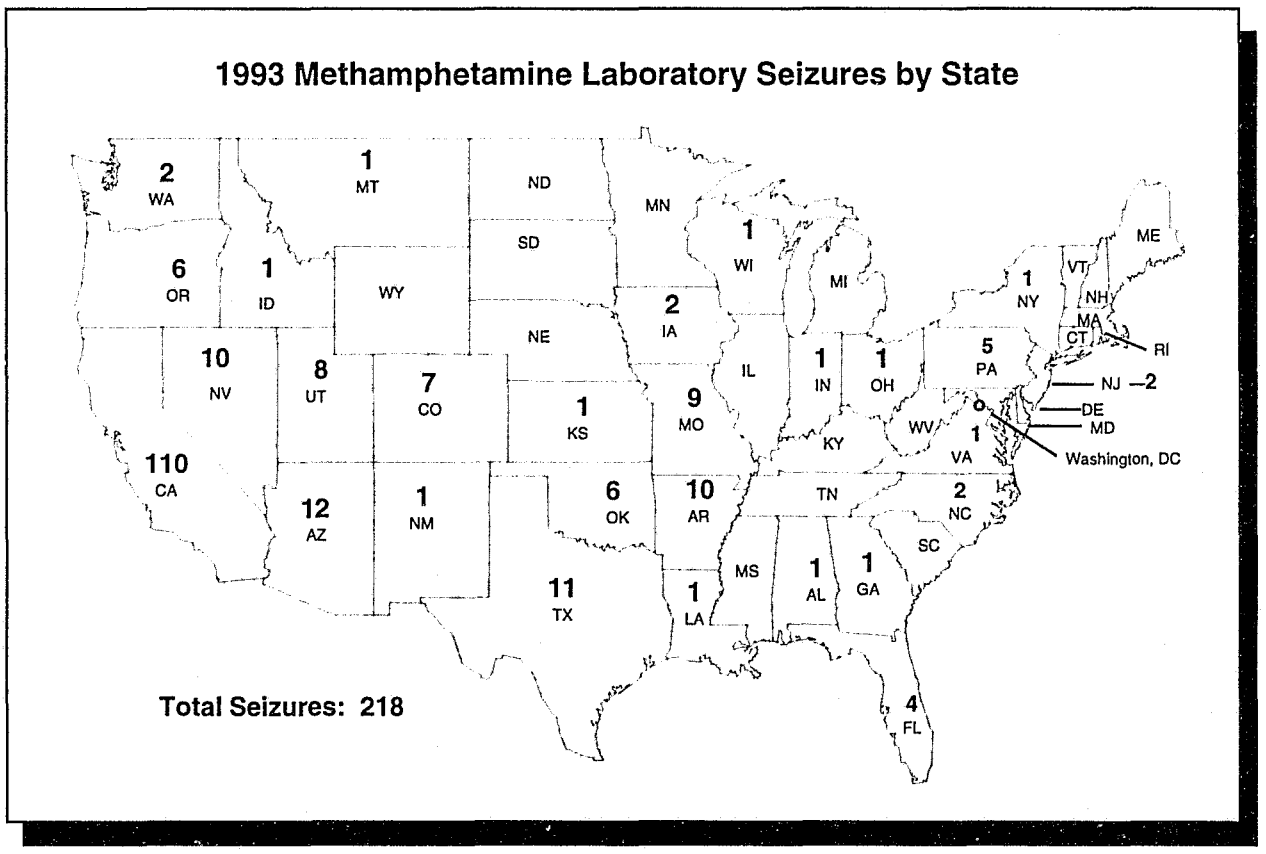
Although clandestine methamphetamine laboratory seizures declined in 1993, methamphetamine remained the most prevalent, clandestinely manufactured controlled substance in the United States.

DEA special agents in concert with State and local law enforcement authorities seized 218 methamphetamine laboratories in 1993 (figure 4), which accounted for 81 percent of all clandestine laboratory seizures. This total represented a 24-percent decrease from the previous year's total of 288; this was the fourth consecutive year in which the number of clandestine methamphetamine laboratories seized declined (see figure 5).

In order of seizures, the DEA San Francisco, San Diego, Los Angeles, Denver, Phoenix, Dallas, St. Louis, and New Orleans Field Divisions accounted for 85 percent of all methamphetamine laboratories seized in 1993. This clearly shows that the clandestine manufacture of methamphetamine continues, as in previous years, to be based primarily in the western and southwestern United States.

Seizures of methamphetamine laboratories declined in 11 DEA field divisions, including San Francisco and San Diego, which reported the highest number of seizures. Authorities in the San Francisco and San Diego Field Divisions each seized 41 clandestine methamphetamine laboratories in 1993, compared to 67 and 54, respectively, in 1992.

