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November 13, 1990

MEMORANDUM

TO: Chairman Wilkins
Commissioners
Phyllis Newton, Staff Director
Senior Staff

FROM: Andy Purdy
Coordinator, Drug Working Group

SUBJECT: Drug Working Group Report and Proposals on Listed Chemicals

Attached is the Report and Amendment Proposals on Listed Chemicals. This report is the product of the Drug Working Group, led by Commissioner Carnes. Other members include Pam Barron, Abraham Clott, Sharon Henegan, Richard Murphy, and Ronnie Scotkin.

Attachment 1 to the report includes the two major amendment options. Attachment 2 is Richard Murphy's background memorandum and related appendices.

I. Introduction

The Drug Working Group has evaluated the Chemical Diversion Trafficking Act (CDTA) 21 U.S.C. § 841(d), and the conduct proscribed by that act. The Working Group recommends that the Commission publish two options of the primary guideline for sanctioning offenses relating to possession of chemicals used for the manufacture of controlled substances. [We will submit additional guideline language for the misdemeanor and less serious CDTA violations.] This memorandum sets out a brief background of the major offenses,[1] the common approach that led to the two main options, a description of the options and the issues that form the basis of the difference between them, and the arguments that can be made concerning the two options. [The recently enacted 1990 Crime Bill will require minor changes to the options.]

II. Background

The CDTA was passed by Congress on November 18, 1988 and took effect on March 18, 1989. Because the required companion regulations were not implemented until the fall of 1989, however, the CDTA has only begun to be enforced within the past year. At the present time there are no sentencing guidelines that specifically address violations of the CDTA.

The CDTA is based upon the premise that the clandestine production of controlled substances can be severely curtailed by limiting or controlling the supply of listed chemicals needed to produce those substances.

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[1] A more complete background report is attached to this memorandum, as Attachment 2.

The CDTA regulates the import, export, possession, and distribution of "listed chemicals" and equipment commonly used to clandestinely manufacture controlled substances in the United States and foreign countries.

"Listed chemicals" are chemicals specified by regulation of the Attorney General that are used to unlawfully manufacture controlled substances, although there are some legitimate uses for these chemicals. There are two types of listed chemicals: "precursor" and "essential" chemicals. "Precursors" are essential to the manufacturing process, and become part of the drug manufactured. "Essential" chemicals are used as solvents or catalysts in the manufacturing process, but do not become part of the finished product. Accordingly, essential chemicals may be reused.

The CDTA imposes recordkeeping and reporting requirements on distributors of the listed chemicals and prohibits the possession or distribution of those chemicals to or by any person **who knows or has reasonable cause to believe** those chemicals will be used to unlawfully manufacture a controlled substance or who **intends** to use them for such purpose. The CDTA also restricts the possession and manufacture of certain equipment used to clandestinely manufacture controlled substances. The sanctions for violations of the CDTA range from civil fines to misdemeanor penalties to a felony provision of up to ten years imprisonment.

The attached options address §841(d)(1) and (2), which prohibit the possession of listed chemicals: (1) with intent to

manufacture a controlled substance or (2) with knowledge or reasonable cause to believe that controlled substances will be manufactured.

III. Approach to Formulating a Guideline

The Working Group contacted experts in the field to obtain the technical and practical background information needed to understand the subject matter. In addition, Commission case files[2] and reported appellate decisions[3] dealing with precursor chemicals and lab operations were reviewed.

As a result of this research, the Working Group identified considerations that need to be addressed in any guideline scheme. Those considerations are highlighted below; a more complete analysis of each issue will follow the summary of the guideline proposals.

A. Given the Maximum Statutory Sentence Provided, To What Extent can the Existing Drug Quantity Table Be Used?

The maximum potential sentence for a violation of §841(d) is ten years imprisonment. The maximum penalty for most offenses involving controlled substances that are produced by use of the proscribed chemicals is between twenty years to life imprisonment.

Any guideline using or derived from the present drug quantity table -- that is, calculating the likely yield of controlled substance that the chemicals would produce--would likely have to

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[2] See Appendix M.

[3] See Appendix N.

scale the offense levels derived from that table to one appropriate for a ten year offense.

B. Should A Drug Quantity or A Chemical Quantity Table Be Used?

Either a drug quantity table or a chemical quantity table can be used to determine the base offense level of the offense level. To use a drug quantity table, the sentencing court would first have to make a finding, as it now does in many cases involving the manufacture of controlled substances, of the anticipated amount, or yield, of controlled substance that could have been produced by the chemicals, had the manufacturing process been completed.

A chemical quantity table would assign an offense level based on the quantity of chemicals involved in the offense. In order to determine the quantity of chemicals that would trigger a particular offense, the Commission would have to select the amount of controlled substance that generally could be produced from a specified quantity of chemicals.

C. If a Chemical Quantity Table is Used, What Percentage Yield Should The Commission Presume?

"Yield" is a term that refers to the anticipated quantity of controlled substance that can be produced by the specified quantity of chemicals. The "theoretical yield," which presumes optimum conditions, assumes a 100% yield. In reality, however, the actual yield is always substantially less than the "theoretical yield."

If sentences are to be based on a drug quantity table, the sentencing court can continue to determine the anticipated yield of controlled substances that could be produced from the chemicals

involved in an offense. If a chemical quantity table is used, however, the Commission will have selected an appropriate yield figure prior to assigning offense levels to particular quantities.

D. How Should The Guidelines Treat The Existence of Multiple Chemicals?

Where multiple quantities of dissimilar chemicals are involved in an offense, a system must be developed to calculate the total equivalent drug quantity, to aggregate chemical quantities, or otherwise to arrive at an appropriate offense level.

E. How Should the Commission Gauge the Relative Seriousness of the Offense, as Compared to Substantive "Lab" Offenses?

The CDTA sanctions preparatory conduct--that is, the possession or obtaining of listed chemicals--that precedes the actual or attempted manufacture of controlled substances.

The Commission must decide how these offenses compare, in seriousness, to the actual manufacture, attempted manufacture, or conspiracy to manufacture the controlled substances. The statutory scheme, which provides for only a ten year penalty, is a starting point.

F. Should the Guidelines Provide for A Firearms Enhancement?

Related to the issue of the relative danger of CDTA offenses, as compared to other drug offenses, the Commission must decide whether there should be an enhancement for possession of a dangerous weapon.

G. Should the Differing Levels of Intent Provided for In the Statute Trigger Different Offense Levels?

The CDTA provides a ten (10) year penalty for the possession of listed chemicals **with intent** to manufacture a controlled substance as well as possession or distribution of listed chemicals **knowing** or **having reasonable cause to believe** they will be used to manufacture a controlled substance. The Commission must decide whether it should treat these differing states of intent or knowledge differently.

H. How Should the Commission Treat The Statute's Potential Use as a "Plea Bargain" Statute?

Because violators of the CDTA could, in many cases, also be guilty of substantially more serious offenses, such as manufacturing, attempting to manufacture, or conspiring to manufacture a controlled substance, the Commission must determine whether it wishes to address the statute's potential for use as a plea bargaining technique by prosecutors and account for that potential. One means to address that potential would be, as with a telephone count, a cross-reference to §2D1.1.

IV. Summary of Guideline Proposals

After extensive consideration of each of the above factors, the Working Group drafted two main guideline proposals. Both of the main proposals are intended to be flexible enough, however, to permit their ready adaptation to the Commission's determinations on the key considerations identified above.

There are two options proposed for the major guideline dealing with violations of 21 U.S.C. § 841(d). See Attachment 1. Option #1 has two variations and utilizes a Chemical Quantity Table to determine an ~~the~~ offense level. Option #2 determines the offense level, in large part, by relying upon existing guideline § 2D1.1. Both main options and the variations of Option #1 are summarized below.

A. Options 1A and 1B

1. Similarities

Options 1A and 1B utilize the same Chemical Quantity Table to determine the base offense level. That table automatically establishes an offense level based on the quantity of chemicals involved in the offense.

Further, both Options 1A and 1B propose a cross reference that would mandate that the offense level be determined pursuant to guideline §2D1.1/§2D1.4, where the offense conduct actually involved the unlawful manufacture, attempted manufacture, or conspiracy to manufacture a controlled substance.

2. Differences

For purposes of determining the offense level under the Chemical Quantity Table, Option 1B proposes to aggregate **all** precursors, even dissimilar ones, involved in an offense, but only aggregate **like** essential chemicals [See Option 1, bracketed language in paragraph (a). The greater offense level, as derived from the aggregate precursor level and the aggregate like essential

chemical level will become the base offense level. [See Option 1, Application Notes 2-4].

Like Option 1B, Option 1A proposes to determine the base offense level from the quantity of the single precursor or essential chemical involved in the offense that will result in the greatest offense level [See Option 1, note preceding Commentary]. Unlike 1B, however, where multiple precursors or multiple essential chemicals were involved in an offense, Option 1A would not aggregate any of them.

3. Open Questions

Bracketed language in Option 1 reflects the need for the Commission to decide certain questions. §2D1.11(b)(2) provides for a two (2) level increase for possession of a dangerous weapon. §(b)(3) provides for a 2-4 level decrease for conviction under §841(d)(2) (knowledge or reasonable cause to believe). Further, the Commissioners should decide whether the reduction shall be based on the count of conviction or the offense conduct.

B. Option 2

Option 2 initially sets a base offense level of the greater of offense level 18 or the level determined from the Drug Quantity Table in §2D1.1 to determine a base offense level.

The offense level is determined by the quantity of controlled substance that the sentencing court finds will be produced by the quantity of chemicals possessed by the defendant. Thus, under this

option, the court, not the Commission, will determine the yield in each case.

Because the statutory penalty for violations of §841(d) is only 10 years, however, and the sentencing scheme under guidelines §2D1.1 and §2D1.4 is based upon maximum penalties of twenty years to life, some adjustment in the offense level for CDTA is appropriate. Option 2 thus proposes to reduce the offense level determined under §2D1.1 and §2D1.4 by four (4) to six (6) levels for violations of §841(d)(1) and (2), respectively.

Further, Option 2 offers the equivalent of the cross-reference present in Option 1, such that if the offense conduct involves a substantive manufacturing violation, no 4-6 level decrease is available.

Also, because Option 2 refers to §2D1.1, which, itself, contains an enhancement for possession of a firearm, no enhancement for firearms is necessary in this option.

V. Considerations Underlying Drafting of Guideline

A. Method of Devising Chemical Quantity Table in Option 1

The offense levels in the Chemical Quantity Table are based upon the quantity of listed chemicals involved in the offense conduct; the greater the quantity of chemicals, the greater the offense level. The specific offense levels were determined by extrapolating from information provided by the DEA and tying that information to the existing Drug Quantity Table, in §2D1.1, as explained below.

The DEA provided the Working Group with conversion ratios that could be used to determine how much of a specific controlled substance could be produced from a given quantity of a listed chemical. If a listed chemical could be used to make more than one controlled substance, the controlled substance most often produced was used by the DEA as the basis for the conversion. The DEA assumed a theoretical(100%) yield in its calculations. Because the theoretical yield will rarely, if ever, result, however, a 50% yield has been assumed by the Working Group for drafting purposes only. Prior to approving a final guideline, the Commission will likely wish to solicit formally public comment concerning the appropriate yield ratio to be used.

After the 50% drug yield for each chemical was calculated, the existing Drug Quantity Table in guideline § 2D1.1 was used to determine a corresponding offense level and the "spread" between each quantity range. Because the Table in § 2D1.1 is based upon statutes providing for up to life imprisonment and because the CDTA violations provide only for a maximum ten years imprisonment, however, the ranges in the § 2D1.1 table were compressed to fall within a scheme providing a maximum period of imprisonment of ten years.

As with §2D.1, the resulting "Chemical Quantity Table" provides room at the higher end of the table for some specific offense characteristic, or other upward adjustments to be made, without exceeding the ten year statutory limit. Thus, the highest offense level set by the table is a level 28.

The Commission will note that the Chemical Quantity Table proposes a minimum base offense level of Level 12. This level was chosen in view of the inherent danger and societal harm that exists where persons act to further the clandestine production of controlled substances. By comparison, guideline § 2D1.1 establishes a minimum base offense level of Level 12 for the crimes of distribution or possession with intent to distribute relatively small quantities of controlled substances (e.g. less than 5 gm methamphetamine or PCP, less than 25 gm of cocaine, or less than 50 mg of LSD). For purposes of drafting the proposed guidelines, it was assumed that the major felony provisions of the CDTA were at least as serious as these offenses.

B. Should Dissimilar Precursor Chemicals Be Aggregated To Arrive At An Offense Level Or Should The Highest Offense Level Resulting From Calculation of Each Individual Precursor Be Used?

1. Precursor Chemicals

Precursor chemicals become part of the final controlled substance. Further, no more than one precursor will be used in the manufacturing process for one particular drug. In addition, most clandestine labs usually produce only one controlled substance; in the majority of cases, that substance is methamphetamine.

From these facts, one could argue that there is no need to devise a scheme, or "common denominator," to convert different precursors to a common standard, since one could argue that generally only one precursor will be involved in any prosecution.

Such an argument ignores, however, the possibility that a courier will be sent to a chemical company to purchase numerous

precursors for multiple processes or that an employee of a company will sell multiple precursors to different processors. Accordingly, the Commission may decide to establish a method of converting multiple precursors to one standard. Option 1B provides such a method.

2. Essential Chemicals

Essential chemicals do not become part of the finished product and thus may be reused. In addition, unlike precursors, more than one essential chemical may be used in the same manufacturing process. Accordingly, both Option 1A and 1B use the quantity of the chemical producing the highest offense level.

C. Should There Be A Specific Offense Characteristic For A Dangerous Weapon?

Because this is a drug guideline, one could argue that, like §2D1.1, it should contain an enhancement for firearm possession. Although listed chemicals, and not the finished controlled substance are the subject of this guideline, the same societal concerns about the association of drugs and firearms still exist. Further, listed chemicals will be handled and possessed by drug dealers and manufacturers, who are arguably just as dangerous, whether they possess the finished product or are merely on their way to the lab. Further, because of the CDTA, listed chemicals are in short supply and have become very valuable. Thus, there is a need to be concerned about the risk of danger when those chemicals are possessed.

As to the argument that enhancement could be unfairly used against the employee of a legitimate drug company for legitimate

reasons, the enhancement would not apply if it was "clearly improbable that the weapon was connected with the offense." As indicated in the background memo, criminal charges under § 841(d) against chemical companies are likely to be rare, given the degree of knowledge or intent required. Indeed, if any charges are to be brought against legitimate companies, they are likely to be for misdemeanor recordkeeping violations to which the firearms adjustment would not apply. On the other hand, if a company is convicted under § 841(d) and is involved with drug manufacturers, then there is little reason not to apply the enhancement.

Others argue, however, that an enhancement for firearm possession is not appropriate because the buying and selling of chemicals does not involve the dangers associated with drug trafficking. Additionally, since these cases could involve sales from legitimate businesses, a gun could be present on the premises for protection from robberies. With this adjustment, the employee of a legitimate company in which a gun is kept near the cash register for protection might receive the enhancement for making an unlawful sale, even when the gun is not actually related to the crime.

Further, in cases of actual manufacturing, the cross-reference to §2D1.1 would pick up the enhancement in a situation where there is indeed much greater danger in having a weapon present.

D. Should There Be A Distinction Between Violations of §841(d)(1) and §841(d)(2) and Between The Two Types of Mental States Described in (d)(2)?

1. Distinction between (d)(1) and (d)(2)

21 U.S.C. § 841(d) distinguishes between possession of a listed chemical (1) with intent to unlawfully manufacture a controlled substance and (2) knowing or having reasonable cause to believe the listed chemical will be used to unlawfully manufacture a controlled substance. Both of these subsections carry the same maximum sentences of a term of imprisonment of ten (10) years.

The Commission must decide whether it wishes to provide a downward adjustment for the defendant who merely **knows or has reasonable cause to believe** that the chemicals will be used to manufacture drugs (d)(2), as opposed to the defendant who possess the drugs with the **actual intent** to manufacture the drugs. Although one could argue that because Congress set the same statutory penalty for both (d)(1) and (d)(2) violations, no distinction should be made in the guideline that addresses these violations, the better argument appears to favor a distinction between the two offenses. Section 841(d)(1) will reach the single drug manufacturer, himself, who is found in possession of prohibited chemicals, but who has not yet taken enough substantial steps for his conduct to constitute attempt or who has not demonstrated that he is working in concert with others, such that a conspiracy charge could be sustained. Section 841(d)(2), however, could reach the "courier" who may know, or have good cause to suspect, that the chemicals he has been sent to purchase are going to be put to an unlawful use, but who, himself, has no provable intent to manufacture drugs.

This difference in intent would appear to constitute a difference in the culpability of the two hypothetical defendants that should be addressed by the Guidelines.

2. Distinction between two mental states described in (d)(2)

An argument could be made that the defendant convicted of having "reasonable cause to believe" that the possessed chemicals would be used to manufacture a controlled substance is less culpable than the defendant who actually knows that such use will be made. Although such an argument makes sense in a metaphysical way, it likely would be very difficult for probation officers to make this distinction in any consistent or accurate manner, based merely on a verdict finding the defendant guilty of (d) (2). In addition, the "reasonable cause to believe" language in (d) (2) could be analogized to the "reckless disregard" of facts standard found to constitute actual knowledge of the facts in other criminal contexts.

Neither option has made a distinction based on the two subdivisions of (d)(2), although if the Commission chooses to follow that route, an additional reduction for the arguably less culpable conduct could easily be made.

E. Should Possession of Precursors or Chemicals With Intent To Manufacture [§841(d)(1)] Be Treated As Seriously As The Actual Manufacture or Attempted Manufacture of Controlled Substances?

One could answer "no," inasmuch as Congress only authorized a ten year potential period of imprisonment for possession with intent to manufacture, whereas it authorized up to a twenty year-term or life imprisonment for a conspiracy to manufacture, an attempted manufacture, or the actual manufacture of controlled substances. Where the offense conduct actually involved

manufacturing, attempted manufacturing, or conspiracy to manufacture, a cross reference could direct the use of an alternative guideline. (This would parallel the 1990 amendment to guideline §2D1.6, the "telephone count," which directs use of the offense level for the underlying offense).

On the other hand, one could argue that no distinction should be made between possession with intent to manufacture and the actual manufacture, attempted manufacture, or conspiracy to manufacture drugs. The person who possesses chemicals with the intent to manufacture is arguably just as culpable as the person who possesses such chemicals having conspired to manufacture or having attempted to manufacture controlled substances. After all, under present practice, no distinctions are made between the offenses of possession with intent to distribute, distribution, attempted manufacture, or manufacturing. Further, if (d)(1) is going to be used as a plea bargaining statute for persons who could be convicted of the more serious substantive crimes, the present guideline could treat such pleas the same way telephone counts are now treated, i.e., by going to the Drug Quantity Table and capping the sentence according to the statutory maximum.

To implement this view, the guideline could provide that all sentences for conduct constituting a violation of § 841(d)(1) would be determined pursuant to existing §2D1.1 and §2D1.4. The consequence of such a rule, however, would be the sentencing of most defendants convicted under (d)(1) at ranges close to the

statutory maximum, which involves a policy decision by the Commission.

OPTION #1

§2D1.11 **Unlawful Distribution, Import, Export or Possession of Listed Chemicals**

(a) Base Offense Level: the level from the Chemical Quantity Table in subsection (d) below [that corresponds to the (1) aggregate quantity of all listed precursor chemical(s) involved in the offense; or (2) aggregate quantity of the single listed essential chemical involved in the offense that results in the greatest offense level; whichever is greater].

(b) Specific Offense Characteristics

[(2) If a dangerous weapon (including a firearm) was possessed during commission of the offense, increase by **2** levels.]

[(3) If the defendant is convicted of violating 21 U.S.C. **§** 841(d)(2) decrease by **[2-4]** levels.]

(c) Cross Reference

If the offense conduct for which the defendant is accountable involved the unlawful manufacture of a controlled substance, or an attempt or conspiracy to manufacture a controlled substance unlawfully, apply §2D1.1 (Unlawful Manufacturing, Importing, Exporting, Trafficking), or §2D1.4 (Attempts and Conspiracies), as applicable, if the resulting offense level is greater than determined above.

(d) Chemical Quantity Table*

(1) 20 KG or more of Benzyl Cyanide; **Level 28**
20 KG or more of Ephedrine;
200 G or more of Ergonovine;
400 G or more of Ergotamine;
200 KG or more of Norpseudoephedrine;
20 KG or more of Phenylacetic Acid;
200 KG or more of Phenylpropanolamine;
10 KG or more of Piperidine;
20 KG or more of Pseudoephederine;
400 KG or more of 3, 4-methylenedioxyphenyl-2-propanone

22 KG or more of Acetic Anhydride;
1175 KG or more of Acetone;
20 KG or more of Benzyl Chloride;
1075 KG or more of Ethyl Ether;
44 KG or more of Hydriodic Acid;
10 KG or more of Potassium Permanganate;
1200 KG or more of Methyl Ethyl Ketone;
1300 KG or more of Toluene.