Figure 4



Routes of Synthesis

The illicit manufacture of methamphetamine can be accomplished by a variety of methods, but it is produced most commonly by using either a P2P method or an ephedrine reduction route of synthesis. There are two stereoisomers of methamphetamine, dextro or *d* and levo or *l*. The dextro or *d*-isomer is the more potent, pharmacologically active stimulant of the two. Synthesis of methamphetamine by one of the P2P methods yields a racemic mixture *(dl*-methamphetamine, a 50-50 mixture of the d- and l-isomers), while the reduction of *l*-ephedrine yields *d*-methamphetamine. Because the *d*-isomer accounts for most of the stimulant effects associated with methamphetamine, the ephedrine reduction routes of synthesis produce substantially more of the active isomer than do P2P methods. Besides producing a more potent form of methamphetamine, the ephedrine reduction method is preferred over the P2P methods for two additional reasons. First, it is a simpler route of synthesis. Second, ephedrine is controlled less strictly than P2P, and, therefore, it is more readily available to clandestine laboratory operators. Of the 218 methamphetamine laboratories seized in 1993, 180 (83%) were identified or suspected of using this method of production (figure 6). This number includes laboratories that were capable of employing both the ephedrine and P2P synthesis routes.

The ephedrine reduction method, which was first employed in clandestine laboratories located in southern California, has become widespread throughout of the United States. Use of this route of synthesis has increased considerably over the past several years. Figure 6 illustrates this shift in production technique.

Methamphetamine Precursors

While the exact amount of precursor chemicals that are diverted for use in clandestine laboratories is unknown, it is apparent that their procurement is of primary importance to illicit laboratory operators. As a result, laboratory operators have been forced to manufacture some of their own precursor chemicals, employ alternative routes of synthesis, or seek other sources of supply.

P2P

The use of P2P, an immediate precursor for both amphetamine and methamphetamine, was the preferred route of synthesis prior to the emergence of ephedrine reduction methods. All of the amphetamine laboratories and 16 percent of the methamphetamine laboratories seized during the year used the P2P method of production. Furthermore, in 1993, one laboratory that was making P2P exclusively was seized.

Figure 5

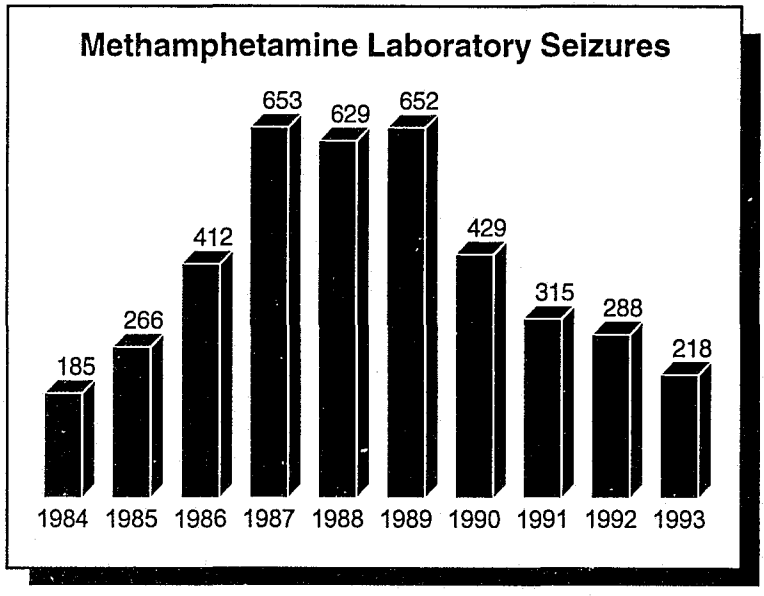


Figure 6

Methamphetamine Production Methods			
Year	Ephedrine	P2P	Unknown
1988	59 (10%)	153 (24%)	417 (66%)
1989	219 (34%)	197 (30%)	236 (36%)
1990	228 (53%)	134 (31%)	67 (16%)
1991	178 (57%)	86 (27%)	51 (16%)
1992	206 (72%)	55 (19%)	27 (9%)
1993	180 (83%)	36 (16%)	2 (1%)

As an immediate precursor for the manufacture of both amphetamine and methamphetamine, P2P is controlled under Schedule II of the CSA. As a result, clandestine laboratory operators commonly manufacture their own P2P from phenylacetic acid. Continued use of this method of production is indicated by the fact that 21 methamphetamine laboratories seized in 1993 had produced, or were capable of producing, P2P as an intermediate step to the finished product.

Ephedrine

Ephedrine, pseudoephedrine, and their salts are used in medicine chiefly for the treatment of asthma, hay fever, and colds. According to the DEA Office of Diversion Control, 725.4 metric tons of ephedrine, pseudoephedrine, and their salts were imported into the continental United States during 1993 (figure 7). More than 75 percent of the ephedrine imported into this country originated in Germany and the People's Republic of China.

One popular method for acquiring ephedrine was by purchasing 25-milligram ephedrine tablets, which were exempt from the record-keeping and reporting requirements of the CDTA and most State legislation. These tablets were readily available from mail-order supply companies, and millions of ephedrine tablets, diverted through this loophole in the law, have been encountered at clandestine laboratory sites.

Reporting by DEA offices in California indicates an increasing number of organizations that smuggle and broker chemicals exclusively. Seizures at border checkpoints have shown that hydriodic acid is being smuggled from Canada, and that ephedrine, readily available in Mexico, as well as methamphetamine itself, is being transported into the United States from Mexico.

Figure 7

Ephedrine\Pseudoephredrine Imports to the United States*		
Year	Total imports (metric tons)	Percent change from previous year
1990	477.5	--
1991	755.5	58.2
1992	621.3	-17.7
1993	725.4	16.7

** International Chemical Control Unit, Chemical Operations Section, Office of Diversion Control*

Mexican Methamphetamine Traffickers

In recent years, the trend in California has been toward the increasing involvement of Mexican traffickers in the large-scale production and distribution of methamphetamine in the Fresno, Riverside, San Bernardino, and San Diego areas. The growing participation of Mexican trafficking organizations is altering traditional patterns of chemical procurement and methamphetamine production throughout California and adjoining States. For example, outlaw motorcycle gangs, traditionally associated with the production and distribution of methamphetamine, may be purchasing chemicals and finished product from Mexican traffickers.

Illicit production sites controlled by Mexican organizations frequently are located in isolated rural areas. The laboratories often consist of multiple 22-liter reaction vessel setups. The high-volume capacity of their production facilities distinguishes Mexican organizations from other trafficking groups. The organized efforts of Mexican traffickers to obtain, smuggle, and broker substantial quantities of the chemicals used in the manufacture of methamphetamine is of further significance.

The high-volume capacity of their production facilities distinguishes Mexican trafficking organizations.

METHCATHINONE

A Schedule I synthetic stimulant, methcathinone has a chemical structure similar to that of methamphetamine, and produces amphetamine-like, psychomotor stimulant activity, including superabundant energy, hyperactivity, extended wakefulness, and a loss of appetite.

Methcathinone is sold under the street name "cat" and is distributed as a white to off-white powder. Administration is via nasal inhalation in dosage units of less than a gram, as well as by injection. Cat prices are similar to those for cocaine and generally average $100 per gram.

Methcathinone laboratory seizures increased from 6 in 1992 to 22 in 1993.

Clandestine manufacture of methcathinone was encountered first in 1991, when five laboratories were seized in the Upper Peninsula of Michigan. However, since then, methcathinone laboratories have operated throughout Michigan and in Colorado, Illinois, Indiana, Washington, and Wisconsin. The number of methcathinone laboratory seizures has increased sharply from 5 in 1991 and 6 in 1992, to 22 in 1993 (figure 8).

Methcathinone was placed temporarily into Schedule I of the CSA on May 1, 1992, pursuant to emergency scheduling provisions of the CSA. On October 15, 1993, by final rule, methcathinone was placed permanently into Schedule I of the CSA. It also has been placed into the controlled substances acts of Michigan and Wisconsin.