(2) At least 6 KG but less than 20 KG of Benzyl Cyanide; **Level 26**
At least 6 KG but less than 20 KG of Ephedrine;
At least 60 G but less than 200 G of Ergonovine;
At least 120 G but less than 400 G of Ergotamine;
At least 60 KG but less than 200 KG of Norpseudoephedrine;
At least 6 KG but less than 20 KG of Phenylacetic Acid;
At least 60 KG but less than 200 KG of Phenylpropanolamine;
At least 3 KG but less than 10 KG of Piperidine;
At least 6 KG but less than 20 KG of Pseudoephederine;
At least 120 KG but less than 400 KG of 3, 4- methylenedioxyphenyl-2-propanone

At least 6.6 KG but less than 22 KG of Acetic Anhydride;
At least 352.5 KG but less than 1175 KG of Acetone;
At least 6 KG but less than 20 KG of Benzyl Chloride;
At least 322.5 KG but less than 1075 KG of Ethyl Ether;
At least 13.2 KG but less than 44 KG of Hydriodic Acid (57%);
At least 3 KG but less than 10 KG of Potassium Permanganate;
At least 360 KG but less than 1200 KG of Methyl Ethyl Ketone;
At least 390 KG but less than 1300 KG of Toluene.

(3) At least 2 KG but less than 6 KG of Benzyl Cyanide; **Level 24**
At least 2 KG but less than 6 KG of Ephedrine;
At least 20 G but less than 60 G of Ergonovine;
At least 40 G but less than 120 G of Ergotamine;
At least 20 KG but less than 60 KG of Norpseudoephedrine;
At least 2 KG but less than 6 KG of Phenylacetic Acid;
At least 20 KG but less than 60 KG of Phenylpropanolamine;
At least 1 KG but less than 3 KG of Piperidine;

At least 2 KG but less than 6 KG of Pseudoephederine;
At least 40 KG but less than 120 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 2.2 KG but less than 6.6 KG of Acetic Anhydride;
At least 117.5 KG but less than 352.5 KG of Acetone;
At least 2 KG but less than 6 KG of Benzyl Chloride;
At least 107.5 KG but less than 322.5 KG of Ethyl Ether;
At least 4.4 KG but less than 13.2 KG of Hydriodic Acid (57%);
At least 1 KG but less than 3 KG of Potassium Permanganate;
At least 120 KG but less than 360 KG of Methyl Ethyl Ketone;
At least 130 KG but less than 390 KG of Toluene.

(4) At least 1.4 KG but less than 2 KG of Benzyl Cyanide; **Level 22**
At least 1.4 KG but less than 2 KG of Ephedrine;
At least 14 G but less than 20 G of Ergonovine;
At least 28 G but less than 40 G of Ergotamine;
At least 14 KG but less than 20 KG of Norpseudoephedrine;
At least 1.4 KG but less than 2 KG of Phenylacetic Acid;
At least 14 KG but less than 20 KG of Phenylpropanolamine;
At least 700 G but less than 1000 G of Piperidine;
At least 1.4 KG but less than 2 KG of Pseudoephederine;
At least 28 KG but less than 40 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 1.54 KG but less than 2.2 KG of Acetic Anhydride;
At least 82.25 KG but less than 117.5 KG of Acetone;
At least 1.4 KG but less than 2 KG of Benzyl Chloride;
At least 75.25 KG but less than 107.5 KG of Ethyl Ether;
At least 3.08 KG but less than 4.4 KG of Hydriodic Acid (57%);
At least 700 G but less than 1 KG of Potassium Permanganate;
At least 84 KG but less than 120 KG of Methyl Ethyl Ketone;
At least 91 KG but less than 130 KG of Toluene.

(5) At least 800 G but less than 1.4 KG of Benzyl Cyanide; **Level 20**
At least 800 G but less than 1.4 KG of Ephedrine;
At least 8 G but less than 14 G of Ergonovine;
At least 16 G but less than 28 G of Ergotamine;
At least 8 KG but less than 14 KG of Norpseudoephedrine;
At least 800 G but less than 1400 G of Phenylacetic Acid;
At least 8 KG but less than 14 KG of Phenylpropanolamine;
At least 400 G but less than 700 G of Piperidine;
At least 800 G but less than 1.4 KG of Pseudoephederine;
At least 16 KG but less than 28 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 880 G but less than 1.54 KG of Acetic Anhydride;
At least 47 KG but less than 82.25 KG of Acetone;
At least 800 G but less than 1400 G of Benzyl Chloride;
At least 43 KG but less than 75.25 KG of Ethyl Ether;
At least 1.76 KG but less than 3.08 KG of Hydriodic Acid (57%);
At least 400 G but less than 700 G of Potassium Permanganate;
At least 48 KG but less than 84 KG of Methyl Ethyl Ketone;
At least 52 KG but less than 91 KG of Toluene.

(6) At least 200 G but less than 800 G of Benzyl Cyanide; **Level 18**

At least 200 G but less than 800 G of Ephedrine;
At least 2 G but less than 8 G of Ergonovine;
At least 4 G but less than 16 G of Ergotamine;
At least 2 KG but less than 8 KG of Norpseudoephedrine;
At least 200 G but less than 800 G of Phenylacetic Acid;
At least 2 KG but less than 8 KG of Phenylpropanolamine;
At least 100 G but less than 400 G of Piperidine;
At least 200 G but less than 800 G of Pseudoephederine;
At least 4 KG but less than 16 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 220 G but less than 880 G of Acetic Anhydride;
At least 12.93 KG but less than 47 KG of Acetone;
At least 200 G but less than 800 G of Benzyl Chloride;
At least 10.75 KG but less than 43 KG of Ethyl Ether;
At least 440 G but less than 1.76 KG of Hydriodic Acid (57%);
At least 100 G but less than 400 G of Potassium Permanganate;
At least 12 KG but less than 48 KG of Methyl Ethyl Ketone;
At least 13 KG but less than 52 KG of Toluene.

(7) At least 160 G but less than 200 G of Benzyl Cyanide; **Level 16**
At least 160 G but less than 200 G of Ephedrine;
At least 1.6 G but less than 2 G of Ergonovine;
At least 3.2 G but less than 4 G of Ergotamine;
At least 1.6 KG but less than 2 KG of Norpseudoephedrine;
At least 160 G but less than 200 G of Phenylacetic Acid;
At least 1.6 KG but less than 2 KG of Phenylpropanolamine;
At least 80 G but less than 100 G of Piperidine;
At least 160 G but less than 200 G of Pseudoephederine;
At least 3.2 KG but less than 4 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 176 G but less than 220 G of Acetic Anhydride;
At least 9.4 KG but less than 12.93 KG of Acetone;
At least 160 G but less than 200 G of Benzyl Chloride;
At least 8.6 KG but less than 10.75 KG of Ethyl Ether;
At least 352 G but less than 440 G of Hydriodic Acid (57%);
At least 80 G but less than 100 G of Potassium Permanganate;
At least 9.6 KG but less than 12 KG of Methyl Ethyl Ketone;
At least 10.4 KG but less than 13 KG of Toluene.

(8) 3.6 KG or more of Anthranilic Acid; **Level 14**
At least 120 G but less than 160 G of Benzyl Cyanide;
At least 120 G but less than 160 G of Ephedrine;
At least 1.2 G but less than 1.6 G of Ergonovine;
At least 2.4 G but less than 3.2 G of Ergotamine;
4.8 KG or more of N-acetylanthranilic Acid;
At least 1.2 KG but less than 1.6 KG of Norpseudoephedrine;
At least 120 G but less than 160 G of Phenylacetic Acid;
At least 1.2 KG but less than 1.6 KG of Phenylpropanolamine;
At least 60 G but less than 80 G of Piperidine;
At least 120 G but less than 160 G of Pseudoephederine;
At least 2.4 KG but less than 3.2 KG of 3, 4-methylenedioxyphenyl-2-propanone

At least 132 G but less than 176 G of Acetic Anhydride;
At least 7.05 KG but less than 9.4 KG of Acetone;
At least 120 G but less than 160 G of Benzyl Chloride;
At least 6.45 KG but less than 8.6 KG of Ethyl Ether;
At least 264 G but less than 352 G of Hydriodic Acid (57%);

At least 60 G but less than 80 G of Potassium Permanganate;
At least 7.2 KG but less than 9.6 KG of Methyl Ethyl Ketone;
At least 7.8 KG but less than 10.4 KG of Toluene.

(9) Less than 3.6 KG of Anthranilic Acid; **Level 12**
Less than 120 G of Benzyl Cyanide;
Less than 120 G of Ephedrine;
Less than 1.2 G of Ergonovine;
Less than 2.4 G of Ergotamine;
Less than 4.8 KG of N-acetylanthranilic Acid;
Less than 1.2 KG of Norpseudoephedrine;
Less than 120 G of Phenylacetic Acid;
Less than 1.2 KG of Phenylpropanolamine;
Less than 60 G of Piperidine;
Less than 120 G of Pseudoephederine;
Less than 2.4 KG of 3, 4-methylenedioxyphenyl-2-propanone

Less than 132 G of Acetic Anhydride;
Less than 7.05 KG of Acetone;
Less than 120 G of Benzyl Chloride;
Less than 6.45 KG of Ethyl Ether;
Less than 352 G of Hydriodic Acid (57%);
Less than 60 G of Potassium Permanganate;
Less than 7.2 KG of Methyl Ethyl Ketone;
Less than 7.8 KG of Toluene.

[Option 1A]

[* Where different precursors or essential chemicals are involved, use the quantity of the precursor or essential chemical that results in the greatest offense level.]

[Option 1B]

[* The Precursor Chemical Equivalency Table provides a means for combining differing precursor chemicals to obtain a single offense level adjustment. Where multiple listed precursors exist, convert each of them to the ephedrine equivalent from the table below, add the quantities, and look up the total in the Chemical Quantity Table to obtain the combined offense level for the listed precursors.

PRECURSOR CHEMICAL EQUIVALENCY TABLE

(A)	1 gm of anthranilic acid =	.033 gm of ephedrine
(B)	1 gm of benzyl cyanide =	1 gm of ephedrine
(C)	1 gm of ergonovine =	1 gm of ephedrine
(D)	1 gm of ergotamine =	50 gm of ephedrine
(E)	1 gm of N-acetylanthranilic acid =	.025 gm of ephedrine
(F)	1 gm of norpseudoephedrine =	.40 gm of ephedrine
(G)	1 gm of phenylacetic acid =	1 gm of ephedrine
(H)	1 gm of phenylpropanolamine =	.40 gm of ephedrine
(I)	1 gm of piperidine =	2 gm of ephedrine
(J)	1 gm of pseudoephedrine =	1 gm of ephedrine
(K)	1 gm of 3,4-Methylenedioxyphenyl-2-propanone	.05 gm of ephedrine

Provided, that the aggregate ephedrine equivalency from subdivisions (A) and (E) may not exceed 160 grams of ephedrine.]

Commentary

Statutory Provisions: 21 U.S.C. § 841(d)(1),(d)(2),(g)(1), § 960(d)(1),(d)(2)

Application Notes:

1. "Listed chemical", "listed precursor chemical", and "listed essential chemical" are defined at 21 U.S.C. § 802. Any reference to a listed chemical includes all its salts, isomers, and all its salts of isomers.

[2. Where there are multiple listed precursor chemicals involved in the offense, the quantities of all precursors are to be added together for purposes of determining the offense level under (b)(1)(A). This is in recognition of the fact that only one precursor is utilized in a given manufacturing process. Further, unlike essential chemicals, precursors become part of the manufactured controlled substance. A Table for making the necessary conversions is provided.

3. Where there are multiple listed essential chemicals involved in the offense, all quantities of the same essential chemical are to be added together for purposes of determining the offense level under (b)(1)(B). However, quantities of different essential chemicals are not to be totaled. Thus, where multiple essential chemicals are involved in the offense, the offense level under (b)(1)(B) of this guideline is determined by using the highest offense level attributed to the total quantity of any one essential chemical involved in the offense.

4. Where both listed precursor chemicals and listed essential chemicals are involved in the offense, the offense level will be determined by utilizing the greatest precursor or essential chemical adjustment from (b)(1)(A) or (b)(1)(B).]

OPTION #2

§2D1.11 **Unlawful Distribution, Import, Export, or Possession of Listed Chemicals**

(a) Base Offense Level:

(1) ~~Level 18~~ or

(2) The offense level from § 2D1.1. If the resulting offense level is less than level 18, increase to level 18.

(b) Specific Offense Characteristics

(1) Apply the characteristic that results in the greatest offense level:

(A) If the defendant is convicted of violating 21 U.S.C. § 841(d)(1) or (g)(1), decrease by 4 levels.

[(B) If the defendant is convicted of violating 21 U.S.C. § 841(d)(2), decrease by 6 levels.]

(C) If the offense conduct for which the defendant is accountable involved the unlawful manufacture of a controlled substance, or an attempt or conspiracy to manufacture a controlled substance unlawfully, do not decrease under (A) or (B).

Commentary

Statutory Provisions: 21 U.S.C. § 841 (d)(1),(d)(2),(g)(1), § 860 (d)(1),(d)(2)

Application Notes:

1. Where there are multiple listed chemicals involved in the offense, the quantities of all chemicals should be taken into consideration in determining the corresponding drug quantity or lab capacity for purposes of §2D1.1.

2. "Listed chemical" is defined at 21 U.S.C.§ 802(33) and includes all salts, isomers, and all salts of isomers of any "listed chemical".

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Memorandum

To: Commissioner Carnes
Andy Purdy, Coordinator, Drug Working Group

From: Richard Murphy

Date: November 2, 1990

Subject: Drug Working Group -- Listed Chemicals Report

Attached is the background report on Listed Precursor and Essential Chemicals.

INDEX TO LISTED CHEMICALS REPORT

I. INTRODUCTION

This memo is intended to provide general background information pertinent to the development of proposed sentencing guidelines for violations of The Chemical Diversion and Trafficking Act of 1988 (hereafter the "CDTA"). The CDTA, effective March 18, 1989[1], establishes criminal penalties and recordkeeping requirements for persons who deal in certain "listed chemicals", machines and equipment used to clandestinely manufacture a variety of controlled substances.[2]

In an effort to determine the nature of the problem and to attempt to identify the "heartland case", I followed up on our October 4, 1990 meeting with DEA and DOJ officials by contacting Tom F. O'Grady, Acting Chief, Narcotics and Dangerous Drugs Section, DEA Headquarters. Through his efforts, I was able to personally interview a number of DEA personnel, both at Headquarters in Washington and in the field. The people I interviewed were responsible for current and past investigations involving "precursor"[3] and "essential"[4] chemicals, as well as

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[1] Although the CDTA became effective March 18, 1989, the companion regulations pertaining to the domestic and import/export provisions of the CDTA were not first published until August 1, 1989. As a result the "actual" effective dates for investigations and prosecutions under the CDTA are August 1, 1989, for the domestic provisions and November 1, 1989 for the import/export provisions.

[2] A summary of The Act and the criminal penalties is in Appendix A of this memorandum.

[3] The DEA defines a "precursor" as a raw material for a controlled substance that becomes part of the finished product. For purposes of the CDTA, only "listed precursor chemicals" are regulated. This term is defined at 21 U.S.C. § 802 (34) as a

"clandestine laboratory"[5] cases and, more recently, cases involving specific violations of the CDTA. Primarily, the DEA contacts were supervisory field agents responsible for clandestine laboratory investigative groups or their supervisors in the Narcotics and Dangerous Drugs Section at Headquarters. I also spoke with officials in the DEA Diversion section and diversion personnel in the field. Diversion personnel have primary responsibility for monitoring compliance with the recordkeeping requirements of the CDTA. Finally, I contacted state and local prosecutors in some

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chemical specified by regulation which is used in the manufacturing of a controlled substance and is critical to the creation of the controlled substance.

[4] "Essential" chemicals are chemicals, other than those specified as "precursor chemicals", which are also utilized in the manufacturing of controlled substances. However, unlike the "precursor chemicals", "essential " chemicals do not themselves become part of the finished product. Rather, an "essential " chemical is used as a reagent, solvent, or catalyst in the manufacturing process.

A "reagent" is a substance that reacts chemically with one or more precursors to alter the chemical makeup of the precursor such that a controlled substance results. However, a "reagent" does not become part of the finished product.

A "solvent" does not react chemically with a precursor or reagent and does not become part of the finished product. Solvents are used to dissolve solid precursors or reagents, to dilute reaction mixtures, and to separate and purify other chemicals.

The term "listed essential chemical" is defined at 21 U.S.C. § 802 (35) as " a chemical specified by regulation of the Attorney General as a chemical that is used as a solvent, reagent, or catalyst in manufacturing a controlled substance ...".

[5] The 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. This definition specifically excludes LSD blotter or other dosage unit production operations, heroin or cocaine 'cutting mill'/dilution operations, and 'crack'/cocaine freebase operations, each of which is a unique and significant enforcement problem, but not a clandestine laboratory for [DEA definitional purposes]."

districts where the CDTA cases are now being made and prosecuted.

The information outlined below has been primarily derived from the sources mentioned above. In addition, Ronnie Scotkin and Elizabeth Murphy, attorney in the DEA Office of Chief Counsel, assisted by providing background information. Ronnie has also prepared a summary of the available monitoring case information. (Appendix M of this memorandum). Pam Barron has reviewed appellate decisions involving precursors and labs and prepared an accompanying report.(Appendix N of this memorandum).

II. OVERVIEW OF CLANDESTINE DRUG PRODUCTION PROBLEM.

A significant portion of certain major drugs abused in the United States has always been attributable to the domestic operation of clandestine manufacturing operations (labs).[6] However,

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[6] It is difficult to precisely determine the number of users of clandestinely produced drugs or the market share of those drugs in the overall drug market. However, statistics obtained from DEA indicate that it was estimated in 1988 that 2.9 million Americans used cocaine at least once a month, whereas 1.7 million Americans used other stimulants (primarily methamphetamine or amphetamine) that often.

Another indicator of the scope of the problem is the number of hospital emergency room "mentions" for various drugs. The Drug Abuse Warning Network (DAWN) maintains such data. In 1989, DAWN statistics showed that six of the top twelve drugs responsible for drug related emergency room admissions were illicit substances. The top two were cocaine and heroin which are primarily clandestinely produced overseas. Number three was marijuana which is clandestinely produced although not in a "lab". The other three of the top six illicit drugs were amphetamine/methamphetamine, PCP, and LSD, all which are domestically clandestinely produced.

A report summarizing the DAWN statistics noted the "large proportion of the mentions which can be attributed to clandestinely manufactured drugs. In fact this figure has been increasing steadily over the last several years". (A copy of the report

particularly in recent years these labs produced more diversified "products," utilizing new and more diverse methods of production, with the result being that a larger share of all drugs available were being domestically produced in clandestine labs.

Directly related to the increase in diversity and availability of lab-produced drugs was the lack of significant controls on the distribution, import, or export of precursor and essential chemicals used to produce and refine those drugs. Intelligence information showed that not only were certain chemicals produced in this country being used in clandestine labs in this country, but many chemicals exported from the United States were ending up, at alarming rates, in cocaine or heroin lab operations in foreign countries. Similarly, precursor and essential chemicals produced in foreign countries have been imported and diverted to clandestine labs operating here.

In an effort to stem the clandestine manufacture of drugs and to regulate and restrict the distribution, import and export of precursors, essential chemicals and certain materials used to manufacture illicit drugs, in 1987 Congress passed the CDTA.

Two of the most widely clandestinely produced drugs are heroin and cocaine. However, because heroin and cocaine are derived from plants that are not indigenous to the United States they are almost exclusively produced abroad then imported to the United States or other nations for consumption. The CDTA, through its

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summarizing 1989 DAWN statistics and comparing them to previous years is in Appendix B of this memorandum).

import and export provisions is designed to attack the foreign manufacturer of illicit controlled substances.[7]

Perhaps the most significant features of the CDTA are those provisions that: require records to be made of certain "regulated transactions;"[8] prohibit possession of a "listed chemical" with intent to manufacture a controlled substance; and prohibit distributing a "listed chemical" "knowing or having reasonable cause to believe" that the chemical will be used to manufacture a controlled substance. These provisions are designed to attack the domestic clandestine production of controlled substances. See, 21 U.S.C. §§ 841 (d) & 842 (a).