Figure 8

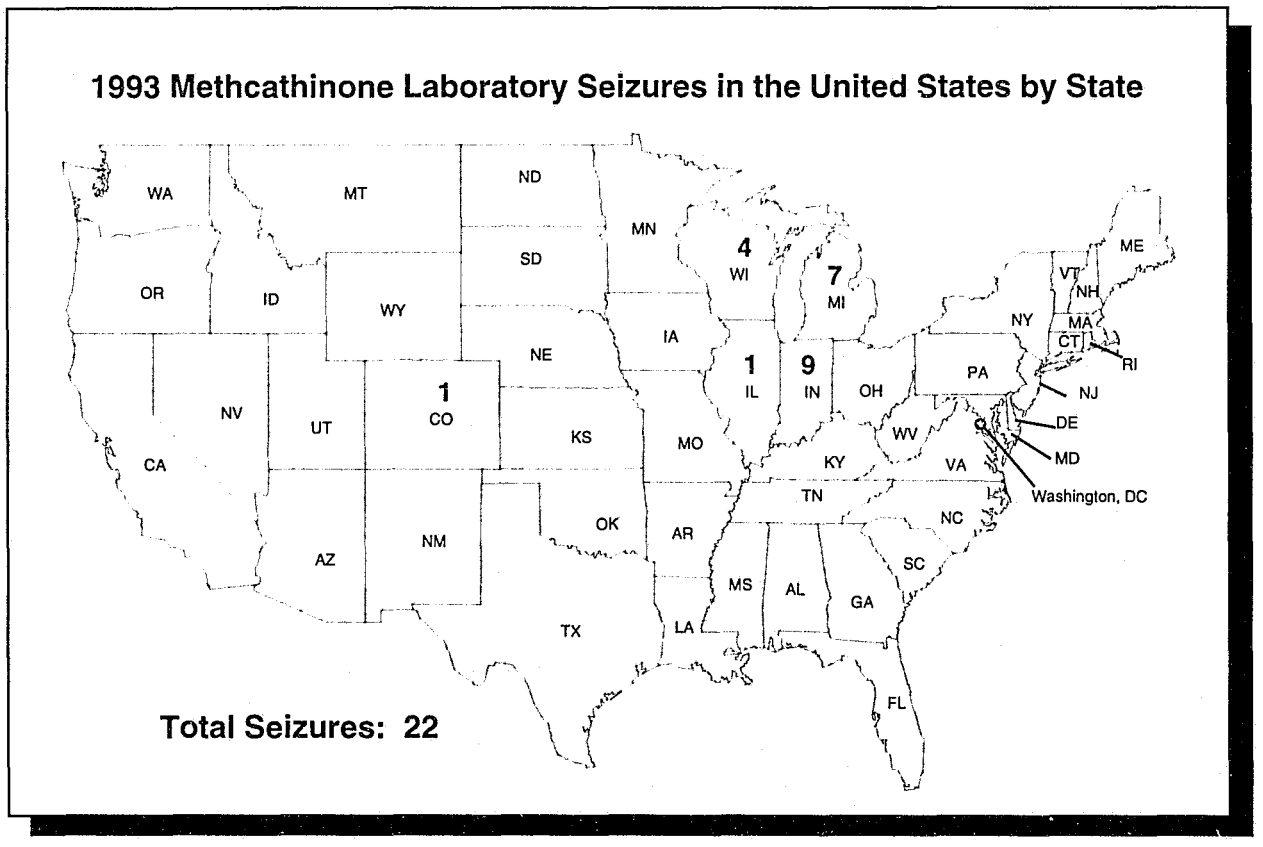
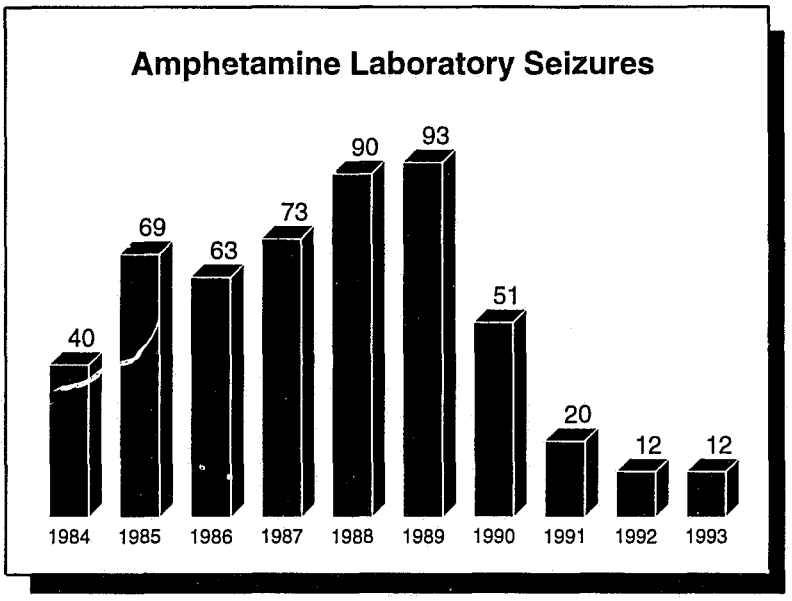


Figure 9

AMPHETAMINE

Amphetamine, a Schedule II controlled substance, is similar in some ways to adrenaline, the body's own central nervous system stimulant. Drug law enforcement officers seized 12 clandestine amphetamine laboratories in 1993; the same number seized in 1992, representing a drop of more than 87 percent from the record 93 laboratories seized in 1989 (figure 9).



All amphetamine laboratories seized during 1993 used the P2P method of synthesis.

Eight production sites seized in the DEA Dallas Field Division accounted for 67 percent of all amphetamine laboratories seized nationwide. Amphetamine laboratories also were seized by the DEA New Orleans (3) and Atlanta (1) Field Divisions (figure 10).

Figure 10

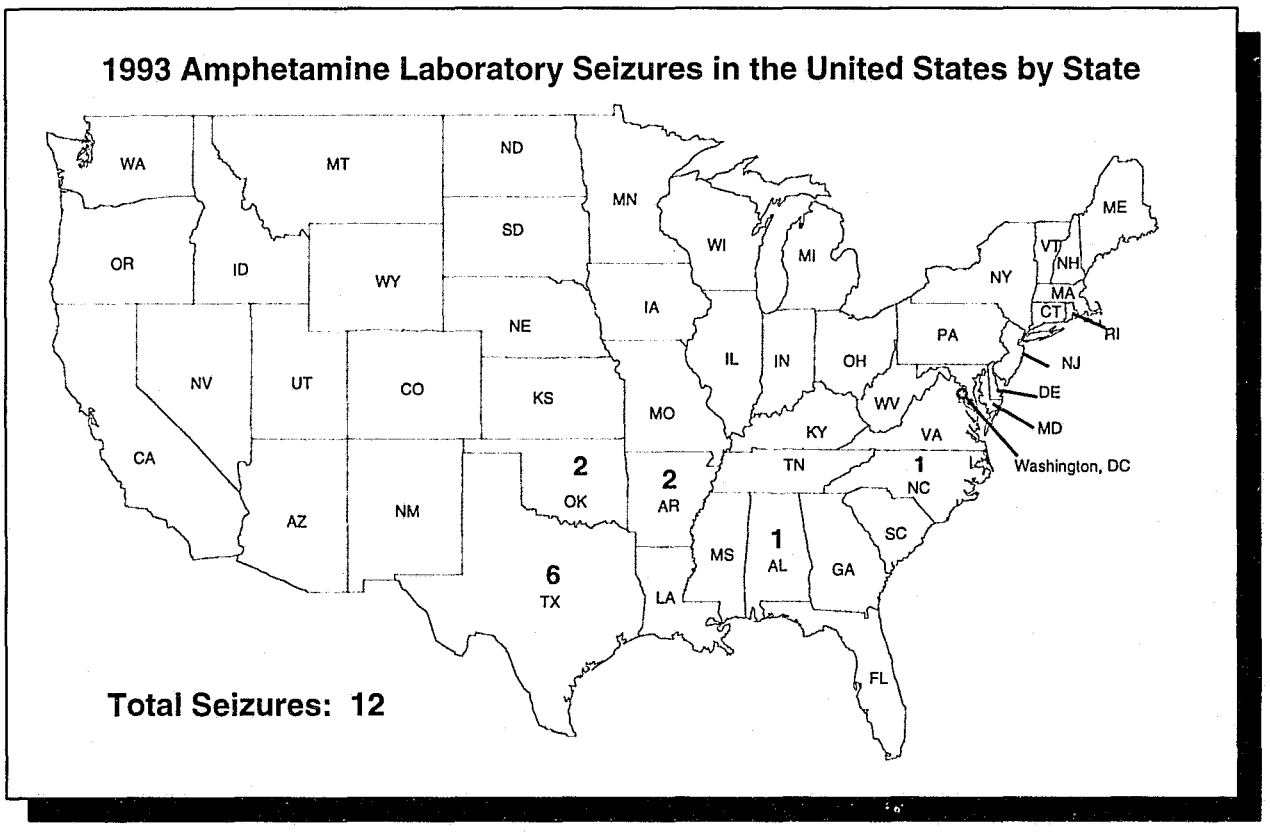
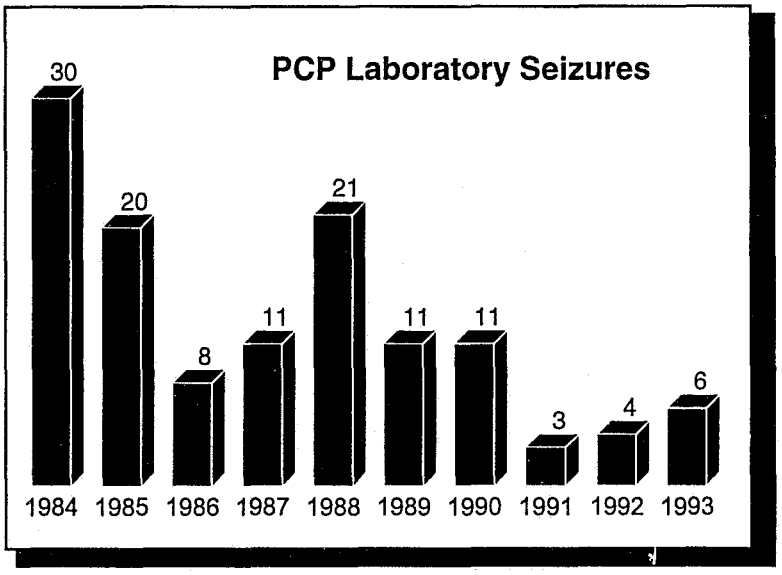


Figure 11

PHENCYCLIDINE AND PHENCYCLIDINE ANALOGUES (PCP)