There seems to be universal agreement that the primary drug being clandestinely manufactured in the United States is methamphetamine or a version of it (e.g. amphetamine). As a Schedule II Controlled Substance, methamphetamine is a stimulant that produces effects upon its user similar to those of cocaine. Indeed, methamphetamine has sometimes been referred to as the "poor man's cocaine." However, methamphetamine is often viewed as posing a more serious drug control problem, in part, because it can be domestically produced by drug traffickers themselves, utilizing chemicals and equipment that are widely available in commercial

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[7] As an example, within the past year, The United States Customs Service made over 60 seizures of chemicals destined for export to foreign countries that were not in compliance with the CDTA. See, 21 U.S.C. § 971. An itemization of these seizures is in Appendix C of this memorandum.

[8] The term "regulated transaction" is defined at 21 U.S.C. § 802 (39).

channels, with little or no dependence upon foreign contacts or resources. Methamphetamine is also viewed as having a high potential for abuse and addiction. It is often ingested by injection into the veins, creating health problems associated with the sharing and reuse of syringes by drug users. Moreover, due to the highly toxic and volatile nature of the precursors and essential chemicals used to manufacture methamphetamine there is a substantial risk of personal and environmental injury whether merely handling the chemicals or actually using them to manufacture methamphetamine.

Methamphetamine can be produced from chemicals and glassware that would require no more than an initial investment of several hundred dollars, although sophisticated operations may involve the investment of tens of thousands of dollars or more, depending upon their size. Nonetheless, regardless of the size of the operation, the final product will command a price on the street comparable to that received for a similar quantity of cocaine. Methamphetamine trafficking can be quite profitable given the relatively low costs of production and distribution and the lack of a foreign producer or domestic "middleman" who might otherwise demand a share of drug profits.

To a much lesser degree, clandestine lab operators have also engaged in the domestic production of controlled substances other than methamphetamine.[9] However, as indicated by

[9] These other substances include P2P (phenylacetone); PCP (phencyclidine); methaqualone; psilocybin; MDA (3,4-methylenedioxyamphetamine); fentanyl; and cocaine.

the charts contained in Appendix D of this memo, the number of such operations seized by law enforcement in recent years pales in comparison to the number of seizures of "methamphetamine-related" labs.[10] Of the 3,647 labs seized by DEA since 1985, 3,483 have been "methamphetamine-related". Through August of 1990, of the 375 total labs seized by DEA, 354 (94%) have been "methamphetamine-related." This ratio has remained relatively constant since 1987, however, as the available seizure statistics reveal, prior to 1987 there were significantly fewer clandestine"methamphetamine-related" labs in operation (or at least fewer seized).[11]

While many of the precursor or essential chemicals[12] utilized in the clandestine production of controlled substances are

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[10] The term "methamphetamine-related" refers to labs that produced either methamphetamine, amphetamine, or P2P (phenylacetone). Although P2P is itself a Schedule II Controlled Substance, it is perhaps most importantly an "immediate precursor" to methamphetamine. In other words, P2P can be directly converted into methamphetamine and is usually possessed or manufactured with the intent to convert it to methamphetamine.

[11] The lab seizure information reveals that "methamphetamine-related" lab seizures comprised the following percentages of the total clandestine drug labs seized in any one year. Also shown are the total number of "methamphetamine-related" lab seizures in each respective year.

Year	%	Total	Year	%	Total
1990	94%	375 (Aug.)	1985	83%	419
1989	95%	852	1984	74%	290
1988	94%	810	1983	64%	239
1987	94%	682	1982	66%	203
1986	90%	509	1981	62%	197

For more detailed information see Appendix D to this memorandum.

[12] A summary of the listed precursor and essential chemicals and the controlled substances which they are utilized to produce is contained at Appendix E of this memorandum.

manufactured in the United States,[13] a large proportion of all such chemicals used in the United States each year are imported from foreign producers.[14] Similarly, chemical manufacturing companies in the United States export substantial quantities of precursor and essential chemicals each year.[15] While there are some limited legitimate commercial and medical uses for "precursor" and "essential" chemicals[16], there is no doubt that significant quantities of these chemicals are utilized in both foreign and domestic clandestine drug production.[17]

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[13] For a listing of the domestic chemical companies and the foreign nations that serve as sources for each precursor and essential chemical, see the "Precursor & Essential Chemical Reference Guide" in Appendix F of this memorandum.

[14] The DEA summary of import applications for precursor and essential chemicals imported to the United States between 10/89 and 10/90 is in Appendix G of this memorandum.

[15] The DEA summary of export applications for precursor and essential chemicals exported from the United States between 10/89 and 10/90 is in Appendix H of this memorandum.

[16] [16] For a summary of the commercial, medical, and other legitimate uses for each precursor and essential chemical, see the "Precursor & Essential Chemical Reference Guide" in Appendix F of this memorandum.

[17] For example, at the time the CDTA was enacted in 1987, the DEA reported that its research had shown that 95 percent of the ether going into Columbia was used for illicit purposes. Moreover, one-half of this quantity came from the United States.

While most of the chemicals exported from the United States, that are used in the clandestine production of controlled substances overseas, are used in the production of cocaine or heroin, a different pattern exists in this country. Indeed, because methamphetamine is the illicit drug most widely manufactured in this country, methamphetamine precursors and essential chemicals represent the largest area of present domestic concern. In this regard, law enforcement and other experts seem to agree that the amount of certain methamphetamine precursors, such as ephedrine, imported or produced in this country each year, exceeds that

Prior to the enactment of the CDTA, the DEA had a precursor control program that was largely voluntary. Although the program was successful in providing some investigatory leads and resulted in the disruption of several lab operations, it simply was not adequate to significantly reduce the availability of essential and precursor chemicals to the criminal element. However, with the benefit of the CDTA, DEA offices nationwide are reporting that a significant impact is now being made. Among the accomplishments are the following:

1. The United States entered into bilateral chemical control agreements with several countries since the passage of the CDTA. In addition, following the lead and urging of the United States, several more countries have agreed to reconsider or modify their domestic chemical controls/regulations. These foreign laws, in combination with the CDTA, have allowed authorities to more closely track the movement of precursor and essential chemicals and thereby more easily identify and investigate clandestine manufacturing operations.[18]

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required for legitimate uses.

[18] A summary of the various international laws to control the sale and distribution of essential and precursor chemicals is in Appendix I of this memo.

2. DEA projects a 40% decrease in ephedrine and pseudoephedrine[19] imports into the United States in 1990 versus 1989 attributed to tighter recordkeeping and tracking controls. Simply put, the criminals know that it is easier to get caught and are either getting out of the drug business altogether or finding other ways around the laws. These alternative methods of operation include:

a) smuggling chemicals into the United States from Canada given Canada's present lack of laws restricting the diversion or distribution of essential and precursor chemicals.

b) greater utilization of chemical "brokers" who obtain chemicals for the clandestine lab operators under the guise of conducting a legitimate business.

c) reliance upon chemical supply companies who operate in defiance of either the spirit or the letter of the CDTA. This includes companies who do not report suspicious activity; who contend they see nothing "suspicious;" who distribute chemicals in quantities lower than the "threshold" levels established by the CDTA; and those "rogue" chemical companies who operate in conjunction with the dope dealers either out of sheer greed or as knowing and willing accomplices.

[19] Ephedrine and psuedoephedrine are two precursors commonly used in the manufacture of methamphetamine.

d) finally, there is some indication that clandestine manufacturers of controlled substances are experimenting with new methods of synthesis (formulas) to produce controlled substances or their analogues, including the use of chemicals or substances not regulated by the CDTA or other laws.[20]

3. Seizures of methamphetamine labs in fiscal year 1990 are projected to be about 40% lower nationwide versus fiscal year 1989. In some areas lab seizures are off 50% from this time last year when the CDTA began to be implemented. According to DEA officials across the

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[20] One glaring example is the use of 25mg ephedrine tablets that are crushed into powder then converted to methamphetamine. Apparently, there are no restrictions on the distribution, import, or export of 25mg ephedrine tablets. These tablets were apparently excluded from the coverage of the CDTA because they had not been previously viewed as being utilized in the manufacture of methamphetamine or any other illicit substance. However, faced with the restrictions now placed upon the "powder" (hydrochloride) form of ephedrine, some ingenious criminals are now producing and/or purchasing millions of 25mg ephedrine tablets to be used in the production of methamphetamine. Although legitimate supply companies may report this activity to the DEA, it would seem to be exempt from the provisions of the CDTA.

Other examples of efforts taken to avoid the impact of the federal drug laws have included the production by clandestine drug lab operators of substances that closely resemble or mimic the strength and effect of controlled substances but differ slightly in their chemical makeup from the actual controlled substance. The chemical composition is intentionally altered in an attempt to evade the laws. However, Congress responded to this tactic prohibiting the manufacture of these so-called "designer drugs" or "analogues." See, 21 U.S.C. § 813.

The CDTA also prohibits the creation or possession of a "chemical mixture" for the purpose of evading the recordkeeping requirements of the Act. See, 21 U.S.C. § 843 (a) (8).

be implemented. According to DEA officials across the country, these statistics are a direct result of the CDTA.

In short, apparently fewer people are willing to take the risks associated with the production of illicit controlled substances. Moreover, it appears that the CDTA has had the effect of chasing "smaller" operators out of business, apparently because the return is not large enough when compared with the potential adverse penal consequences. On the other hand, the larger producers, who most often have been in the business the majority of their lives, are willing to take the risks or to find ways to continue in operation.

An additional consequence of the reduction in number of labs seized is that DEA now has more time and resources to devote to the investigation and prosecution of larger violators.[21]

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[21] Traditionally, DEA has been called in to assist on about 90% or more of the labs seized nationwide, whether or not DEA was otherwise involved in the investigation that led to the seizure. The reason for this involvement is that DEA, unlike most state or local law enforcement agencies, has specially trained and equipped lab removal teams. Special expertise and care needs to be given to the handling of lab equipment and chemicals which, even in small quantities, can be highly toxic and explosive. Improper handling of these materials by lab operators and law enforcement officials has often resulted in contamination, serious injury or even death.

In recognition of the above concerns, DEA is simply not able to refuse to assist on a lab removal when so requested. Hence, a reduction in number of labs seized means that DEA will have more time to devote to the "proactive" identification and investigation of larger lab operators and will need to devote less merely

4. The DEA, primarily through its diversion investigators (with assistance from its special agents), initiated a nationwide "survey" of chemical suppliers beginning in late 1989. The purpose of this survey was to identify those chemical suppliers that were dealing in regulated substances or items and to determine the extent of those dealings. Additionally, the "survey" had as a primary purpose, the education of the chemical industry concerning the requirements of the CDTA and its implementing regulations. The survey took the form of a written inquiry and notice sent to each company and a personal visit to as many as possible.[22]

The DEA reports that this survey is now virtually complete and the information derived therefrom is being tabulated for use in future investigations and for follow-up or compliance checks that will be periodically conducted by the diversion investigators. However, at least three consequences of this survey (or of the CDTA) now seem apparent:

1. Several truly "rogue" chemical companies (those that could not survive in business if they were forced to comply with the CDTA and stop selling

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"reactive" time to the removal of large and small labs alike.

[22] A copy of one of the notices is contained in Appendix J of this memorandum.

products to criminals) simply went out of business.

2. Those legitimate companies that do not depend upon clandestine labs for their livelihood are largely willing to comply with the CDTA. Indeed, as a general matter, compliance with the CDTA reporting requirements has been reported as "excellent."

3. The number of reports, calls and questions to DEA concerning "suspicious" transactions has increased significantly. As a result, DEA is better able to follow the chemicals to a lab site or to prevent their sale in the first instance to known drug manufacturers.

III. CURRENT TRENDS AND VIOLATORS

A. Differences between geographic regions.

The bulk of the clandestine lab related criminal activity today seems to be concentrated, where such activity has always been concentrated, on the west coast (California, Oregon, Washington); in the south (Texas); or on the east coast (New Jersey, New York, Pennsylvania). However, the current east coast activity differs significantly in at least two respects. First, there are far fewer labs located in eastern states. Rather, these states, as large chemical producing or importing states, serve as a major sources of supply for precursor and essential chemicals utilized in the manufacture of illicit controlled substances elsewhere. West coast lab operators apparently feel less intimidated ordering chemicals

from supply companies located hundreds or thousands of miles away.

A second significant difference between the lab activity on the coasts is the method of synthesis used to manufacture the primary lab-produced drug, methamphetamine. Although there are a variety of synthesis methods or "formulas" that can be used to manufacture most illicit controlled substances,[23] the two primary methods used today are the "PA" (phenylacetic acid) method[24] and the "ephedrine" method,[25] both used to manufacture methamphetamine. These two methods rely on different precursors (either phenylacetic acid or ephedrine) as the initial component in the production of methamphetamine.

While the west coast and the southwest almost exclusively use the ephedrine method, the PA method is preferred, where labs are found, in the east. The two methods differ in complexity in that the PA method uses phenylacetic acid to produce P2P

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[23] A list of the most frequently encountered methods used to manufacture drugs in clandestine laboratories is in Appendix K of this memorandum.

[24] PA (phenylacetic acid) is a precursor to P2P, which is an immediate precursor to methamphetamine. Therefore, methamphetamine is ultimately produced using both substances. However, depending on whether the process is started with PA or P2P, the same basic method may be referred to as the "PA" or the "P2P" method. For purposes of this memorandum, reference to the "PA" method will include the P2P method.

[25] Although the" PA" and "ephedrine" methods are referred to in this memorandum as "two" methods, as Appendix K indicates there is more than one way to make methamphetamine from either ephedrine or phenylacetic acid. However, because the respective precursor is the same in each of those methods, any one of the methods, depending upon which precursor it contained, could be called the "PA" or "ephedrine" method.

(phenylacetone), an "immediate precursor"[26] to methamphetamine. Under the PA method, the P2P must then be converted into methamphetamine. On the other hand, the ephedrine method converts ephedrine into methamphetamine without the intermediate step. Unlike the PA method, which produces a foul, permeating odor, the ephedrine method is virtually odorless and therefore less capable of detection.

As the foregoing points out, depending upon which method of synthesis is used to manufacture a drug (or depending upon which drug is being made), a variety of methods, chemicals, and precursors, may be used to reach similar results.

Although most of the enforcement activity under the CDTA is anticipated to be concentrated in the states outlined above there does seem to be some increase in chemical and precursor activity/purchases in states such as Arkansas, Arizona, Nevada, Colorado, and Oklahoma. The DEA indicates that lab operators in Texas or on the west coast are driving to these other states or having "runners" pick up chemicals in these states and return to Texas or the west coast where the chemicals will be used to produce

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[26] As pointed out in previous footnotes, P2P is an "immediate precursor" to methamphetamine. Immediate precursors are generally treated as controlled substances and are regulated under the Controlled Substance Act, the same as any controlled substance. An "immediate precursor" is a substance designated by regulation by the Attorney General as being "the principal compound used, or produced primarily for use, in the manufacture of a controlled substance." See, 21 U.S.C. §802 (23).

Several immediate precursors are treated as controlled substances. A list of these precursors, indicating the Schedule under which they are classified and the controlled substance to which they are a precursor, is in Appendix L of this memorandum.

drugs in existing or mobile labs. There appear to be two primary reasons for going to these lengths to obtain the necessary materials:

1) to avoid detection in the state where the lab is located; and

2) to avoid the double burden of having to comply with both state and federal laws.[27]

The clandestine production of controlled substances in other parts of the country is simply too sporadic to draw any general conclusions. However, because the CDTA seems to have scared many smaller operators out of business (many of whom operated or experimented in regions not dominated by the larger producers) it is quite possible any activity in states or regions other than those mentioned above will be minimal.

B. Who are the "typical" violators?

Although it is difficult to pigeon-hole the offenders, it does seem that there are some very distinct groups of individuals who will most likely be subject to potential prosecution under the CDTA:

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[27] Unlike most other states, California, Texas, Oregon, and Washington have enacted their own state restrictions on the sale of precursors or essential chemicals. In some respects these laws impose more severe requirements than the federal law (such as by requiring a permit to buy certain substances; by imposing an application and waiting period before a sale can be consummated; or by imposing a reporting requirement on the sale of even small quantities of certain substances).

The very fact these states have acted in this way points up the severity of the problem they face.

1. The first group contains the "rogue" or wilfully noncomplying chemical companies or their employees. These are the people who know or have good reason to know what is going on but elect to not comply with the CDTA generally because it would have an adverse economic impact on their companies. In the rare case these companies may have direct involvement and participation in the lab and would potentially share in the proceeds from the sales of the clandestinely produced drugs.

2. The second group includes the precursor or chemical "broker". This is the person who knows they are not complying with the CDTA but violates it anyway, again probably for financial gain. According to agents and prosecutors, this is the person who is in the greatest demand today. Precursors and chemicals are in tight supply, thus, any person who has access to them will be in demand and will be able to "name their price" for what they have to sell. In the rare case, this person may also have more direct involvement in the lab and potentially share in the proceeds of the illicit drugs sold.

3. The third group is comprised of the lab operators[28] or persons who actually possess the

[28] It seems there are really three levels of lab operators: 1) Those small time operators who produce enough drug for themselves and their friends but aren't in the business as their livelihood;

chemicals, precursors and equipment with the intent to manufacture a controlled substance. Particularly in the larger operations, these people tend to make a career out of their illegal activity. They tend to be armed, especially when cooking the drugs or preparing the lab to cook. However, these persons have also achieved a certain level of sophistication and patience. For instance, it is not at all unusual for the lab operators to keep the various chemicals or glassware at separate locations until they are actually ready to cook. This makes it tougher to prove intent in the event they are detected.

Further, it is not unusual for operators to store or virtually "abandon" precursors or chemicals for long periods of time in non-labsite locations. This tactic reduces the chance that the ultimate labsite will be detected because, as the criminals realize, law enforcement officials are unable to conduct longterm 24 hour surveillance of the chemicals even if they know the location of the initial storage site. Moreover, this tactic helps insure that no tracing to the ultimate destination will be successful even if an

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2) Those who manufacture up to one kilogram a month for redistribution and profit; and 3) The larger, original operators, such as the bikers in California who have the capability of producing tens or hundreds of kilos a month. Often times the larger operator may make large batches of drugs but only do so once or twice a year.

electronic tracking device is placed in the package at the chemical company, because the batteries in such a device could expire weeks before the next move is made.

4. Finally, among the most minor violators would be those who unknowingly fail to comply with the recordkeeping requirements of the CDTA or those who are paid to purchase certain chemicals or equipment but don't really know what they are buying or what it will be used for.[29] In the first instance, 21 U.S.C. § 842 provides only for a civil penalty unless criminal knowledge can be established. In the second instance, knowledge or intent would also have to be proven. In most of these cases, given the difficulty in proof and the desire to get to the lab or the lab operator, prosecutors and agents contend such persons would likely not be prosecuted, but would be asked to provide whatever information they could.

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[29] As an example, in California, street people are being approached and offered money to go into a chemical company to buy certain precursors or chemicals. Often they purchase quantities below the "threshold" limits of the statute so that no records are required to be kept. By operating in this fashion and using multiple "unknowing" accomplices the criminals may be able to accumulate large quantities of the needed chemicals or precursors. Of course, if this activity appears to be unusual or uncommon to the chemical company they are required to report it. See, 21 U.S.C. § 830. Further, if it can proven the transactions are being structured to avoid the reporting requirements, a criminal charge could be brought. See, 21 U.S.C. § 841(d).

IV. HOW MANY CASES ARE LIKELY TO BE BROUGHT UNDER THE CDTA?

There is some question as to whether the CDTA is likely to result in large numbers of prosecutions or whether it may simply end up being used as a "plea bargain statute." To date, the monitoring section has records of only five (5) cases which ~~have~~ have been sentenced under the CDTA. Of these, three (3) have been under 21 U.S.C. § 841(d) for possession of a precursor or chemical with intent to manufacture. One (1) case charged the possession of a three neck round bottom flask but was joined with more serious non-CDTA drug charges. The final case involved the sale of a tableting machine to an undercover agent.[30] No cases have been located involving a prosecution for recordkeeping violations of the CDTA.

In discussing this issue with prosecutors and agents, they ~~seemed to~~ feel that § 841(d) may be used in an appropriate case to effectively cap a sentence at 10 years in exchange for a defendant's cooperation and the dismissal or foregoing of more serious manufacturing or conspiracy charges. Further the agents and prosecutors pointed out that in most cases where an § 841(d) charge may be available, it would usually also be possible to charge conspiracy, manufacture, or attempted manufacture, each carrying much higher penalties. Thus, in many cases, even if charged, any sentence for a § 841(d) conviction would likely be grouped or considered as relevant conduct for other drug

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[30] Ronnie Scotkin's supplemental report further detailing these cases is attached as Appendix M of this memorandum.

convictions carrying a higher penalty.