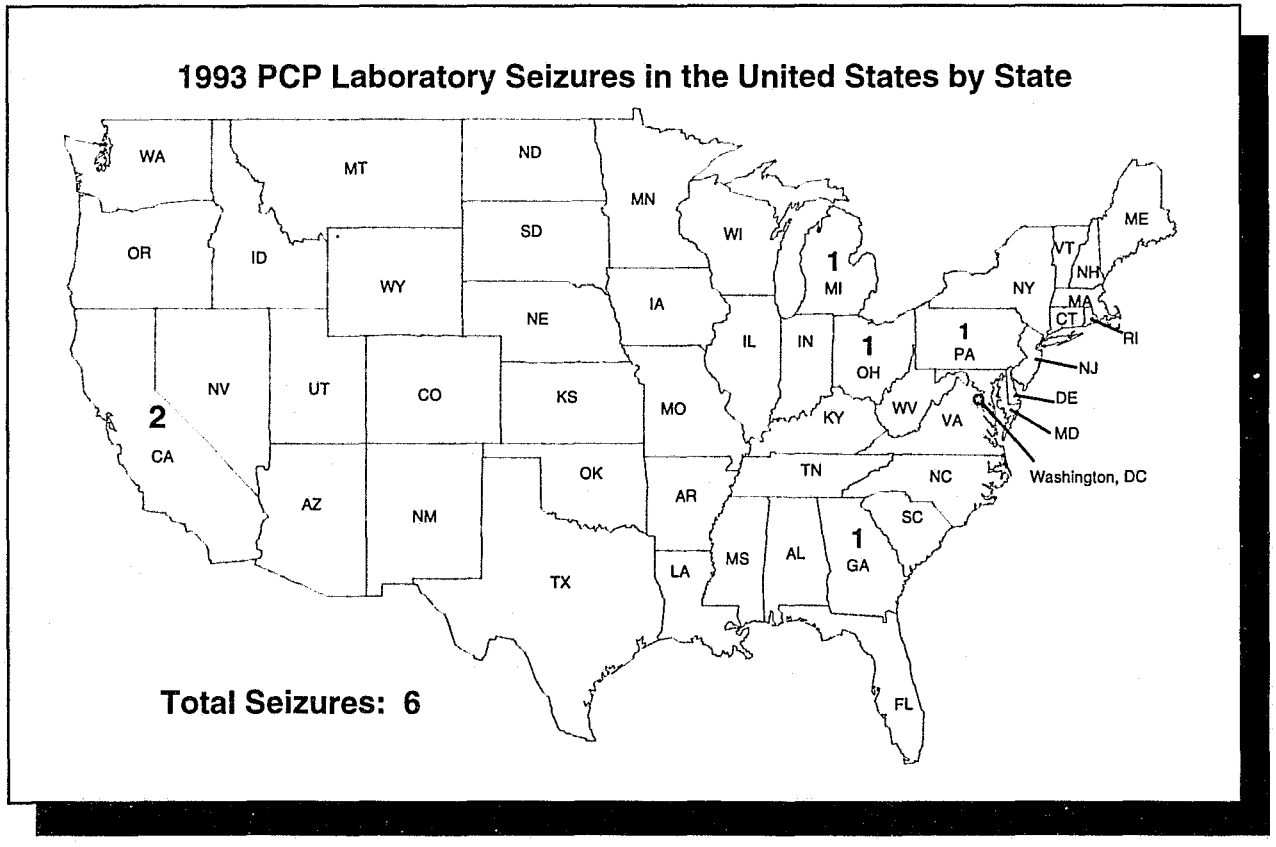
In 1993, six clandestine PCP laboratories were impounded (figure 11)—an increase of two over 1992 seizures. Two laboratories were located in California; additional PCP production sites were seized in the DEA Atlanta, Detroit, and Philadelphia Field Divisions (figure 12).

A 1-piperidinocyclohexanecarbonitrile (PCC) laboratory was confiscated by the DEA Chicago Division. PCC is an immediate precursor to PCP.



A Schedule II hallucinogenic substance, PCP was developed in 1957 as a human anesthetic and later was used in veterinary medicine as a powerful tranquilizer. Commercial manufacture of PCP virtually has been discontinued since 1978; clandestine laboratories have supplied the illicit market since that time.

Figure 12



3,4 METHYLENEDIOXYMETHAMPHETAMINE (MDMA)

Three MDMA[3] laboratories were seized in 1993, a decrease from 1992 when nine clandestine laboratories were confiscated. The three seized MDMA laboratories were located in Florida, Massachusetts, and Michigan.

MDMA laboratories were seized in Florida, Massachusetts, and Michigan.

MDMA is a Schedule I hallucinogenic substance that also possesses stimulant properties. The effects of MDMA (euphoria, increased sensory awareness, and mild central nervous system stimulation) are of shorter duration and induce a less intense hallucinogenic state than those of MDA, a substance to which it is structurally similar.

MDMA, usually sold in tablet form, is available in some southern States and in the Northeast in local nightclubs, as well as at all-night dance gatherings known as "Raves." MDMA users are predominantly white teenagers and young adults.

[3] The so-called "Yuppie Drug of the 1980's," MDMA is known by such street names as Adam, Clarity, Doctor, E, Ecstasy, Essence, the Hug Drug, M, MDM, Presence, XTC, and Zen.

FENTANYL AND FENTANYL ANALOGUES

A powerful, Schedule II synthetic narcotic/ analgesic, fentanyl has been identified as the cause of hundreds of overdose emergencies and deaths on the East Coast from early 1991 to early 1993. More than 60 deaths were attributed to fentanyl or fentanyl analogues in 1992 alone, principally in the Baltimore, Boston, New York City, Philadelphia, and Pittsburgh areas.

Identification and immobilization of the fentanyl manufacturing and trafficking organization became a DEA enforcement priority subsequent to the seizure of three fentanyl exhibits totalling 17 kilograms in early November 1992 in Boston, Massachusetts. The exhibits were later identified as 3-methylfentanyl, a Schedule I controlled substance estimated to be approximately 400 times more potent than heroin.

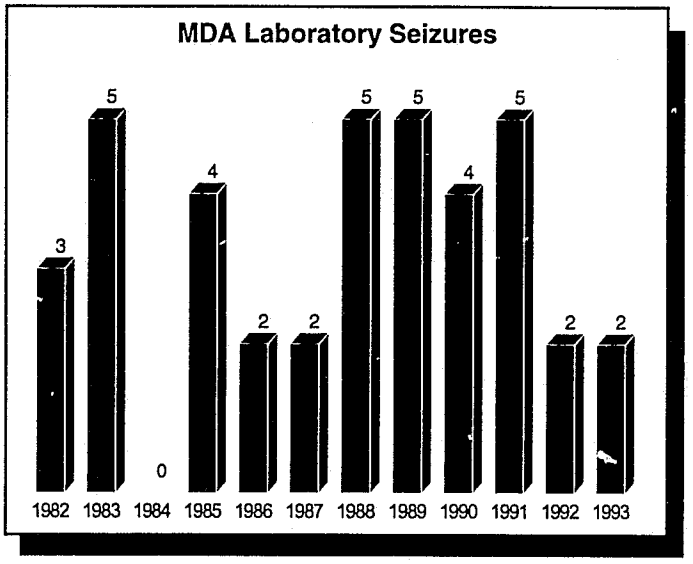
In February of 1993, two clandestine fentanyl analogue laboratories, valued at $500,000 were seized from an industrial chemical operation in Goddard, Kansas, and a residential location in Wichita, Kansas. Seized from the laboratory sites and from several associated locations were reaction mixtures, chemicals, and expensive, highly sophisticated laboratory equipment. Sufficient laboratory apparatus was present to run up to 20 simultaneous reactions. The Goddard and Wichita seizures raise to 11 the total number of clandestine fentanyl/fentanyl analogue laboratories seized in the United States since 1985 (figure 3).

Respiratory depression is the most significant acute toxic effect resulting from ingestion of the fentanyl compounds. Because of their extreme potency in minute amounts, and their ready absorption through the skin, eyes, nose, eardrums, mouth, small cuts, mucous membranes, etc., fentanyl and its analogues constitute a great hazard to the central nervous system, and ingestion can lead to cardiac arrest and death.

3,4-METHYLENEDIOXYAMPHETAMINE (MDA)

MDA, a Schedule I synthetic hallucinogen, is related to both mescaline and amphetamine. Usually taken orally or intravenously, the effects of MDA last from 8 to 12 hours. At low doses, users report a sense of well-being with heightened tactile sensation and intensified feelings, but without hallucinations or distortions. Higher doses may produce hallucinogenic effects similar to those of LSD.

Figure 13



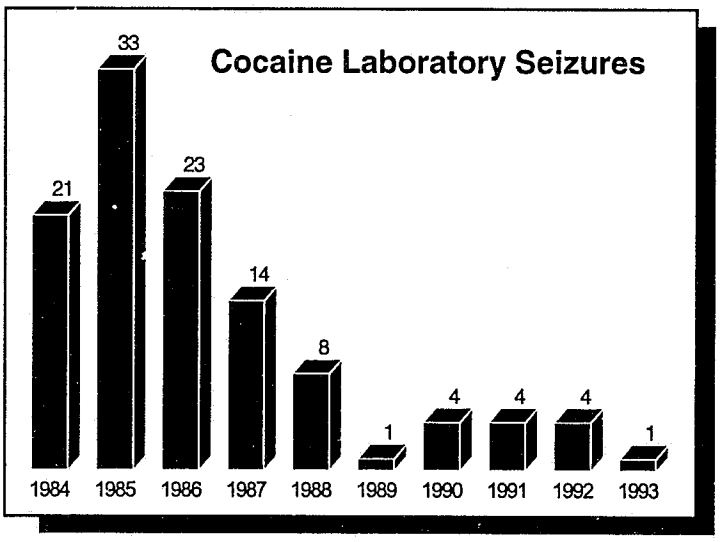
Clandestine MDA laboratory seizures remained stable from 1992 to 1993; two MDA laboratories were seized during each of those years. Production sites were confiscated in the DEA New Orleans and Washington, DC, Divisions.

Five clandestine MDA laboratories were seized in 1991, four in 1990, five in both 1989 and 1988, and two sites each in 1987 and 1986 (figure 13).

COCAINE

A Schedule II controlled substance, cocaine is the most potent stimulant derived from natural plant material. When cocaine base is smuggled into the United States from South American source countries, it is processed with essential chemicals in clandestine cocaine conversion laboratories to produce a finished product, cocaine hydrochloride.

Figure 14



One cocaine conversion laboratory was seized by the DEA Miami Division during 1993. Seizures of these laboratories have remained relatively low since 1989 (figure 14).

AMINOREX

A Schedule I substance, aminorex is a potent central nervous system stimulant with pharmacological properties similar to those of amphetamine and methamphetamine. As a central nervous system stimulant, it has approximately one-half to one-third the potency of d-amphetamine and a slightly shorter duration of action. Aminorex was marketed in Europe as an appetite suppressant in the 1960's but was withdrawn from clinical use because it was associated with fatal pulmonary hypertension. Low doses of aminorex produce mental alertness and loss of appetite, while higher doses produce restlessness and increased motor activity. Further increases in dose produce agitation, increased heart rate, rapid breathing, tremors, and possible convulsions that may be followed by loss of consciousness, depressed respiration, and death.

Little is known of how aminorex is used on the street.

Little is known of how aminorex actually is used on the street; however, since aminorex most likely is used as a substitute for amphetamine or cocaine, it probably is administered orally, intranasally, or via inhalation. Intravenous use is less likely because of the low solubility of the base in water.