Assuming the foregoing is true, then the real question is, in how many cases will a CDTA charge be the sole basis for prosecution? Initially, it appears that chemical companies or others who possess, distribute, or import/export listed chemicals "knowing" or "having reasonable cause to believe" the chemicals would be used to manufacture a controlled substance would stand the greatest chance of being prosecuted solely under the CDTA without companion conspiracy or manufacturing charges. Only in the rarest cases will the chemical company or other person have sufficient criminal knowledge and intent to warrant a more serious charge.

Secondly, it may be possible to prosecute an individual or entity under § 841(d) solely on the basis of evidence that they possessed listed chemicals. However, without more evidence of intent, it is doubtful. Of course, if additional intent evidence did exist then prosecution on a greater charge would usually be available.

A third possible group of defendants are those who violate the recordkeeping requirements of the CDTA. Although compliance is now considered excellent, there remain a few defiant chemical companies who apparently will not fully comply until convinced the Act will be enforced. Hence, while it may be possible that some prosecutions will result, the consensus is that those will be the exception. The CDTA is doing its job and is resulting in greatly improved tracking of chemicals and precursors. As one agent described it, "the legitimate supplier was never selling these

chemicals in the first place" -- "there's only one use for these substances -- that's to make meth" and "everyone in the business knows it."

Another provision of the law makes it unlawful to furnish false information or identification when receiving a chemical or completing a report covered by the CDTA. This is usually going to apply to the person who goes to buy chemicals and gives a fake name or address. Other scenarios would include prosecution of those persons who have formed bogus companies or business fronts to which they have chemicals shipped.[31] Undoubtedly there will be prosecutions under this section, however, it will also be used as a "plea bargain statute" where it is used to limit the sentence of a cooperating defendant whose actual offense was attempting to obtain chemicals for the purpose of making drugs. This section may also apply where it is impossible to prove the intent of the defendant but prosecution is desired perhaps because no other charge is warranted or available. It is likely that a number of these violations will never be charged if potential defendants simply agree to cooperate or provide information to authorities.

Finally, prosecutions will be available for violations of the equipment, flask and machinery provisions. Many of the same considerations will again come into play, e.g., if a flask or other equipment is found in an operational lab, these charges may well be ignored or be meaningless. They will only apply where evidence of

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[31] In one such case investigated by the DEA, the "business" was a vacant lot with a mailbox on a post.

intent or knowledge of intent to manufacture exists, however, once again greater charges may then be available.

Thus, it does not appear that there will be a flood of cases under the CDTA. Rather, it appears the Act will be used as a plea bargain device and to prosecute a limited number of cases that fall between the level of proof sufficient to sustain conspiracy, manufacture, or attempt to manufacture charges in contrast with CDTA violations for "possession with intent", "knowledge" or "reasonable cause to believe".

IV. TREATMENT OF CASES UNDER EXISTING OR PRIOR GUIDELINES

At the present time, the sentencing guidelines do not explicitly address the specific statutory provisions of the CDTA. The Statutory Index (Guidelines Appendix A) does direct that certain portions of the CDTA should be sentenced under existing provisions of the guidelines, but, the Statutory Index does not provide a reference for all provisions of the CDTA. A summary of the violations and the present method of treatment under the guidelines follows:

21 U.S.C. § 841(d)(1); (d)(2); and (d)(3).
Current Guideline reference is to 2D1.1 (under this guideline, quantity of drugs that could be produced by chemicals would determine offense level.)

21 U.S.C. § 841(g)(1) and (g)(2).
No current Guideline reference.

21 U.S.C. § 842(a)(9) and (a)(10).	No specific current Guideline reference although The Statutory Index does refer to Guidelines 2D3.1; 2D3.2; and 2D3.3 for violations of "§842 (a)". However, none of the referenced guidelines are directly on point. This makes sense because the referenced guidelines are directed at the other violations of §842 (a) which were in existence prior to the amendments added by the CDTA.
21 U.S.C. § 843(a)(6); (7); and (8).	No current Guideline reference. There are provisions for the unrelated violations of §843 (a)(1)-(a)(4).
21 U.S.C. § 960(d)(1) and (d)(2).	Current Guideline reference is to 2D1.1
21 U.S.C. § 961	Current Guideline reference to §2D3.4 although no specific reference in that guideline to §961.

V. MONITORING DATA

Ronnie Scotkin has prepared a separate memorandum summarizing the cases prosecuted under the CDTA on which the monitoring section has files. This memorandum is attached as Appendix M. As this data indicates, there have been very few prosecutions under the CDTA. Moreover, other more serious charges will often accompany CDTA violations.

VI. RELEVANT APPELLATE DECISIONS

Pam Barron has prepared a separate memorandum discussing reported appellate decisions involving defendants who were

sentenced based upon the amount of precursors seized or the capacity of the lab, as determined by experts considering the facts of each case. This memorandum is attached as Appendix N. Although these cases do not directly deal with violations of the CDTA, they do discuss issues that may be relevant to the formulation of sentencing guidelines for violations of the CDTA.

APPENDIX INDEX

The Chemical Diversion and Trafficking Act of 1988

I. Introduction

A. On 10/22/88, Congress passed the Anti-Drug Abuse Act of 1988.

1. Bipartisan effort of the Administration, House of Representatives and Senate.

2. Signed by President Reagan on 11/18/88.

3. Will impact on drug law enforcement, treatment and rehabilitation of drug abusers and educational programs to prevent abuse.

II. Chemical Diversion and Trafficking Act of 1988

A. What the Act Will Do

1. Establish a system of recordkeeping and reporting requirements that will provide DEA with a mechanism to track domestic and international movement of listed chemicals, tableting machines and encapsulating machines.

2. Give DEA the authority to stop shipments if there is sufficient reason to believe shipment is not destined for legitimate industrial, commercial or scientific use.

B. Listed Chemicals and Machines

1. Precursor Chemicals

a. N-acetylanthranilic acid and its salts

b. Anthranilic acid and its salts

c. Benzyl cyanide

d. Ephedrine, its salts, optical isomers and salts of optical isomers

e. Ergonovine and its salts

f. Ergotamine and its salts

g. Norpseudoephedrine, its salts, optical isomers and salts of optical isomers

h. Phenylacetic acid and its salts
i. Phenylpropanolamine, its salts, optical isomers and salts of optical isomers

j. Piperidine and its salts

k. Pseudoephedrine, its salts, optical isomers and salts of optical isomers

l. 3,4-Methylenedioxyphenyl-2-propanone

2. Essential Chemicals

a. Acetic anhydride

b. Acetone

c. Benzyl chloride

d. Ethyl ether

e. Hydriodic acid

f. Potassium permanganate

g. 2-Butanone (methyl ethyl ketone)

h. Toluene

3. Tableting and encapsulating machines

B. Recordkeeping Requirements

1. Each "regulated person" (i.e. anyone who manufactures, distributes, sells, imports or exports any listed chemical, tableting machine or encapsulating machine.) must maintain readily retrievable records and make those records available for inspection by DEA.

a. Records must contain the name and address of each party; date of the transaction; name, quantity and form of the listed chemical or description of the machine; method of transfer the type of ID presented by the purchaser and any unique number on that ID.

b. Retention of records

i. Precursor chemicals: 4 years

ii. Essential chemicals: 2 years

iii. Machines : 4 years

2. Exemptions from recordkeeping requirements for domestic distributions between employees of regulated companies and common carrier warehouse employees.

C. Reporting Requirements

1. Must report to the nearest DEA office:

a. Regulated transaction involving extraordinary quantity, uncommon method of payment, etc.

b. Proposed regulated transaction with person whose description, etc. is furnished in advance by DEA.

c. Unusual or excessive loss or disappearance.

d. Any regulated transaction in a tableting or encapsulating machine.

D. Import/Export Requirements

1. Must file an import/export declaration at least 15 days prior to shipment.

a. DEA will use 15 day period to determine if consignee has a legitimate need for the chemical.

i. -Authority to stop shipments

b. Advance notification may be waived for consignees with "regular customer" status, but shipper still required to file a declaration.

E. Penalties

1. Creates penalties for using false identification to obtain chemicals, illegal importation/exportation, failure to maintain records and other acts related to the diversion of listed chemicals, machines and flasks.

a. 21 U.S.C. 841(d) is amended to include knowingly and intentionally possessing a listed chemical with the intent to manufacture a controlled substance in violation of this title; possessing or distributing a listed chemical knowing, or having reasonable cause to know that it will be used to manufacture a controlled substance in violation of this title; with the intent of evading recordkeeping or reporting requirements of section 310, receiving or distributing a listed chemical in units small enough so that making of records/filing of reports is not required.

Penalty: Fined in accordance with Title 18 U.S.C. or imprisoned not more than 10 years or both.

b. 21 U.S.C. 841 is amended by adding new subsections:

(f) any person convicted of felony under this section may be enjoined from engaging in any regulated transaction involving a listed chemical for not more than 10 years.

(g)(1) any person who knowingly distributes a listed chemical in violation of this title (other than in violation of a recordkeeping or reporting requirement) shall be fined under Title 18 U.S.C., imprisoned for not more than 5 years or both.

(g)(2) any person who possesses a listed chemical with the knowledge that recordkeeping or reporting requirements have not been adhered to (and if the person does not take steps to remedy that situation upon acquisition of such knowledge) shall be fined under Title 18 U.S.C. or imprisoned not more than 1 year or both.

c. 21 U.S.C. 842(a)(8) is amended to include using confidential information to one's own advantage or revealing such information except as authorized by section 310.

d. 21 U.S.C. 842(a)(9) is amended to include engaging in a regulated transaction without obtaining identification required by section 310(a)(3).

e. 21 U.S.C. 842(a) is amended to include failure to make or keep a record or report required by section 310.

Penalties same as previously for violations of 21 U.S.C. 842. (i.e. a fine of not more than $25,000, except in certain circumstances where prison sentence of not more than 1 year may be imposed.)

f. 21 U.S.C. 843(a)(4)(b) is amended by striking "piperidine" and inserting "listed chemical" thereby making it unlawful to present false or fraudulent identification to receive listed chemicals.

g. 21 U.S.C. 843(a)(6) is added to make it unlawful to possess any three-neck round bottom flask, tableting machine, encapsulating machine, gelatin capsule or equipment specially designed or modified to manufacture a controlled substance in violation of this title.

h. 21 U.S.C. 843(a)(7) is added to make it unlawful to manufacture, distribute or import any item mentioned in 21 U.S.C. 843(a)(6) to manufacture a controlled substance in violation of this title.

i. 21 U.S.C. 843(a)(8) is added to make it inlawful to create or to receive a chemical mixture made specifically for the purpose of evading the recordkeeping or reporting requirements of section 310.

Penalties same as previously for violations of 21 U.S.C. 843. (i.e. prison term of not more than 4 years; fine of not more than $30,000.)

New penalty created to provide for enjoining any person convicted of a felony under this section from engaging in regulated transactions involving a listed chemical for not more than 10 years.

j. 21 U.S.C. 960 is amended by addition of new subsections

(d)(1) making it unlawful to import or export a listed chemical in violation of this title or, in the case of an export, in violation of the law of the country to which the chemical is being exported.

(d)(2) making it unlawful to import or export a listed chemical knowing, or having reasonable cause to believe, that the listed chemical will be used to manufacture a controlled substance in violation of this title or the law of country to which it is exported.

Penalties for violations of 21 U.S.C. 960 are not changed.(i.e. fine in accordance with Title 18 and a prison term of not more than 10 years)

k. 21 U.S.C. 961 is amended by adding to introductory language following "any person who violates section 954 of this title" the phrase "or fails to notify the Attorney General of an importation or exportation..."

Penalties for violations of 21 U.S.C. 961 are not changed. (i.e. fine of not more than $25,000 except under circumstances permitting a prison term of not more than 1 year.)

SUMMARY OF REQUIREMENTS - CHEMICAL DIVERSION AND TRAFFICKING ACT

(Effective Date 3/18/89, except import/export notification)

RECORDS 21 U.S.C. 830(a) 21 C.F.R. 1310.04	Threshold quantities listed chemicals	Distribution, sale receipt, import, export	Essential Chemicals 2 years Precursor Chemicals 4 years
	Tableting and encapsulating machines	Distribution, import export	Tableting and encapulating machines 4 years
REPORTS 21 U.S.C. 830(b) 21 C.F.R. 1310.05	Listed chemicals (threshold quantities except for loss)	Unusual/excessive loss Extra-ordinary quantity Uncommon payment Uncommon delivery previous notification	Should be made at earliest opportunity
	Tableting and encapsulating machines	Any Transaction	Should be made at earliest opportunity
IDENTIFICATION 21 U.S.C. 830(a)(3) 21 C.F.R. 1310.07	Threshold quantities listed chemicals	Distribution, sale, receipt, import, export	Duty of regulated person to identify other party methods listed in regs.
	Tableting and encapsulating machines	Distribution, import export	
NOTIFICATION/ DECLARATION 21 U.S.C. 971	Listed chemicals (regulations restrict to threshold quantities)	Import, export	15 day notification via DEA 486 UNLESS established regular customer regular supplier THEN notification upon shipment

Drug Abuse Warning Network (DAWN) Annual Data for 1989

William F. Coach, Jr.

I. Summary

A. Cocaine was the dominant drug in the system in 1989. It was involved in 40.8% of all estimated emergency room episodes. However, data for the last quarter of the year show indications of a possible decrease in abuse.

B. Most cocaine abusers are males between the age of 20-39 who smoke the drug and are addicted.

C. Almost one fourth of those using cocaine with another drug report heroin.

D. Heroin abusers are predominantly males who are older than the norm. They almost exclusively inject the drug and are addicted.

E. Unlike most multiple drug abuse, those using heroin report cocaine, not alcohol, most often in combination.

F. A significant portion of those reporting marijuana use are under the age of 20.

G. The large majority of amphetamine, detroamphetamine, and methamphetamine reported is of illicit orgin.

H. PCP and PCP combinations showed a significant decrease in 1989.

I. Benzodiazepines are the dominant group of drugs among licit substances. Alprazolam and diazepam are the most prominent.

J. The profiles for alprazolam and diazepam show a majority are female who obtain the drug through a legal Rx and want to commit suicide.

K. A noticeable percentage of alprazolam and diazepam abusers using multiple drugs choose another benzodiazepine.

II. Introduction

The following is a short report on national estimates of hospital emergency room episodes/mentions from the Drug Abuse Warning Network (DAWN). Data from 1989 will be most closely examined, however for comparitive and informational purposes, figures for 1985-1988 are also included. The database considered is the top twenty controlled substances. These are listed in tables 1 and 2. Drugs are identified as licit, illicit, or a combination (cocaine and dex/amph/meth). A separate analysis was performed on each classification with comparisons of the two where appropriate. Since only approximately 2% of the combination drugs are considered licit, they will be treated as illicit for the purposes of this report.

It should be noted that this system gathers information from only that select but highly important portion of the drug abusing population seeking hospital emergency room treatment. While there are good reasons to believe the conclusions drawn from this data are indicative of abusing patterns in the general population, this information should be used in conjunction with that which can be obtained from other sources when possible.

III. Illicit Drugs

A. Cocaine This is the dominant drug both with respect to illicit and all substances mentioned in the system. In 1989 it was involved in 40.8% of all estimated emergency room episodes. As recently as 1986, this figure was less than half (17%) of the current number. Figure 1 lists the percentages for 1986-1989. This rather bleak picture can be tempered somewhat by the fact that mentions for the fourth qurter of 1989 have shown a decrease. Figure 2 clearly illustrates this point.

One would like to get some perspective on the individuals reporting cocaine use and for that purpose, four characteristics were considered: sex, age, route of administration, and motive. They provide the following portrait. Two thirds of the people are male. The dominant age group is 20-29 at about 46%. Most users smoke the drug (49.8%) and are addicted (72%). This differs significantly from the typical drug abuse episode in which males are only slightly dominant, 20-29 and 30-39 are nearly equal as the most reported age group, oral is the most common route of administration, and suicide is involved in one third of the episodes. Figures 3 and 4 depict the above.

Another salient point of interest is that of multiple drug abuse. With respect to cocaine, 54% of the episodes involved more than one drug. The most commonly mentioned were alcohol (66.8%), heroin (22.2%), and marijuana (13.8%).

B. Heroin This drug has been the second most mentioned controlled substance for the last four years. In 1989, it was involved in 12.2% of all estimated emergency room episodes. Comparing this figure with that for cocaine further illustrates how dominant the latter drug is in the system.

Considering the four characteristics (age, sex, route of administration, and motive) used to establish a profile of the users one sees the following with respect to heroin. Almost seven out of ten people are males and 50% are between the age of 30-39. The overwhelming majority inject the drug (92.1%) and are dependent (84.1%). Figure 5 depicts this information. Comparing this with cocaine we see these subjects are generally older and inject rather than smoke the substance.

Multiple drug use is a significant factor for these people occuring in 57.2% of all episodes. A surprising and very noteworthy point is that cocaine (65.4%) and not alcohol (52.9%) is the most commonly mentioned in combination with heroin. The third most reported substance is methadone (3.7%).

C. Marijuana In 1989, as in the previous year, marijuana was the third most mentioned drug overall. It was involved in 6.1% of all estimated episodes. This further illustrates the dominance of cocaine and shows that excluding it, heroin would be the dominant controlled substance in the system.

The profile for the users of marijuana reveals some interesting facts. Most people are age 30 and under with a high percentage (20%) under 20. Like those using heroin, males constitute 72.9% of the population. The large majority smoke the drug. Although most report dependence (54%), a significant portion (39.1%) use it for its psychic effects. This is shown

graphically in Figure 6.

Multiple drug use is the choice among marijuana users. More than one drug was involved in 83.5% of the episodes. Like for heroin, cocaine was mentioned most often (64.1%). This was followed closely by alcohol at 62.2%. PCP was a distant third at 9.7%.

D. Dex/Amph/Meth This is not a single drug but rather a group which includes mentions for dextroamphetamine, amphetamine, methamphetamine, and speed. In 1989, it was the fourth most mentioned group of illicit substances and was sixth among the top twenty controlled substances. It is of particular interest due to the large proportion of the mentions which can be attributed to clandestinely manufactured drugs. In fact, this figure has been increasing steadily over the last several years.

The profile for these years is very similar to that for marijuana for age, sex, and motive. Route of administration indicates injection is most popular (42.5%) followed closely by oral (29.1%). Figure 7 depicts this information graphically.

Multiple drug use occurs in 43.5% of the episodes for this group. Alcohol is the most common substance used in combination (61.8%). The next most popular mixture is to combine two or more members from this group. The last point worthy of note is the use of MDM (4.3%). This is another clandestinely manufactured drug (commonly known as "ecstasy") with both stimulant and hallucinogenic effects.

E. Other Illicit Drugs The other illicit drugs among the top twenty are PCP and PCP comb, LSD, and hashish. Of these, only the first is noteworthy. It showed a 38.2% decrease over the last twelve months. The areas primarily responsible for this were St. Louis and Washington, D. C.

IV. Licit Drugs There are thirteen licit drugs among the top twenty controlled substances in 1989. (see table 1) Mentions for these have remained virtually a constant for the last three years.

A. Benzodiazepines Six benzodiazepines (alprazolam, chlordiazepoxide, diazepam, flurazepam, lorazepam, and triazolam) and one group (unspecified benzodiazepines) reside among the top twenty controlled drugs. These are the dominant group among licit drugs. Figure 8 shows the trend for both licit and benzodiazepine mentions for the period 1985-1989. The three drugs contributing most to the overall number of mentions for benzodiazepines are diazepam, alprazolam, and lorazepam. The last showed a 19.4% increase in 1989. A more detailed look at the first two follows. A future report will examine all benzodiazepines extensively.

1. Diazepam Despite a steady decrease over the last several years, this drug remains the most mentioned licit drug. It is involved in 4.4% of all estimated emergency room episodes.

The characteristics of age, sex, source, and route of administration were previously used in creating a profile of the users. However in this case, route of administration was replaced by source since it provides more useful information. Most people are between the ages of 20-39, but a significant

portion are 40 and older. The majority of the subjects are female (55.5%). Although the largest group obtain the drug by a Rx (90.5%), 8.7% report making a street buy. Suicide is the predominant motive for taking the drug (61.2%), however a significant proprtion report dependence (23.2%). Comparing this with the typical episode it is seen that the people are generally older, female, and tend more toward suicide. Figures 3 and 9 illustrate this.

Multiple drug use plays an important role in the abuse of this drug. More than one drug is involved in over three fourths (76.1%) of all episodes. The most mentioned substances are alcohol (56.6%), cocaine (19.8%), and heroin (7%). The fourth most mentioned is another benzodiazepine, alprazolam, at 5.6%.

2. Alprazolam In direct contrast to diazepam, this drug has shown substantial increases over the last few years with somewhat of a leveling off in the most recent year. In fact combined mentions for alprazolam and diazepam have remained approximately constant over the last several years.

The profile for alprazolam differs from that for diazepam in three of the four characteristics. More people are female. The drug is obtained almost exclusively through a legal Rx. Suicide is the motive in almost three out of four instances while dependence is not nearly as prevalent. Figure 10 depicts this graphically.

Not unlike diazepam, multiple drug use is also prominent for alprazolam. It is a factor in 68.5% of all episodes. Alcohol is the most mentioned at 51.1%. However more noteworthy is that diazepam is the next most reported at 8.5%. This is followed closely by cocaine at 7.9%.

B. Other Illicit Drugs The other illicit drugs among the top twenty controlled have remained stable over the last twelve months, with the possible exception of oxycodone. It showed about a 12% decrease.

TOP TWENTY CONTROLLED SUBSTANCES BASED ON
ESTIMATES OF DRUG EMERGENCY ROOM MENTIONS
NATIONALLY

DRUG	1989		1988		'88-'89
o COCAINE	(1)	157,577	(1)	151,180	4.2%
• HEROIN	(2)	47,136	(2)	45,811	2.8%
• MARIJUANA	(3)	23,529	(3)	25,202	- 6.6%
* DIAZEPAM	(4)	17,297	(2)	19,245	-10.1%
* ALPRAZOLAM	(5)	15,662	(5)	15,383	1.8%
o DEX/AMPH/METH	(6)	11,591	(7)	11,848	- 2.2%
* CODEINE COMB	(7)	10,151	(8)	9,570	6.1%
• PCP & PCP COMB	(8)	7,893	(6)	12,781	-38.2%
* D-PROPOXYPHENE	(9)	7,440	(9)	6,899	7.8%
* LORAZEPAM	(10)	6,393	(11)	5,354	19.4%
* TRIAZOLAM	(11)	4,730	(10)	5,642	-16.2%
• LSD	(12)	4,611	(12)	4,404	4.7%
* PHENOBARBITAL	(13)	4,020	(14)	3,658	9.9%
* OXYCODONE	(14)	3,750	(13)	4,249	-11.7%
* CHLORDIAZEPOXIDE	(15)	3,550	(15)	3,462	2.5%
* METHADONE	(16)	3,127	(16)	3,318	- 5.8%
* HYDROCODONE	(17)	3,117	(--)	-----	---
* FLURAZEPAM	(18)	3,116	(17)	3,139	- 0.7%
• HASHISH	(19)	3,113	(--)	-----	---
* UNSPEC BENZODIAZ	(20)	2,914	(--)	-----	---
* BUTALBITAL COMB	(--)	-----	(18)	2,689	---
* CODEINE	(--)	-----	(19)	2,694	---
* CLORAZEPATE	(--)	-----	(20)	2,319	---
* TEMAZEPAM	(--)	-----	(--)	-----	---

• - ILLICIT

* - LICIT

o - COMBINATION

TOP TWENTY CONTROLLED SUBSTANCES BASED ON
ESTIMATES OF DAWN EMERGENCY ROOM MENTIONS
NATIONALLY

DRUG	1987		1986		1985	
o COCAINE	(1)	98,790	(1)	55,172	(2)	26,263
• HEROIN	(2)	35,699	(2)	30,369	(1)	26,586
• MARIJUANA	(4)	20,964	(4)	13,662	(4)	11,413
* DIAZEPAM	(3)	20,707	(3)	23,229	(3)	25,921
* ALPRAZOLAM	(6)	13,817	(5)	12,554	(6)	10,414
o DEX/AMPH/METH	(7)	10,908	(8)	9,549	(7)	9,476
* CODEINE COMB	(8)	9,812	(6)	11,225	(5)	10,904
• PCP & PCP COMB	(5)	14,265	(7)	11,015	(8)	8,932
* D-PROPOXYPHENE	(9)	6,507	(9)	6,659	(9)	7,505
* LORAZEPAM	(11)	4,767	(13)	4,805	(11)	5,371
* TRIAZOLAM	(10)	4,944	(11)	4,983	(16)	4,295
• LSD	(14)	4,038	(19)	2,799	(20)	2,810
* PHENOBARBITAL	(13)	4,166	(14)	4,726	(13)	5,186
* OXYCODONE	(12)	4,418	(10)	5,276	(14)	4,705
* CHLORDIAZEPOXIDE	(15)	3,609	(12)	4,810	(12)	5,190
* METHADONE	(17)	3,298	(17)	3,371	(18)	3,035
* HYDROCODONE	(--)	-----	(--)	-----	(--)	-----
* FLURAZEPAM	(16)	3,468	(15)	4,582	(10)	5,634
• HASHISH	(--)	-----	(--)	-----	(--)	-----
* UNSPEC BENZODIAZ	(--)	-----	(--)	-----	(--)	-----
* BUTALBITAL COMB	(18)	2,985	(18)	3,203	(17)	3,745
* CODEINE	(20)	2,627	(--)	-----	(--)	-----
* CLORAZEPATE	(19)	2,964	(16)	3,508	(15)	-----
* TEMAZEPAM	(--)	-----	(--)	-----	(19)	2,845

• - ILLICIT

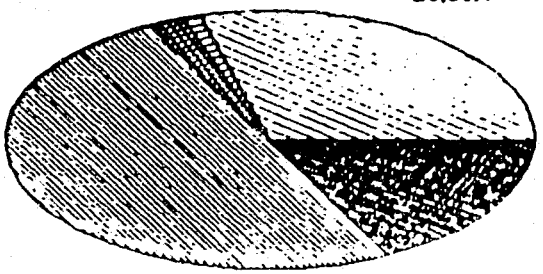
* - LICIT

o - COMBINATION

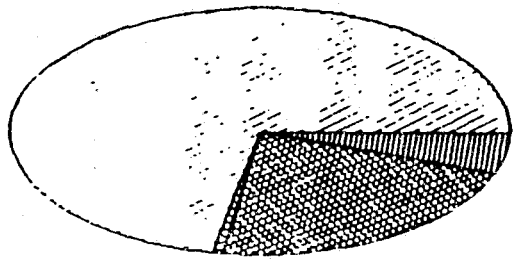
DAWN EMERGENCY ROOM EPISODES

COCAINE 1989

ROUTE



MOTIVE



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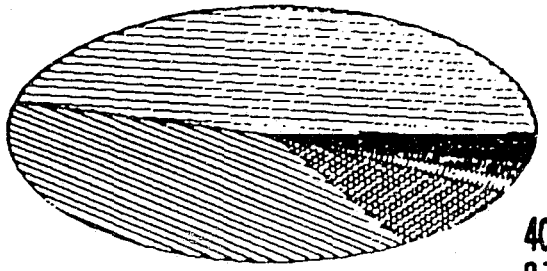
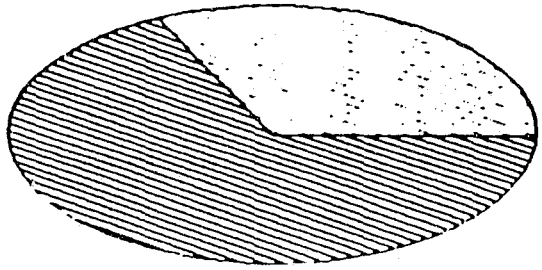
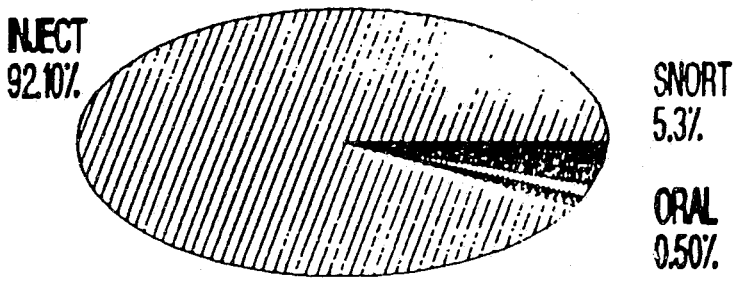


SEX

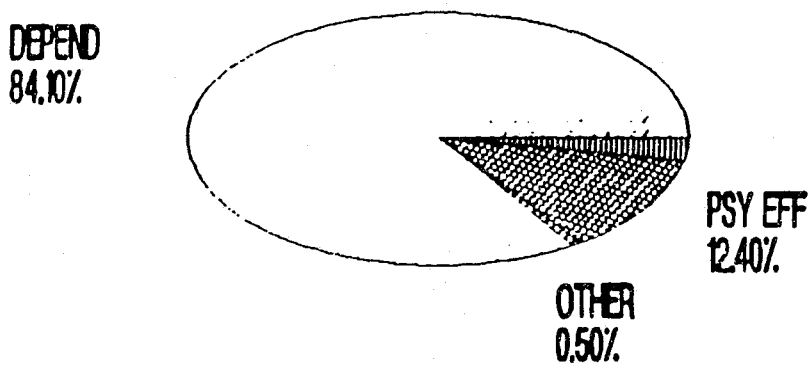


DAWN EMERGENCY ROOM EPISODES
HEROIN 1989

ROUTE



MOTIVE



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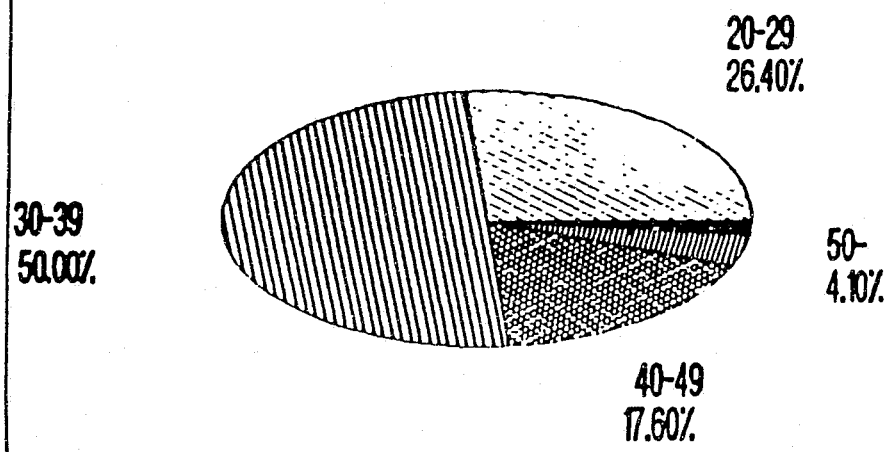

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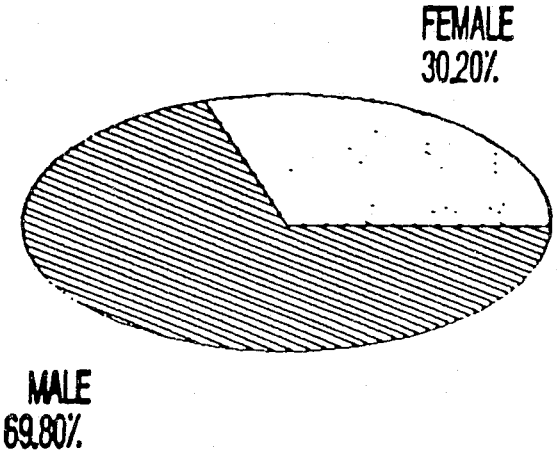
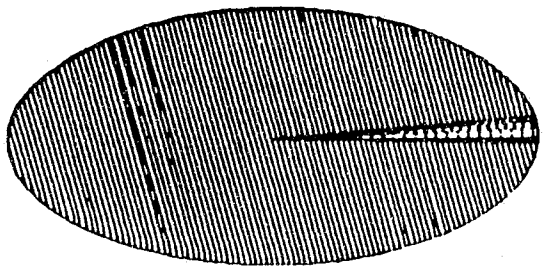


DAWN EMERGENCY ROOM EPISODES

MARIJUANA 1989

ROUTE

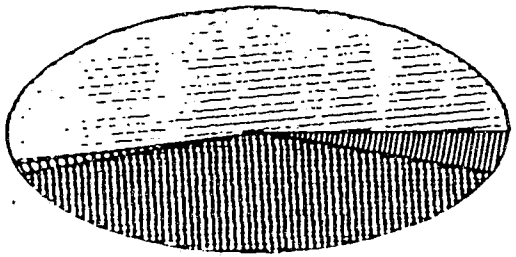


SMOKE 96.70%.

SNORT 0.60%.

MOTIVE

DEPEND 54.00%.

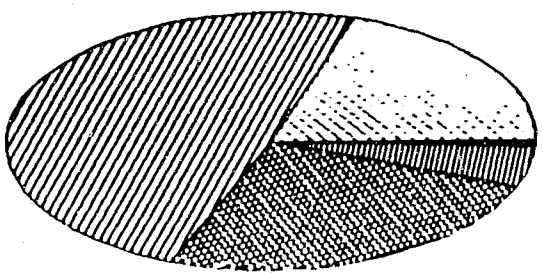


OTHER 1.30%.

SUICIDE 5.60%.

PSY EFF 39.10%.

AGE



10-19 20.00%.

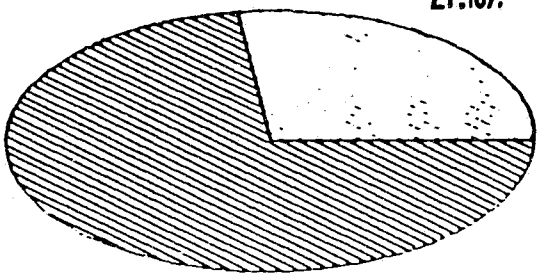
20-29 48.90%.

40-49 5.00%.

30-39 25.20%.

SEX

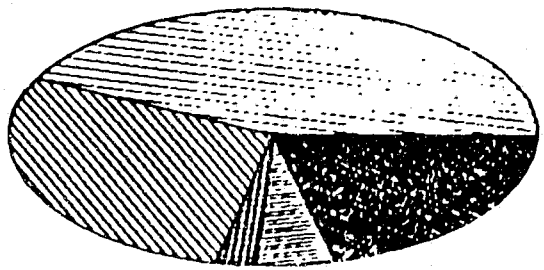
FEMALE 27.10%.



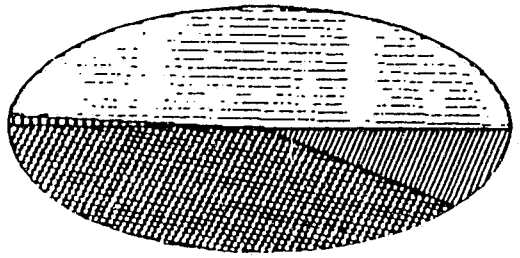
MALE 72.90%.

DAWN EMERGENCY ROOM EPISODES
DEX/AMPH/METH 1989

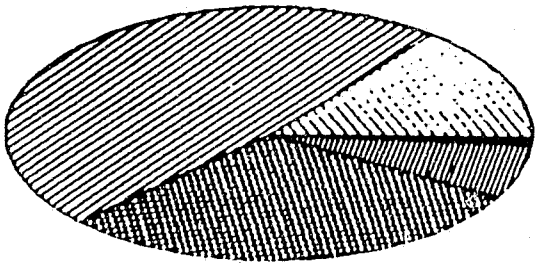
ROUTE



MOTIVE



AGE



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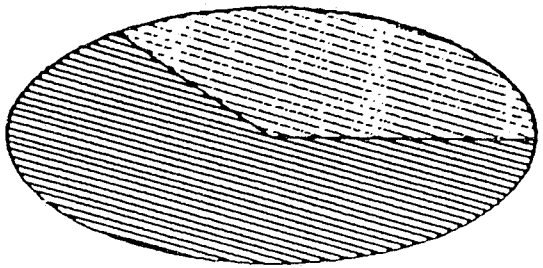
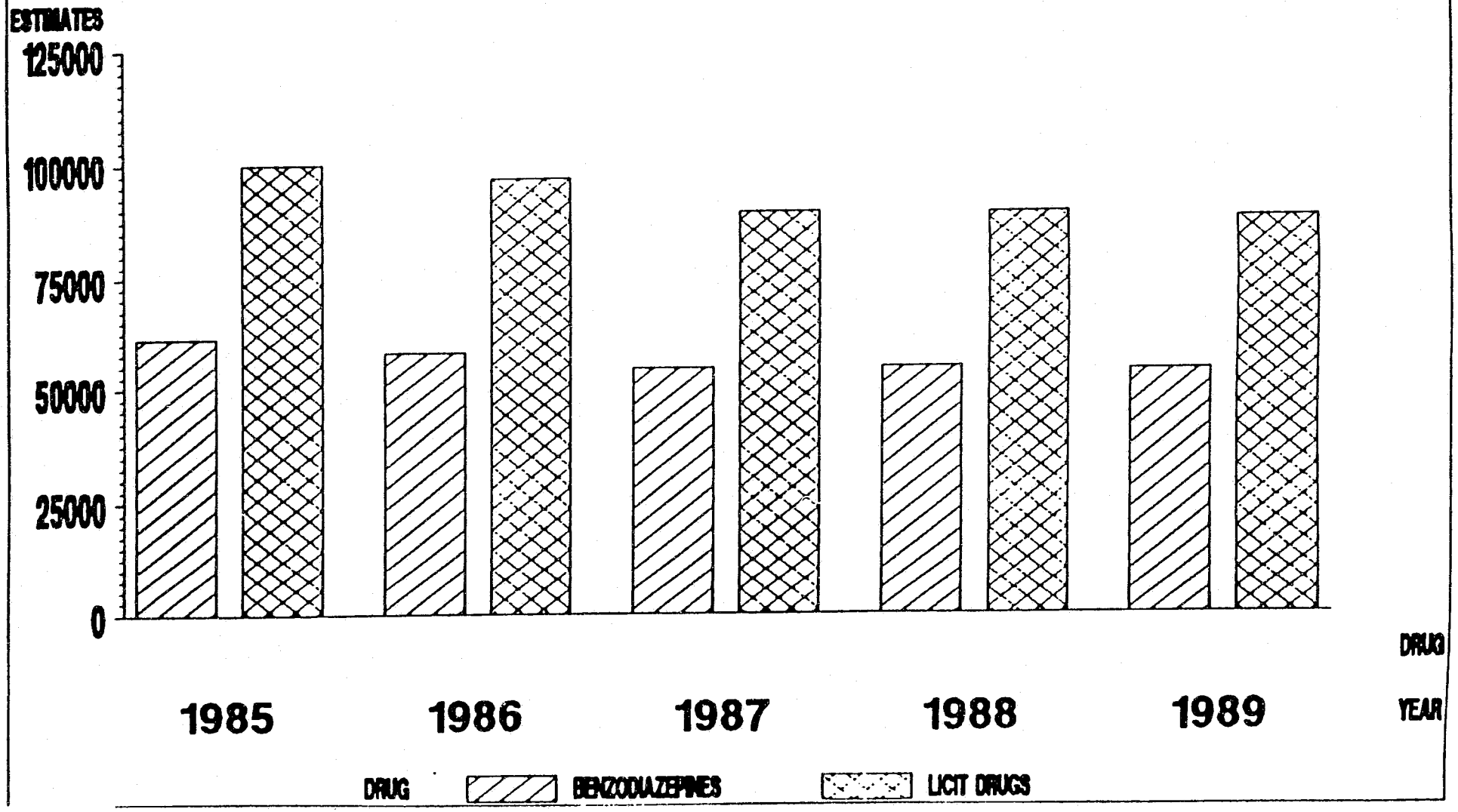


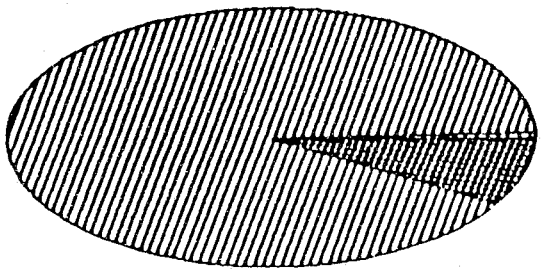
DRUG ABUSE WARNING NETWORK
EMERGENCY ROOM MENTIONS



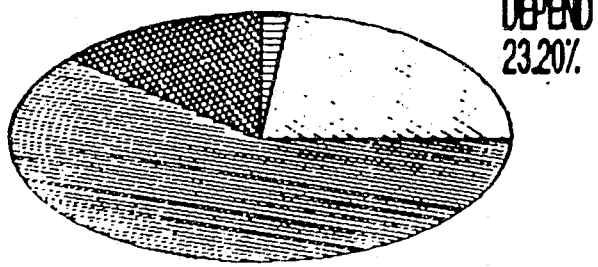
DAWN EMERGENCY ROOM EPISODES

DIAZEPAM 1989

SOURCE



MOTIVE



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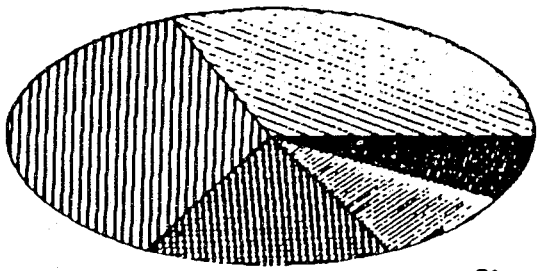