A single aminorex laboratory was seized by the DEA Philadelphia Division during 1993. According to DEA reporting, this was the first seizure of an aminorex laboratory since its emergency scheduling in September of 1992.

4-BROMO 2,5 DIMETHOXYAMPHETAMINE/2,5-DIMETHOXYAMPHETAMINE (DOB/DMA)

One DOB/DMA laboratory was seized during 1993 by the DEA Detroit Field Division. DOB/DMA are potent Schedule I hallucinogens with pharmacological properties similar to LSD. In addition, DMA can be used as a precursor for DOB.

APPENDIX A

1993 Clandestine Laboratory Seizures by Drug Type and Field Division

Field Division	Methamphetamine	Methcathinone	Amphetamine	PCP	Cocaine	P2P	Other	Total
Atlanta	3	0	1	1	0	0	0	5
Boston	0	0	0	0	0	1	1	2
Chicago	2	14	0	0	0	0	1	17
Dallas	12	0	8	0	0	0	0	20
Denver	16	1	0	0	0	0	0	17
Detroit	1	7	0	2	0	0	2	12
Houston	5	0	0	0	0	0	0	5
Los Angeles	39	0	0	1	0	0	0	40
Miami	4	0	0	0	1	0	1	6
Newark	2	0	0	0	0	0	0	2
New Orleans	12	0	3	0	0	0	1	16
New York City	1	0	0	0	0	0	0	1
Philadelphia	5	0	0	1	0	0	1	7
Phoenix	12	0	0	0	0	0	0	12
San Diego	41	0	0	0	0	0	0	41
San Francisco	41	0	0	1	0	0	0	42
Seattle	9	0	0	0	0	0	0	9
St. Louis	12	0	0	0	0	0	2	14
Washington, DC	1	0	0	0	0	0	1	2
Grand Total*	**218**	**22**	**12**	**6**	**1**	**1**	**10****	**270**

* Note: Grand Total represents laboratory seizures with an assigned DEA Case Number.

Other: **MDMA—3 (1 Boston; 1 Detroit; 1 Miami) **MDA**—2 (1 New Orleans; 1 Washington, DC)
FENTANYL—2 St. Louis) **AMINOREX**—1 (Philadelphia)
4-BROMO 2,5-DIMETHOXYAMPHETAMINE/2,5-DIMETHOXYAMPHETAMINE—1 (Chicago)
PIPERIDINOCYCLOHEXANECARBONITRILE—1 (Chicago)

APPENDIX B
CHEMICALS REGULATED BY FEDERAL LEGISLATION

In 1988, with the objective of curtailing and preventing abuse and trafficking in dangerous drugs through elimination of precursor and essential chemical diversion, the U.S. Congress enacted the Chemical Diversion and Trafficking Act (CDTA). Subsequent modifications, including the Domestic Chemical Diversion Control Act of 1993 (DCDCA), subject in threshold amounts the following listed chemicals[4] and their esters, salts, optical isomers, and salts of optical isomers to Federal record-keeping and reporting requirements.

LIST I CHEMICALS

- Anthranilic acid
- Benzaldehyde
- Benzyl cyanide
- Ephedrine
- Ergonovine
- Ergotamine
- Ethylamine
- Hydriodic acid
- Isosafrole
- Methylamine
- N-Acetylanthranilic acid
- N-Methylephedrine
- N-Methylpseudoephedrine
- Nitroethane
- Norpsuedoephedrine
- Phenylacetic acid
- Phenylpropanolamine
- Piperidine
- Piperonal
- Propionic anhydride
- Pseudoephedrine
- 3,4-Methylenedioxyphenyl-2 propanone
- Safrole

LIST II CHEMICALS

- Acetic anhydride
- Acetone
- Benzyl chloride
- 2-Butanone (MEK or Methyl Ethyl Ketone)
- Ethyl ether
- Hydrochloric acid*
- Potassium Permanganate
- Sulfuric acid*
- Toluene

* Hydrochloric acid and sulfuric acid are subject to regulation only when exported to Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, French Guiana, Guyana, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela.

Source: Listed chemicals subject to records and reports, as of April 1994, 21 U.S.C. Sections 802, 830, 871 (b)/21 CFR Ch. II, Part 1310.

[4] The term "listed chemical" means any List I chemical or any List II chemical. The terms "List I chemical" or "List II chemical" mean a chemical specified by regulation of the Attorney General as a chemical that is used in manufacturing a controlled substance in violation of Title 21 U.S.C. and is important to the manufacture of the controlled substance (until otherwise specified by regulation of the Attorney General, as considered appropriate by the Attorney General, or upon petition to the Attorney General by any person).

APPENDIX C
SUGGESTED READINGS

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DISTRIBUTION

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Department of State

U.S. Coast Guard

DEA Headquarters
DEA Field Offices
DEA Laboratories

El Paso Intelligence Center
National Drug Intelligence Center

International Association of Chiefs of Police (Narcotics Committee)
National Alliance of State Drug Enforcement Agencies
National Sheriffs' Association
Regional Information Sharing System


U.S. Department of Justice
Drug Enforcement Administration