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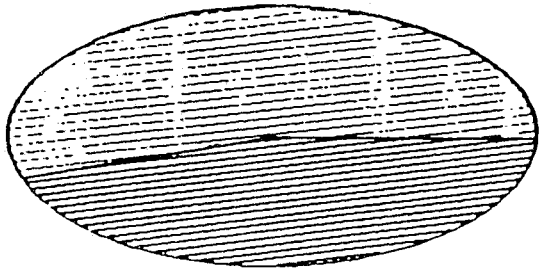
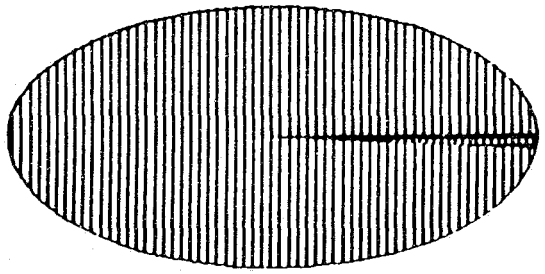


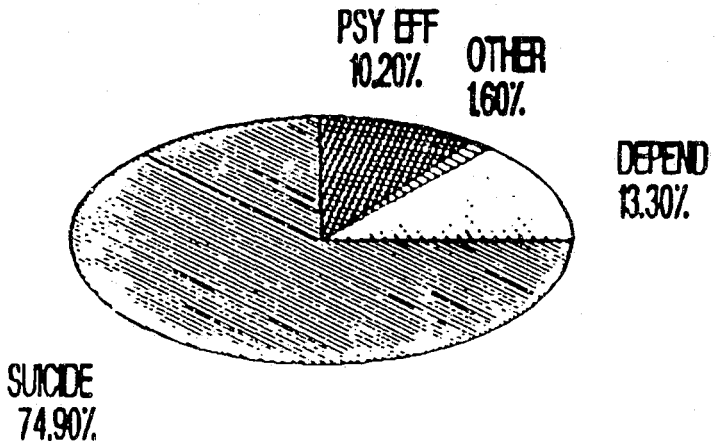
DAWN EMERGENCY ROOM EPISODES

ALPRAZOLAM 1989

SOURCE



MOTIVE



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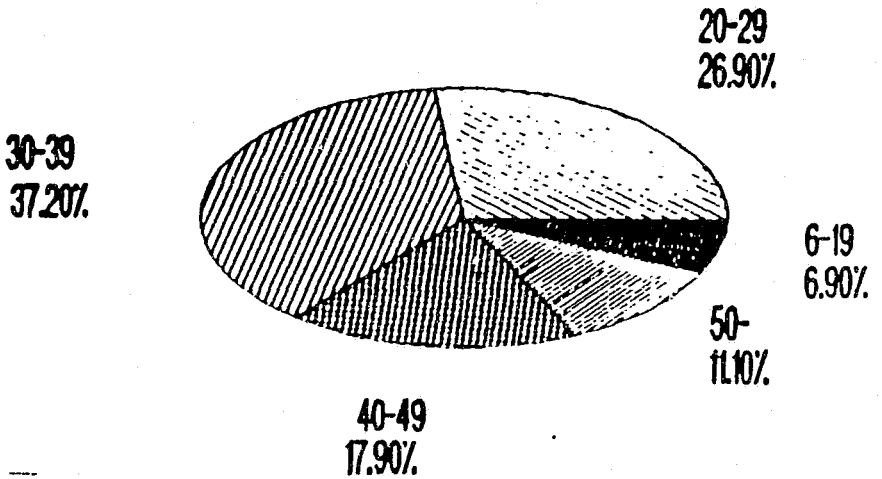

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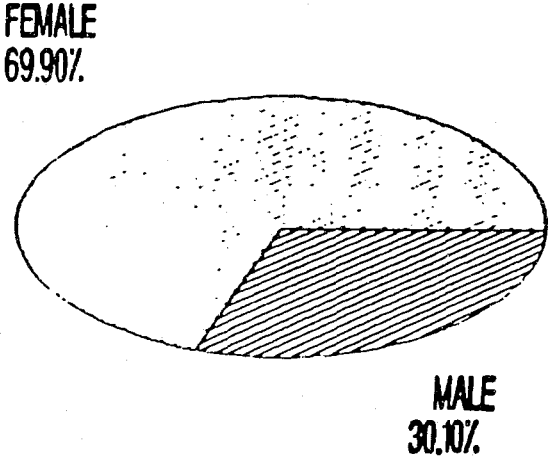


U. S. CUSTOMS STATS

CHEMCON SEIZURES - FY 1990

DATE	PORT	CHEMICAL	DESTINATION	INCIDENT
11/30/89	S. Ysidro	Acetone	Mexico	900kgs/no 486
12/12/89	JFK	Phenylpropan	Mexico	no 486
12/19/89	Blaine	Ephedrine	U.S.	1 arrest
12/20/89	Blaine	Hydriodic acid	U.S.	1 arrest*
01/26/90	Phila	Benzyl chlor.	Brazil	1,925kgs/no 486
02/09/90	JFK	Phenylacetic	U.S.	200kg/no 486
02/13/90	Houston	Acetone	Taiwan	1.5mil.kg/no486
02/15/90	Houston	Toluene	Venezuela	no 486/296kgs
02/23/90	Memphis	Ephedrine	U.S.	50kgs/arrest
02/26/90	Blaine	Phenylacetic	U.S.	6.7kgs/2 arrest
03/02/90	Houston	MEK	Peru	44kgs/no 486
03/02/90	Houston	MEK	Equador	1.5mil.kgs/486
03/16/90	Houston	MEK	Jamaica	5.5k.kg/486
03/20/90	Houston	MEK	Saudi Arabia	1.8k.kg/486
03/21/90	Blaine	Precursor	U.S.	3k.mls/1 arrest
03/24/90	Houston	Toluene	Equador	198k.kg/486
03/27/90	Phila	Acetone	Taipei	1.4mil.kg/486
03/30/90	Houston	Acetone	Dom. Repub.	17.9k.kg/486
		Toluene		18.7k.kg/486
03/30/90	Houston	Acetone	Jamaica	8.1k.kg/486
03/30/90	Houston	Toluene	Taiwan	1.4mil.kg/486
04/02/90	San Diego	Acetone	Mexico	3.1k.kg/486
04/02/90	Phila	Acetone	Malayasia	2.4k.kg/486
04/03/90	Phila	Acetone	Italy	734k.kg/486
04/13/90	Newark	Toluene		12.5k.kgs
04/18/90	Chicago	Piperidrine	W. Germany	21tr/486
04/24/90	Houston	Toluene	Honduras	198k.kg/overg
04/30/90	Houston	Toluene	Taiwan	2mil.kg/486
05/01/90	New Orl	Acetone	Dom. Repub.	100 drums
05/01/90	San Juan	Acetone	Dom. Repub.	7.6k.kg/486
05/25/90	Blaine	Phenylacetic	U.S.	5 lbs.
		Lead Acetate		25 lbs.
05/25/90	Jacksnvil	Acetone	Brazil	12,984kg
05/25/90	LA/LB	Acetic Anhyd.	New Zealand	35k.lbs
		Ethyl Ether		2 cases
06/04/90	Houston	Acetic Anhyd.	Israel	97,830 kgs
06/05/90	Pt Huron	Ephedrine	U.S.	100 kgs,4arrest
06/06/90	Houston	Butanone	Honduras	1,992 kgs
06/07/90	Houston	Toluene	Taiwan	2mil.kg
06/07/90	Blaine	Phenylacetic		3kg,2arrest
		Methylamine	U.S.	31t
06/11/90	Blaine	Benzyl Cyanide	U.S.	1kg.contrldel
06/12/90	Detroit	Anhyd. Ether		20lt,1arrest
		Methylamine	U.S.	21t
06/18/90	Houston	Acetone	Singapore	1mil+kgs
06/23/90	Houston	Acetone	Angola	2,982kgs
06/25/90	LA/LB	Potas. Perman.	U.S.	19,000kgs

DATE	PORT	CHEMICAL	DESTINATION	INCIDENT
070690	Houston	Acetic Anhyd.	Netherlands	1,049,983kgs
071290	Houston	Acetic Anhyd.	Japan	3,054,900kgs
071790	Blaine	Phenyl. Acid	U.S.	200lbs
072490	LA/LB	Acetone	Hong Kong	4,032lbs
073090	Buffalo	Potas. Perman.	Canada	16,000kgs
073090	Houston	Butanone	Korea	273,275kgs
080390	Chicago	Phenylpropan.	U.S.	9,000kgs
080390	Houston	Acetone	Australia	525,149kgs
080390	Houston	Toluene	Guatemala	35,423kgs
080690	Houston	Toluene	Peru	3,069kgs
080890	Houston	Acetone	U.K.	104,937kgs
081790	Chicago	Benzyl Chlor.	U.S.	17,320kgs
082090	Houston	Acetone	Venezuela	348,119kgs
082890	Blaine	Ephedrine	U.S.	33lbs/2 arrests
082890	Highgate	Acetone	U.K.	3,928kgs
082890	Dallas	Ephedrine	U.S.	116kgs
091390	JFK	Phenylpropan.	Pakistan	3kgs
092490	Houston	Ephedrine	Mexico	50kgs
092890	Houston	Toluene	Venezuela	196,600kgs

FY 1990 Totals: 61 seizures/15 arrests

CLANDESTINE LABORATORY SEIZURES - FI YEAR 1990 THROUGH August 1990

FFICE	ATLANTA	BOSTON	CHICAGO	DALLAS	DENVER	DETROIT	HOUSTON	LOS ANGELES	MIAMI	NEWARK	NEW ORLEANS	NEW YORK	PHILADELPHIA	PHOENIX	SAN DIEGO	SAN FRANCISCO	SEATTLE	ST LOUIS	WASHINGTON	DEA TOTAL/CO-OP.
RUG																				
ethamphetamine	3 3	2 2	4 4	18 12	16 16		37 19	25 24	4 4	2 2	7 7	1 1	6 6	4 4	64 64	71 70	25 11	7 7		296 256
P2P				4 1			4 2				2 2					1 1			1 1	12 7
Amphetamine	3 3			22 20	3 3	1 1	7 4				5 5							4 4	1 1	46 41
PCP												1 1				5 5				6 6
Cocaine									1 1			2 2			1 1					4 4
Methaqualone						1 1										1 1				2 2
Psilocybin																				
MDA				1 1	1 1		2 2									1 1			1 1	6 6
Fentanyl																				
Other									1 + 1							2 + # 2				3 3
Total	6 6	2 2	4 4	45 34	20 20	2 2	50 27	25 24	6 6	2 2	14 14	4 4	6 6	4 4	65 65	81 80	25 11	11 11	3 3	375 325

\+ = MDMA
* = 4-Methyl Aminorex

375 - August, 1990
335 - July, 1990
40 - New labs were reported during August, 1990

CLANDESTINE LABORATORY SEIZURES - FI .L YEAR 1989 (AMENDED FIGURES)

OFFICE / DRUG	ATLANTA	BOSTON	CHICAGO	DALLAS	DENVER	DETROIT	HOUSTON	LOS ANGELES	MIAMI	NEWARK	NEW ORLEANS	NEW YORK	PHILADELPHIA	PHOENIX	SAN DIEGO	SAN FRANCISCO	SEATTLE	ST LOUIS	WASHINGTON	DEA TOTAL/CO-OP.
Methamphetamine	5 / 5	1 / 1	5 / 5	39 / 29	53 / 53	2 / 1	74 / 53	48 / 46	5 / 5	6 / 5	23 / 23		1 / 11	19 / 18	113 / 112	179 / 176	86 / 18	13 / 13	1 / 1	683 / 575
P2P				11 / 9	1 / 1		12 / 9	2 / 2					2 / 2			1 / 1	3 / 2	1 / 1		33 / 27
Amphetamine				70 / 46	2 / 2	1 / 1	7 / 6	1 / 1	1 / 1	1 / Ø	6 / 6				1 / 1		1 / 1	10 / 10		101 / 75
PCP				1 / 1				7 / 7								3 / 3			2 / 2	13 / 13
Cocaine																			1 / Ø	1 / Ø
Methaqualone									5 / 5											5 / 5
Psilocybin																				
MDA					1 / 1		2 / 2				1 / 1									4 / 4
Fentanyl													1 / 1							1 / 1
Other			1 / @ 1				3 ? ? / + 2		2 * / m 2	1 / * 1						2 ? ? / 2	1 / @ 1		1 / A 1	11 / 10
Total	5 / 5	1 / 1	6 / 6	121 / 85	57 / 57	3 / 2	98 / 72	56 / 54	15 / 15	8 / 6	30 / 30	Ø / Ø	14 / M	19 / 18	114 / 113	185 / 182	91 / 22	24 / 24	5 / 4	852 / 710

+ = MDHA
* = 4-Methyl Aminorex
M = Methadone
@ = Mescaline
A = Allobarbital
? = Unknown (explosion/fire)

852 - Fiscal Year 1989
810 - Fiscal Year 1988
42 - More labs seized in FY 1989

CLANDESTINE LABORATORY SEIZURES
BY TYPE AND FIELD DIVISION
FISCAL YEAR 1988 (October 1, 1987 - September 30, 1988)

FIELD DIVISION	METHAMPHETAMINE		P2P		AMPHETAMINE		PCP		COCAINE		METHAQUALONE		OTHER		TOTAL	
	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA
ATLANTA	5	5	1	1											6	6
BOSTON	1	1													1	1
CHICAGO	4	3					1	1			1	1	2	2	8	7
DALLAS	31	20	5	4	59	50							1	1	96	83
DENVER	37	35			2	2					1	1			40	38
DETROIT	1	1			1	1	1	1			1	1			4	4
HOUSTON	58	35	3	2	9	2	2	2					4	3	76	44
LOS ANGELES	51	50					5	5			1	1	1	1	58	57
MIAMI	1	1	1	1	2	2			6	5			1	1	11	10
NEWARK	5	5													5	5
NEW ORLEANS	27	27			6	6									33	33
NEW YORK							1	1	1	0					2	1
PHILADELPHIA	0	0													0	0
PHOENIX	19	19							1	1			1	1	21	21
SAN DIEGO	130	136													130	136
SAN FRANCISCO	159	156					7	7					4	4	170	167
SEATTLE	118	40							1	1			3	2	122	43
ST. LOUIS	4	3			5	5									9	8
WASHINGTON							2	2							2	2
GRAND TOTAL	667	553	10	8	84	68	19	19	9	7	4	4	17	15	810	674

TABLE 2

CLANDESTINE LABORATORY SEIZURES
BY TYPE AND FIELD DIVISION
FISCAL YEAR 1987

FIELD DIVISION	METHAMPHETAMINE		P2P		AMPHETAMINE		PCP		COCAINE		METHAQUALONE		OTHER		TOTAL	
	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA
ATLANTA	6	6													6	6
BOSTON	1	1											1	1	2	2
CHICAGO	7	7											1	0	8	7
DALLAS	24	20	2	2	40	37									66	59
DENVER	28	28	1	1											29	29
DETROIT	1	1											1	1	2	2
HOUSTON	73	43	4	2	22	3									99	48
LOS ANGELES	24	23					3	3							27	26
MIAMI	3	3							8	8	1	1			12	12
NEWARK	1	1	1	1											2	2
NEW ORLEANS	10	10			3	3									13	13
NEW YORK	1	1	1	1					9	9					11	11
PHILADELPHIA	7	7			1	0					1	1	1	1	10	9
PHOENIX	7	7											1	1	8	8
SAN DIEGO	187	187													187	187
SAN FRANCISCO	68	58	5	5	1	1	6	6					1	1	81	71
SEATTLE	101	47											1	1	102	48
ST. LOUIS	9	9	1	1	2	2									12	12
WASHINGTON	1	1					4	4							5	5
GRAND TOTAL	559	460	15	13	69	46	13	13	17	17	2	2	7	6	682	557

TABLE 2

CLANDESTINE LABORATORY SEIZURES
BY TYPE AND FIELD DIVISION
FISCAL YEAR 1986

FIELD DIVISION	METHAMPHETAMINE		P2P		AMPHETAMINE		PCP		COCAINE		METHAQUALONE		OTHER		TOTAL	
	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA
ATLANTA	10	9			3	3					1	1			14	13
BOSTON					1	1			1	1					2	2
CHICAGO	5	5			1	1					1	1	2	2	9	9
DALLAS	20	18	7	3	44	38							1	1	72	60
DENVER	12	12	1	1											13	13
DETROIT	8	7							1	1			1	1	10	9
HOUSTON	69	47	3	1	14	7			1	1			1	1	88	57
LOS ANGELES	23	23	1	1			1	1	1	1			2	2	28	28
MIAMI	1	1			1	1			13	13	1	1	1	1	17	17
NEWARK	2	2	2	2					1	1					5	5
NEW ORLEANS	10	9	1	1	1	1			1	1					13	12
NEW YORK	2	2					1	1	3	3					6	6
PHILADELPHIA	14	14	3	3									1	1	18	18
PHOENIX	8	8							1	1					9	9
SAN DIEGO	57	57					1	1							58	58
SAN FRANCISCO	55	54	3	3	1	1	1	1			1	1	2	2	63	62
SEATTLE	70	41											2	1	72	42
ST. LOUIS	5	5													5	5
WASHINGTON	1	1					4	3					2	2	7	6
GRAND TOTAL	372	315	21	15	66	53	8	7	23	23	4	4	15	14	509	431

TABLE 4

CLANDESTINE LABORATORY SEIZURES
BY TYPE AND FIELD DIVISION
FISCAL YEAR 1985

FIELD DIVISION	METHAMPHETAMINE		P2P		AMPHETAMINE		PCP		COCAINE		METHAQUALONE		OTHER		TOTAL	
	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA	TOTAL	DEA
ATLANTA	2	2			2	2			1	1			1	1	6	6
BOSTON	2	2													2	2
CHICAGO	2	2	1	1	4	4	1	1							8	8
DALLAS	23	17	8	6	47	27	2	2							80	52
DENVER	12	11	1	1	1	1							3	2	17	15
DETROIT	3	3					1	1			1	1			5	5
HOUSTON	62	39	6	5	11	1	1	1					3	1	83	47
LOS ANGELES	17	13					5	4	1	1	1	1	2	2	26	21
MIAMI	2	2	1	1			3	3	19	17			1	1	26	24
NEWARK	2	2									1	1			3	3
NEW ORLEANS	8	8					1	1					1	1	10	10
NEW YORK	1	1	1	1					4	4					6	6
PHILADELPHIA	10	10	2	2			1	1							13	13
PHOENIX	1	1													1	1
SAN DIEGO	44	43			1	1					1	1	1	1	47	46
SAN FRANCISCO	36	30	3	3	1	1	3	3	3	2			1	1	47	40
SEATTLE	27	27	2	2							1	1			30	30
ST. LOUIS	3	3													3	3
WASHINGTON							5	5	1	1					6	6
GRAND TOTAL	257	216	25	22	67	37	23	22	29	26	5	5	13	10	419	338

TABLE 2

FIGURE 8

CLANDESTINE LABORATORY SEIZURES
BY TYPE AND FIELD DIVISION
FISCAL YEAR 1984

Field Division	Meth-amphetamine		PCP and Analogs		Amphetamine		Cocaine		Methaqualone		Other		GRAND TOTAL	
	Total	DEA	Total	DEA	Total	DEA	Total	DEA	Total	DEA	Total	DEA	Total	DEA
Atlanta	8	8	1	1	-	-	-	-	-	-	1	1	10	10
Boston	4	4	1	-	-	-	-	-	-	-	-	-	5	4
Chicago	3	3	4	4	1	1	1	1	-	-	1	1	10	10
Dallas	12	3	1	1	21	14	-	-	-	-	3	3	37	21
Denver	6	6	-	-	2	2	-	-	-	-	3	2	11	10
Detroit	-	-	1	1	1	1	1	1	1	1	-	-	4	4
Houston	41	18	-	-	3	-	-	-	-	-	4	3	48	21
Los Angeles	11	4	7	-	1	-	2	1	2	1	-	-	23	6
Miami	1	1	-	-	1	1	18	12	1	1	1	1	22	16
Newark	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Orleans	9	9	3	2	-	-	-	-	-	-	1	1	13	12
New York	-	-	-	-	-	-	1	1	-	-	-	-	1	1
Philadelphia	11	8	-	-	-	-	-	-	-	-	-	-	11	8
Phoenix	-	-	-	-	-	-	-	-	-	-	-	-	-	-
San Diego	11	11	-	-	-	-	-	-	-	-	1	1	12	12
San Francisco	51	31	2	-	1	-	1	1	-	-	3	2	58	34
Seattle	12	12	-	-	-	-	-	-	-	-	2	2	14	14
St. Louis	3	3	-	-	-	-	-	-	-	-	1	1	4	4
Washington	1	-	6	4	-	-	-	-	-	-	-	-	7	4
GRAND TOTAL	184	121	26	13	31	19	24	17	4	3	21	18	290	191

TABLE 2

CLANDESTINE LABORATORY SEIZURES LISTED BY TYPE AND DEA FIELD DIVISION AREA

Fiscal Year 1983

Type of Laboratory	Atl	Bos	Chi	Dal	Den	Det	Hou	Los	Mia	New	NeO	NeY	Phi	Pho	SaD	SaF	Sea	StL	Was	Total
Methamphetamine	5	1	2	4	6	1	26	5	3	6	3	1	6	1	6	30	11	2	3	~~121~~
PCP			6	1		2	2	14	1		1	1				1			18	~~46~~ 4
Amphetamine			1	~~15~~ 14	2	1		3						1	~~1~~ 2	1				~~22~~ 2
Methaqualone						4	1	3	2									1		11
P2P					1		1			3						1		1		7
MDA	1	1							2								1			4
PHP						1													1	2
PCE						1														1
DMT							1													1
Hashish Oil		1	2		1															4
Mescaline			1																	1
Psilocybin			1																	1
Heroin					1		1													2
Methadone											1									1
Cocaine	1			1				2	4						1		1			10
Total	~~7~~ 6	3	13	~~20~~ ~~18~~	~~11~~ ~~10~~	10	32	27	12	9	4	2	6	2	8	33	13	4	22	~~339~~ ~~234~~

TABLE 3

CLANDESTINE LABORATORY SEIZURES LISTED BY TYPE AND DEA FIELD DIVISION AREA

Fiscal Year 1982

Type of Laboratory	Atl	Bos	Chi	Dal	Den	Det	Hou	Los	Mia	New	NeO	NeY	Phi	Pho	SaD	SaF	Sea	StL	Was	Total
Methamphetamine	3		6	7	9	3	26	6	1	5	4	1	4	2	2	22	7	1	5	114
PCP	3	1	2	2		3	1	4				2		2		2	1		24	47
Amphetamine	1		1	5			2						3					3		15
Methaqualone	2					2		2			1									7
P2P				1					2				1			1		1		6
MDA	2		1	1																4
DMT							1												1	2
Mescaline						1					1									2
Methadone					1															1
Cocaine			1			1								1				1		4
TMA			1																	1
Total	11	1	12	16	10	10	30	12	3	5	6	3	8	5	2	25	8	6	30	203

DEA SENSITIVE

DOMESTIC CLANDESTINE LABORATORY SEIZURES LISTED BY TYPE AND GEOGRAPHIC AREA

FISCAL YEAR - 1981

Type of Laboratory	NEast	SEast	NCent	SCent	West	Total
Methamphetamine	18	5	9	41	27	100
PCP	4	14	4	3	13	38
Amphetamine		2	2	8	4	16
P2P		1	1	3	2	7
Methaqualone	1	2	7	2	2	14
Mecloqualone	1					1
PHP		1			3	4
PCE			1			1
LSD		1	2		2	5
Lysergic Acid Amide	1					1
MDA		1	1			2
DET			1			1
DMT	1					1
THC		1				1
Hashish Oil		1		1		2
Cocaine	1	2				3
Totals	27	31	28	58	53	197

Table 4

DEA SENSITIVE

Listed Precursor Chemicals

(A) Anthranilic acid and it salts
Used to make methaqualone

(B) Benzyl Cyanide
Used to make methamphetamine, amphetamine, and P2P. P2P is an immediate precursor to amphetamine and methamphetamine and is a controlled substance in itself under 21 C.F.R. § 1308.12(g). It can also be used to make phenylacetic acid which is listed as "(H)" below.

(C) Ephedrine, its salts, optical isomers, and salts of optical isomers.
Methamphetamine

(D) Ergonovine and its salts
LSD

(E) Ergotamine and its salts
LSD

(F) N-Acetylanthranilic acid and its salts
Methaqualone

(G) Norpseudoephedrine, its salts, optical and salts of optical isomers
Amphetamine

(H) Phenylacetic acid and its salts
This, combined with acetic anhydride, is used to make P_2P.

(I) Phenylpropanoline, its salts, optical isomers, and salts of optical isomers.
Amphetamine and 4-Methylaminorex (a designer drug)

(J) Piperidine and its salts
PCP

(K) Pseudoephedrine, its salts, optical isomers, and salts of optical isomers
Methamphetamine

(L) 3,4 - Methylenedioxyphenyl-3-propanone
MDA, MDMA, MDE, and MDA

Listed Essential Chemicals

Generally, these are solvents, cataylsts, and extractors, and can be used over and over again.

(A) Acetic Anhydride
Mainly to process morphine to make heroin

Sometimes used as a reactant with anthranilic acid ("A" under listed precursor chemicals) to make P2P.

(B) Acetone
Solvent - Cocaine

(C) Benzyl Chloride
This is a precursor but it is essentially shipped in large quantities and seems more like an essential chemical. It is less important than other precursors, has industrial uses, and is listed under essential chemicals for economic reasons.

It is used to make benzyl cyanide ("B" under listed precursor chemicals) which is used to make phenylacetic acid which is used to make P2P, which is used to make amphetamine and methamphetamine.

(D) Ethyl Ether
Solvent - Cocaine

(E) Hydriodic Acid
Reacts with ephedrine ("C" under listed precursor chemicals) or pseudoephedrine ("K" under listed precursor chemicals) to make methamphetamine. Reacts with norpseudoephedrine ("G" under listed precursor chemicals) to make amphetamine.

(F) Potassium permanganate
Cocaine

(G) 2-Butanone
Cocaine

(H) Toluene
Cocaine

Precursor & Essential Chemical Reference Guide

Drug Control Section
June 1989

TABLE OF CONTENTS

Listed Precursor Chemicals

Listed Essential Chemicals

ANTHRANILIC ACID

Other Names:

o-Aminobenzoic Acid
ortho-Aminobenzoic Acid
1-Amino-2-carboxybenzene
Vitamin L1
2-Aminobenzoic Acid
o-Carboxyaniline
ortho-Carboxyaniline

Legitimate Uses:

Chemical intermediate required to manufacture dyes, pharmaceuticals, raw chemicals and perfumes. Enhances milk production of cows. Major use as an intermediate in producing dyes (specifically synthesis of indigo); Mordant Brown 40 and Vat Violet 13 are other derivatives. Cadmium salt is used to treat intestinal roundworm infestation in swine. Derivatives are used in toiletries as odorants; also used in the pharmaceutical industry.

Illicit Uses:

Chemical precursor of methaqualone.

Legitimate Purchasers:

Manufacturers of pharmaceuticals, dyes, pigments, agricultural chemicals, lubricants, etc.

Form of Product:

Off-white crystalline powder of sweetish taste, sublimable and freely soluble in hot water. Amphoteric-soluble in strong acids and bases.

Shipping Containers:

150 lbs. (68.2 kg) net fiber drums; also as bulk powder.

Storage:

Tightly closed containers in cool dry area.

Major Sources (USA):

Aldrich Chemical Co., Inc.
ALFA Products Division
American Research Products Company
American Tokyo Kasei, Inc.
Atomergic Chemetals Corporation
J.T. Baker Chemical Company
BASF Corporation Chemicals Division

Chemical Dynamics Corporation
Chemisphere Corporation
Chem-Lab Supplies
Chem Service, Inc.
Columbia Organic Chemical Co. Inc.
Crescent Chemical Co., Inc.
CTC Organics
Custom Chemical Lab, Inc.
Eastern Chemical
EM Industries, Inc.
Fisher Scientific Company
Fluka Chemical Corporation
Gallard-Schlesinger Industries, Inc.
Karlan Chemical Corporation
Kennedy and Klim, Inc.
K & K Laboratories
Kodak Laboratory and Specialty Chemicals
Lachat Chemicals Inc.
Lancaster Synthesis, Ltd.
La Pine Scientific Company
Mallinckrodt, Inc.
Pacific Gateway Company
Pfaltz & Bauer, Inc.
Polysciences, Inc.
Reliable Chemical Company
Sigma Chemical Company
Spectrum Chemical Manufacturing Company

Other Sources:

BASF Aktiengesellschaft (FRG)
Lab. Gurrurhaga, SA-Lagusa (Spain)
Prom's Kemiske Fabric A/S (Denmark)

BENZYL CYANIDE

Other Names:

- α-Cyanotoluene
- ω-Cyanotoluene
- Phenylacetonitrile
- alpha-Tolunitrile
- α-Tolunitrile
- Benzeneacetonitrile
- Benzenediacetonitrile
- Benzyl Nitrile
- Cyanomethyl(benzene)
- Phenacetonitrile
- 2-Phenylacetonitrile

Legitimate Uses:

Organic synthesis, especially of phenylacetic acid for use in penicillin manufacture.

Illicit Uses:

Production of phenylacetone (P2P), amphetamine and methamphetamine.

Form of Product:

Colorless oily liquid with an aromatic odor.

Toxicity:

Absorbed by skin. Toxic due to presence of cyanide. Human tolerance has been estimated at 5 milligrams per cubic meter of air.

Major Sources (USA):

Aldrich Chemical Co., Inc.
ALFA Products Division
J.T. Baker Chemical Company
Chemical Dynamics Corporation
Chemisphere Corporation
Fisher Scientific Company
Fluka Chemical Corporation
Kodak Laboratory and Specialty Chemicals
Parish Chemical Company
Pfaltz and Bauer, Inc.

EPHEDRINE

Other Names: α-[1-(Methylamino)ethyl]benzenemethanol;
α-[1-(Methylamino)ethyl]benzyl alcohol;
2-Methylamino-1-phenyl-1-propanol;
1-Phenyl-1-hydroxy-2-methylaminopropane;
1-Phenyl-2-methylaminopropanol;
α-Hydroxy-β-methylaminopropylbenzene;
erythro-α-[1-(Methylamino)ethyl]benzyl alcohol

Trade Names:

Component of Amesec® (Glaxo); component of Bronkotabs® (Sterling); component of Primatene® (Whitehall); component of Quadrinal® (Knoll); component of Quibron® Plus (Mead Johnson); component of Wyanoids® (Wyeth): Isofedrol® (Boehringer Mannheim GmbH, FRG); many others.

Legitimate Uses:

Adrenergic (bronchodilator)

Illicit Uses:

Chemical precursor of methamphetamine

Form of Product:

Solid crystals or granules (white).

Major Sources (USA):

Parke-Davis
Whitehall
Winthrop-Breon
Zenith

Other Sources

Czechoslovakia
Federal Republic of Germany
India
Japan
Peoples Republic of China
United Kingdom

ERGONOVINE

Other Names:

9,10-Didehydro-N-(2-hydroxy-1-methylethyl)-6-methylergoline-8 (S)-carboxamide
N-[α -(hydroxymethyl)ethyl]-D-lysergamide; D-lysergic acid L-2-propanolamide
Ergobasine
Ergometrine
Ergotocine
Ergostetrine
Ergoklinine

Trade Names:

Ergotrate®; Ermalate®; Ermetrine®; Metriclavin®; Panergal®; Secometrin®

Legitimate Uses:

Ergonovine is a powerful uterine stimulant (oxytocic) for obstetrical use. Its major clinical application is in the prevention of post partem bleeding. It also acts as a cerebral vasodilator and has been used in the treatment of migraine, although it is usually not recommended here.

Illicit Uses:

Chemical precursor of lysergic acid diethylamide (LSD; lysergide); also a precursor of lysergic acid which can be chemically converted into LSD.

Form of Product:

White crystalline product (darkens and decomposes on exposure to light)

Major Sources:

C.H. Boehringer Sohn Ingelheim (Federal Republic of Germany)
Central Indian Medicinal Plants Organization (India)
Chemipol (Czechoslovakia)
Farmitalia Carlo (Italy)
German Democratic Republic
Lek-Tovarna Farmaceutskih (Yugoslavia)
MEDIMPEX (Hungary)
Polfa (Poland)
Rumania
Sandoz (Switzerland)

ERGOTAMINE

Other Names:

12'-Hydroxy-2-methyl-5-alpha-(phenylmethyl)-ergotaman- 3',6',18-trione

Trade Names (containing ergotamine tartrate):

Bellergal® Tablets (Sandoz Pharmaceutical Div.)
Bellergal®-S Tablets (Sandoz)
Cafergot® (Sandoz)
Cafergot® P-B (Sandoz)
Cafetrate®-PB Suppositories (Sandoz)
Ergomar® Sublingual Tablets (Fisons)
Ergostat® (Parke-Davis)
Medihaler® Ergotamine Aerosol (Riker)
Wigraine® Tablets & Suppositories (Organon)
Wigraine®-PB Suppositories (Organon)

Legitimate Uses:

A medicinal with vasoconstricting properties (specific in migraine); also veterinary application as oxytocic.

Illicit Uses:

Chemical precursor of lysergic acid diethylamide (lysergide, LSD); also a precursor of lysergic acid which can be chemically converted into LSD.

Form of Product:

White crystalline powder (darkens and decomposes on exposure to light)

Major Sources:

Boehringer Ingelheim (FRG)
Chemipol (Czechoslovakia)
Erba (Italy)
Farmitalia Carlo (Italy)
Lek-Tovarna Farmaceutskih (Yugoslavia)
Medimpex (Hungary)
Polfa (Poland)
Sandoz (Switzerland)
Settimo Torinese (Italy)

Other Sources:

German Democratic Republic
India
Rumania

N-ACETYLANTHRANILIC ACID

Other Names: o-Amidobenzoic acid
ortho-amidobenzoic acid

Legitimate Uses:

Chemical intermediate in the manufacture of pharmaceuticals, fine chemicals and light stabilizers.

Illicit Uses:

"Immediate" chemical precursor of methaqualone.

Form of Product:

Fine white (or off-white) crystalline powder.

Legitimate Purchasers:

Manufacturers of pharmaceuticals, plastics and chemicals.

Shipping Containers:

100 lbs. (45.5 kg.) net fiber drums.

Storage:

Tightly closed containers in cool dry area.

Major Sources (USA):

Aldrich Chemical Co, Inc.
American Tokyo Kasei, Inc.
Chemical Dynamics Corporation
Chemisphere Corporation
Kodak Laboratory and Specialty Chemicals
Fisher Scientific Company
Fluka Chemical Corporation
Fairfield Chemical Company, Inc.
K+K Laboratories
Pfaltz & Bauer, Inc.
Shawnee Chemical Co.
Sigma Chemical Company
Spectrum Chemical Manufacturing Corp.

NORPSEUDOEPHEDRINE

Other Names:

threo-2-Amino-1-hydroxy-1-phenylpropane
threo-1-Phenyl-1-hydroxy-2-aminopropane
Cathine
Katine
Norisoephedrine
Pseudonorephedrine

Norpseudoephedrine is the D-threo-form of phenylpropanolamine which occurs naturally in the leaves of the khat plant, Catha edulis. The latter form is controlled in Schedule IV of the Controlled Substances Act (53 FR 17459; June 16, 1988).

Trade Names:

Adiposetten® N (Reiss, Federal Republic of Germany)
Amorphan® (Heumann, Federal Republic of Germany)
Dietene® (Restan, Republic of South Africa)
Exponcit® (Fahlberg-List, German Democratic Republic)
Insacial® (Byk Gulden)
Miniscap® (Cooper, Switzerland)
Nobese® (Restan, Republic of South Africa)
Phyteia Schlankheitsdragees® (Phyteia, Switzerland)
Reduform® (Para-Pharma, Switzerland)
Thinz® (Lennon, Republic of South Africa)

Legitimate Uses:

For laboratory analytical purposes; therapeutically, as an anorexic agent.

Illicit Uses

Clandestine manufacture of amphetamine (alternate synthetic pathway)

Form of Product

Free base is plates, hydrochloride salt is white prisms

Major Sources

Siegfried Aktiengesellschaft (Switzerland)

PHENYLACETIC ACID

Other Names:

Benzeneacetic acid;
α-Toluic acid
Alpha-Toluic Acid
Salts which are available include the sodium salt of phenylacetic acid (sodium phenylacetate) potassium salt of phenylacetic acid (potassium phenylacetate).

Legitimate Uses:

Chemical intermediate to manufacture phenylacetate esters and amphetamines; also a precursor in the manufacture of penicillins, especially Penicillin G. It is also used in the manufacture of perfumes, fungicides and flavoring agents, or as an additive in cleaning solutions.

Illicit Uses:

Chemical precursor of amphetamine, methamphetamine and their "immediate precursor", phenylacetone (P2P) which is in Schedule II of the U.S. Controlled Substances Act.

Form of Product:

The product is sold as a liquid solution that contains 50% phenylacetic acid (minimum), the balance being water (pH is approximately 7.0). Phenylacetic acid (non-salt form) is a white crystalline powder with a very disagreeable pungent odor. It is soluble in alcohol, ethyl ether and hot water.

Legitimate Purchasers:

Pharmaceutical manufacturers of penicillins and other medicinals.

Shipping Containers:

Phenylacetic acid is generally sold in 4,000 gallon (15,140 liter lots), and shipped by bulk tank truck or car. Occasionally some is sold in 55 gallon (208.2 liter) drums containing 540 lbs. (245 kg) net per drum. Usually the potassium salt solution is sold in drums to prevent its freezing.

Storage:

The material can be stored in liquid solutions of the sodium or potassium salts in carbon steel tanks. However, the sodium salt solution must have heat available because it freezes at about 10°C, whereas the potassium salt solution remains liquid at any temperature likely to be encountered. Phenylacetic acid (the non-salt form) should be stored in dark bottles in a cool dry area.

Major Sources (USA):

Chemisphere Corporation
Givaudan Corporation
Orbis Products Corporation
Stauffer Chemical Company

Other Sources:

Stauffer Chemical Europe SA (Switzerland)

PHENYLPROPANOLAMINE

Other Names:

alpha-(1-Aminoethyl)benzenemethanol
alpha-(1-Aminoethyl)benzyl alcohol
dl-Norephedrine
2-Amino-1-phenyl-propanol
alpha-Hydroxy-beta-aminopropyl-benzene
1-Phenyl-2-amino-1-propanol

Trade Names:

Acutrim® (Ciba)
Coldecon® (Parke-Davis)
Dexatrim® (Sauter, Switzerland)
Fugca® (Scheurich, Federal Republic of Germany)
Kontexin® (Leo, Sweden)
Monydrin® (Draco, Sweden)
Mucorama® (Boehringer Mannheim)
Obestat® (Lemmon, USA)
Propadrine® (M, S & D)
Propagest® (Carnrick, USA)
Rhindecon® (McGregor, USA)
Rinexin® (Leo, Sweden)
Sacietyl® (Bernabo, Argentina)
Syrtussar® (Armour)
Tinaroc® (Remeda, Finland)

Illicit Uses:

Clandestine manufacture of amphetamine (alternate synthetic pathway) and 4-methylaminorex.

Form of Product:

White crystals (hydrochloride salt)

Major Sources (USA):

Aceto Chemical Co,
Alfa Products Division
American Roland Chemical Corp.
American Tokyo Kasei, Inc.
Arsynco, Inc.
Atomergic Chemetals Corporation
Brewster Chemical Corp.
Byron Chemical Company, Inc.
CTC Organics
Chemical Dynamics Corp

Chem-Lab Supplies
Eastern Chemical
Kodak Laboratory & Specialty Chemicals
Fallek Chemical Company
Fluka Chemical Corp.
Fisher Scientific Company
Ganes Chemicals, Inc.
George Uhe Co., Inc.
Henley & Co., Inc.
Hexcel/Chemical Products
Interchem Corp.
Nepera, Inc.
Pfaltz & Bauer, Inc.
Polychemical Laboratories, Inc.
Pacific Gateway Co.
Reliable Chemical Co.
Ruger Chemical Co.
Samrak Chemical Div. of Harcros, Inc.
Sigma Chemical Co.

Other Sources:

Aldrich - Europe Janssen Pharmaceutica
Aldrich Chemical Co., Ltd (Great Britain)
Armeco S.A. (Switzerland)
Blagden Campbell Chemicals Ltd (Great Britain)
Cambrian Chemicals (Great Britain)
Ega-Chemic KG Keppler & Reif (Federal Republic of Germany)
Fluka AG (Switzerland)
Interchim (France)
Knoll AG (Federal Republic of Germany)
May & Baker Ltd (Great Britain)
Rhone Poulenc SA (France)
Siegfried (Switzerland)

PIPERIDINE

Other Names: Hexahydropyridine

Legitimate Uses:

Piperidine is used as a solvent and intermediate curing agent for rubber and epoxy resins. It is also used as an ingredient in oils and fuels, as a chemical complexing agent and as a catalyst for condensation reactions.

Illicit Uses:

Piperidine is the precursor chemical used in the illicit manufacture of phencyclidine (PCP).

Form of Product:

Piperidine is a strong irritant which may be toxic if ingested in sufficient quantities. It is a colorless liquid with the odor of pepper and is miscible with a wide range of solvents. It is also combustible.

Major Sources:

Abbott Laboratories
Reilly Tar and Chemical Corporation

Suppliers:

Aldrich Chemical Co., Inc.
BASF Wyandotte Corporation, Intermediate Chemicals Dept.
J.T. Baker Chemical Company
Chemical Dynamics Corporation
Chemical Samples Company
Chem Service, Inc. (small quantities only)
Eastern Chemical Div. of Guardian Chemical Corp.
Eastman Organic Chemicals, Eastman Kodak Co.
George Uhe Co., Inc.
Howard Hall & Co.
I.C.N./K & K Life Sciences Group
Lachat Chemicals, Inc.
La Pine Scientific Company
MC & B Manufacturing Chemists
Mallinckrodt, Inc., Science Products Div.
Pfaltz & Bauer, Inc., Div. of Aceto Chemical Co.
Sigma Chemical Company
Tridom Chemical Corporation
VWR Scientific

High Grade Manufacturers and Suppliers:

API Standard Reference Materials, Carnegie-Mellon University
EM Laboratories, Inc.
Fisher Scientific Company

PSEUDOEPHEDRINE

Other Names:

[S-(R^*,R^*)]-α-[1-(Methylamino)ethyl]benzenemethanol
[S-(R^*,R^*)]-α-[1-(Methylamino)ethyl]benzyl alcohol
[S-(R^*,R^*)]-2-Methylamino-1-phenyl-1-propanol
[S-(R^*,R^*)]-1-Phenyl-1-hydroxy-2-methylaminopropane
[S-(R^*,R^*)]-1-Phenyl-2-methylaminopropanol
[S-(R^*,R^*)]-α-Hydroxy-B-methylaminopropylbenzene
threo-[S-(R^*,R^*)]-α-[1(Methylamino)ethyl]benzyl alcohol
Isoephedrine

Trade Names:

Dorcol® (Dorsey Pharm.); Novafed® (Merrell Dow); Sudafed® (Burroughs Wellcome); component of Actifed® (Burroughs Wellcome); component of Brexin® EX (Savage); component of Children's Co-Tylenol® Chewable Cold Tablets (McNeil): Afrinol® (Schering); component of Daycare® (Vicks); component of Pedia Care® (McNeil); component of Phenegan® (Wyeth); component of Robitussin® PE (Robins); many others.

Legitimate Uses:

Adrenergic (vasoconstrictor; bronchodilator; nasal decongestant)

Illicit Uses:

Chemical precursor of methamphetamine

Form of Product:

White crystalline material

Major Sources (USA):

Burroughs Wellcome
McNeil
Parke-Davis

Other Sources:

Czechoslovakia
Federal Republic of Germany
India
Japan
Peoples Republic of China
United Kingdom

3,4-METHYLENEDIOXYPHENYL-2-PROPANONE

Other Names:

3,4-Methylenedioxyphenylacetone
1-(3,4-Methylenedioxyphenyl)-2-propanone
3,4-Methylenedioxybenzyl methyl ketone
Piperonylmethylketone

Legitimate Use:

Laboratory analytical reagent

Illicit Uses:

Clandestine manufacture of 3,4-methylenedioxyamphetamine (MDA),
3,4-methylenedioxymethamphetamine (MDMA),
3,4-methylenedioxyethamphetamine (MDE),
and N-Hydroxy-3,4-methylenedioxyamphetamine (N-OH-MDA)

Major Sources (USA):

Fluka Chemical Corporation
Frinton Laboratories

Other Sources:

Chemische Werk Lahr GmbH (Federal Republic of Germany)

ACETIC ANHYDRIDE

Other Names:

Acetic oxide
Acetic acid anhydride
Acetyl oxide
Ethanoic anhydride

Legitimate Uses:

Chemically, acetic anhydride is used as an acetylating and dehydrating agent. It is used on a large scale for the acetylation of cellulose. Other areas of application include the following:

1. Production of poly(methylacrylimide)(Hard Foam).
2. Acetylated plastic auxiliaries, e.g. glycerol triacetate, acetyltributyl citrate, and acetyl ricinolate.
3. Explosives.
4. Production of certain types of brake fluids.
5. Production of auxiliaries for drilling fluids.
6. Detergent industry for production of cold-bleaching activators, e.g. tetraacetylethylenediamine.
7. Dyeing industry, chiefly with nitric acid.
8. Preparation of organic intermediates, e.g. chloroacetylchloride, diacetylperoxide, higher carboxylic anhydrides, acetates, and the boron trifluoride complex.
9. To produce pharmaceuticals, e.g., aspirin, p-acetylaminophenol, acetanilide, acetophenacetin, theophylline, acetylcholine chloride, sulfonamides, a number of hormones and vitamins, and the x-ray contrast agent, 2,4,6-triiodo-3,5-diacetylamidobenzoic acid.
10. In the food industry, mainly in the acetylation of animal and plant fats, in production of acetostearins, the edible packing materials; and to clarify plant oils.
11. Flavors and fragrances (production of esters and cumarin).
12. Herbicides such as metolachlor (Dual) and alachlor (Lasso).

Illicit Uses:

1. Reactant with morphine to yield heroin.
2. Reactant with anthranilic acid to form N-acetylanthranilic acid, the immediate precursor of methaqualone and mecloqualone.
3. Reactant with phenylacetic acid to give phenyl-2-propanone (P2P), precursor of methamphetamine and amphetamine.

Form of Product:

Colorless liquid with a penetrating choking odor. Fumes in moist air, and its vapors are extremely irritating to eyes, nose and throat.

Major Sources (USA):

Aetna Chemical Corp.
Alfa Products Division
Aldrich Chemical Co., Inc.
Anachemia Chemical Inc.
Chemonics Scientific
Ashland Chemical Company
Atomergic Chemetals Corp.
Bioclinical Laboratories Inc.
J.T. Baker Chemical Company
Custom Chem Lab, Inc.
Chemical Dynamics Corp.
Celanese Chemical Co., Inc.
George Uhe Co., Inc.
Hancock Industries, Inc.
Chem-Lab Supplies
Columbia Organic Chemical Co., Inc.
Crescent Chemical Co., Inc.
Chem Service, Inc.
Eastern Chemical
Kodak Laboratory & Specialty Chemicals
Eastman Chemical Products, Inc.
EM Industries, Inc.
EM Science
Fisher Scientific Company
Fluka Chemical Corp.
GFS Chemicals
Gallard-Schlesinger Industries, Inc.
Lachat Chemicals, Inc.
Lancaster Synthesis Ltd.
LaPine Scientific Company
Mallinckrodt, Inc.
Pfaltz & Bauer, Inc.
Sigma Chemical Company
VWR Scientific
Wiley Organics
Worth Chemical Company

Other Sources:

AB Bofors (Sweden)
Hoechst AG GmbH (Federal Republic of Germany)
Lonza AG (Switzerland)
Lonza-Werke GmbH (Federal Republic of Germany)
Montedison Petrolchimica SpA (Italy)
Rhone-Poulenc (France)
Wacker-Chemie GmbH (Federal Republic of Germany)

ACETONE

Other Names:

Dimethylformaldehyde
Chevron Acetone
Dimethyl Ketone
Dimethylketal
β-Ketopropane (Beta Ketopropane)
Ketone Propane
Methyl Ketone
Pyroacetic Acid
Propanone
Pyroacetic Ether
2-Propanone
Aceton (German, Dutch, Polish)

Legitimate Uses:

Acetone is used primarily as a solvent and chemical intermediary for a variety of substances, including plastics, paints, lubricants, pharmaceuticals, cosmetics, agricultural products, fats, oils, waxes, resins, rubber, lacquers, varnishes, rubber cements. It is used in the extraction of various principals from animal and plant substances; in varnish removers, purifying paraffin; hardening and dehydrating tissues. Acetone is also used in the manufacture of methyl isobutyl ketone, mesityloxide, acetic acid, diacetone alcohol, chloroform, iodoform, bromoform, explosive rayon, photographic films, and isoprene.

Illicit Uses:

As a solvent in processing opium and coca leaves, leading to the manufacture of heroin and cocaine, respectively.

Form of Product:

Acetone is a colorless, mobile, flammable liquid with a mildly pungent and somewhat aromatic odor.

Legitimate Purchasers:

Manufacturers of pharmaceuticals, paints, oils, agricultural products, plastics, cosmetics and other chemicals: also chemical suppliers and the coating industry.

Toxicity:

Acetone is considered to be generally non-toxic, although direct contact should be avoided. Inhalation of the vapors causes headache, restlessness and fatigue, leading to unconsciousness at high concentrations. Vomiting may occur. The acetone vapor is irritating to the eyes and nose in high concentrations.

Shipping Containers:

Acetone is transported in steel drums, tank trucks, and rail cars. U.S. transportation regulations require a red diamond shaped "flammable liquid" label attached to all shipping containers because of acetone's low flash point. Maximum allowable shipment on passenger-carrying aircraft is 946 cubic centimeters (1 quart) and 0.0378 cubic meters (10 gallons) for cargo aircraft.

Storage:

Acetone is stored in steel tanks. It must be used with adequate ventilation, stored in closed containers and kept away from heat, sparks and flames. Fires may be controlled with carbon dioxide or dry chemical extinguishers. Explosion hazard of acetone vapor is moderate. There have been no reported serious chronic effects in humans or prolonged inhalation.

Major Producers (USA):

Allied-Signal
Dow
General Electric
Shell
USS Chemicals

Other Sources:

Montedison Farmaceutica S.A.
Rhodia S.A. (Sao Paulo, Brazil)
Usina Victor Sense S.A. (Campos R.J., Brazil)

BENZYL CHLORIDE

Other Names:

Chloromethylbenzene
α-Chlorotoluene
alpha-Chlorotoluene

Legitimate Uses:

In the manufacture of plasticizers (e.g., benzylbutylphthalate), benzyl alcohol and phenylacetic acid. On a smaller scale, it is used to produce quaternary ammonium salts (for disinfectants and catalysts), benzyl esters (benzyl benzoate and benzyl acetate for the flavors and perfumes industry), dyes of the triphenylmethane series, dibenzyl disulfide (antioxidant for lubricants), benzylphenol and benzylamines.

Illicit Uses:

Production of phenylacetone (P2P), amphetamine and methamphetamine.

Form of Product:

A colorless liquid which fumes in moist air; pungent odor; irritating to mucous membranes and eyes - powerful lachrymatory effect

Toxicity:

A concentration of 16 parts per million in air has been reported to be intolerable to humans within one minute. It is a potent lachrymator, strongly irritating to eyes, nose and throat and capable of causing pulmonary edema. Readily absorbed from lungs and gastrointestinal tract; metabolized to N-Acetyl-S-benzylcysteine. After oral administration, mercapturic acid and benzoic acid (free or conjugated with glycine) are excreted in urine.

It has been shown to be carcinogenic in the guinea pig and the rat. Special requirements are needed concerning the sealing of production equipment, ventilation of workrooms, and regular medical inspections of affected personnel.

Major Sources (USA):

Aldrich Chemical Co., Inc.
ALFA Products Division
Fisher Scientific Company
Fluka Chemical Corporation
Interchem Corporation
J.T. Baker Chemical Company
Kodak Laboratory & Specialty Chemicals
Mallinckrodt, Inc.
Pfaltz and Bauer, Inc.
Stauffer Chemical Company

ETHYL ETHER

Other Names:

1,1'-Oxybisethane
Ethyl Oxide
Diethyl Oxide
Ether
Ethoxyethane
Sulfuric Ether
Anesthetic Ether
Anaesthetic Ether
Anesthesia Ether
Pronarcol
Solvent Ether
Aethylaether
Aether
Diaethylaether (German)
Dwuetylowy Ether (Polish)
Etere Etilico (Italian)
Ether Ethylique (French)
Oxyde d'ethyle (French)

Legitimate Uses:

Ethyl ether has a wide range of uses in the chemical industry. It is a good solvent or extractant for fats, waxes, oils, perfumes, resins, dyes, gums and alkaloids. It is an excellent solvent for the manufacture of munitions and plastics. It is also used as denaturant in several denaturant alcohol formulas. It has been used as a starting fuel for diesel engines and as a general anesthetic in surgery. It is also used as a commercial source of ethylene in plants that do not have access to petroleum refinery gases. The recent estimates use pattern is as follows: solvents and military production of smokeless powder, 65%: chemical synthesis, 25%; general anesthetic and other medicinal uses, 3%; miscellaneous users, 7%.

Illicit Uses:

As a solvent in processing opium and coca leaves, leading to the manufacture of heroin and cocaine.

Form of Product:

Ethyl ether is a colorless, very volatile, highly flammable liquid with a sweet pungent odor and burning taste. Its toxicity is low and recovery from sublethal concentrations is rapid and generally complete. When exposed to the vapor of any appreciable concentration, the individual should be promptly removed from the immediate area. The effect of ether owing to ingestion, skin contact, or inhalation may include drowsiness, and irritation of the nose, throat, and mucous membranes. Prolonged or repeated contacts of ether with skin cause tissue defatting and dehydration leading to dermatitis.

Legitimate Purchasers:

Ethyl ether is used by the petrochemical, plastics, rubber, munitions, pharmaceutical and chemical industries. It is also used in medicine as a general anesthetic and in analytical laboratories.

Toxicity:

Ethyl ether is an irritant to mucuous membranes, increasing salivation and bronchial secretion. It also may cause a drop in blood pressure and capillary bleeding. Malfunction of kidney and liver function may occur. Convulsions, often fatal, may occur in children or young adults under deep anesthesia. Acute overdosage is characterized by respiratory failure and cardiac arrest. Prolonged contact on tissues produces necrosis.

Shipping Containers:

Tank cars and boxcars. All possible care should be taken in loading and unloading tank cars. Each container must carry an identifying label or stencil. Ethyl ether is classified by the U.S. Interstate Commerce Commission as a flammable liquid and, therefore, must be packed in ICC specification containers when shipped by rail, water, or highway. Each drum or box with inside containers must bear the ICC red label for flammable liquids.

Storage:

Ethyl ether is a hazardous chemical because it is highly flammable. Besides being highly volatile, it also has a low autoignition temperature. In the presence of air, light, or prolonged storage unstable and explosion-prone peroxides form. Therefore, ethyl ether should be stored in cool, dark, well ventilated areas in tightly closed inert containers for limited time periods. If an ether fire occurs, carbon dioxide or dry chemical fire extinguishers should be used.

Major Sources (USA):

Aldrich Chemical Co., Inc.
Anachemia Chemicals, Inc.
Burdick & Jackson
Chem-Lab Supplies
Pfaltz & Bauer
Eastman Kodak Company

Other Sources:

ANFE S.A. (Buenos Aires, Argentina)
Fabricaciones Militares (Buenos Aires, Argentina)
Rhodia Argentina Quimica Y Textil S.A. (Buenos Aires, Argentina)
Rhodia S.A. (Sao Paulo, Brazil)
Rhodiaco Industrias Quimicas Ltda (Sao Paulo, Brazil)
Quimica Simex S.A. (Mexico City, Mexico)

HYDRIODIC ACID

Other Names:

Hydrogen iodide aqueous solution; 57% HI

Legitimate Uses:

Manufacture of organic and inorganic iodo compounds; removal of iodine from iodo compounds; disinfectant; chemical reagent; pharmaceutical application in adding iodine to iodine-deficient human diets. (Hydriodic Acid Syrup)

Illicit Uses:

Clandestine manufacture of methamphetamine from ephedrine or pseudoephedrine.

Major Sources (USA):

Accurate Chemical & Scientific Corp.
Aesar Group, Johnson Matthey Corp.
Aldrich Chemical Co.
Anachemia Chemicals Inc.
Atomergic Chemetals Corp.
J.T. Baker Chemical Co.
Brewster Chemical Corp.
Custom Chem Lab, Inc.
Chem-Lab Supplies
Columbia Organic Chemical Co., Inc.
Crescent Chemical Co., Inc.
Chem Service, Inc.
Kodak Laboratory and Specialty Chemicals, Eastman Kodak Co.
EM Industries, Inc.
EM Science
Fisher Scientific Co.
Fairfield Chemical Co., Inc.
GFS Chemicals
H&S Chemicals, Inc.
Mallinckrodt, Inc.
Pfaltz & Bauer, Inc.
ROC/RIC, Inc.
Sharpe Chemicals Company, Inc.
VWR Scientific
White Chemical Corporation

Other Sources:

E. Merck oHG, (Federal Republic of Germany)
Riedel-de Haen AG, (Federal Republic of Germany)
ACF Chemiefarma NV (The Netherlands)
Baker Chemicals BV (The Netherlands)
BDH Chemicals Ltd. (Great Britain)
General Intermediates of Canada (Canada)
Hopkins & Williams (Great Britain)
May & Baker Ltd. (Great Britain)
Koch-Light Laboratories, Ltd. (Great Britain)

POTASSIUM PERMANGANATE

Other Names:

Permanganic acid potassium salt
Chameleon mineral

Legitimate Uses:

Bleaching resins, waxes, fats, oils, straw, cotton, silk and other fibers; dyeing wood brown; printing fabrics; washing carbon dioxide in manufacturing mineral waters; photography; insecticide; tanning leathers; purifying water; disinfectant: as an important reagent in analytical and synthetic organic chemistry. Medicinal applications are as an antibacterial and antifungal in treating eczema and poison ivy, in treatment of poisoning after oral ingestion of barbiturates, chloral hydrate and many alkaloids.

Illicit Uses:

Removing cinnamylcocaine and other oxidizable alkaloids from cocaine.

Form of Product:

Dark purple crystals with blue metallic sheen. Sweetish astringent taste; odorless. Soluble in water, acetone and methanol; decomposed by alcohol.

Toxicity:

In humans, dilute solutions are mildly irritating and high concentration are caustic. Great caution must be exercised in handling, as explosions may occur if it is brought in contact with organic or other readily oxidizable substances.

Shipping Containers:

Yellow oxidizer label - bottles, drums.

Storage:

Preserve in well-closed containers; bottles (100 or 500 gm); drums. Ambient temperature with open vents. CAUTION (USP XX 1980): Observe great care in handling potassium permanganate, as dangerous explosions may occur if it is brought into contact with organic or other readily oxidizable substances, either in solution or in the dry state.

Major Sources (USA):

ALFA Products
Carus Chemical Company
Thompson-Hayward Chemical Company

METHYL ETHYL KETONE

Other Names:

MEK	Aethylmethylketon (German)
Butanone	Butanone 2 (French)
2-Butanone	Ethyl Methyl Cetone (French)
3-Butanone	Ethylmethylketon (Dutch)
Ethyl Methyl Ketone	Metiletilchetone (Italian)
Meetco	Metyloetyloketone (Polish)
Methyl Acetone	Methyloetyloketon (Polish)
Methyl Ethylketone	Butan-2-One

Legitimate Uses:

MEK is an important solvent with properties similar to those of acetone. It has advantages over many other solvents; high rates of evaporation and dissolution, high ratio of dissolved matter to viscosity, miscible with a large number of hydrocarbons. Other areas of application are production of synthetic leather, transparent paper, printing inks, aluminum foil, lacquers, surface coating, degreasing agents, extraction of fats, oils, waxes, natural and synthetic resins, dewaxing of mineral, and manufacture of smokeless powder.

Illicit Uses:

Cocaine Production.

Form of Product:

Flammable liquid; acetone-like odor.

Toxicity:

Vapors of MEK irritate the eyes, and nasal and pharyngeal mucous membranes. Frequent and prolonged contact causes skin moisture loss and irritation. Liquid MEK temporarily irritates the eye and cornea. The chronic inhalation of 200 parts per million MEK does not appear to be harmful.

Storage and Transportation:

Carbon steel containers are suitable for short-term storage and transportation. Stainless steel or container with a tin lining are recommended for long-term storage.

Major Sources (USA):

Allied Corporation
Ashland Chemical Company
ARCO Chemical Company
Burdick and Jackson
Celanese Chemical Company, Inc.
Exxon Chemical Americas
Shell Chemical Company

Other Sources

Celanese Mexicana S.A. (Mexico City, Mexico)

TOLUENE

Other Names:

Methylbenzene		Tolueen (Dutch)
Toluol		Toluen (Czech)
Phenylmethane		Toluolo (Italian)
Methacide		Antisal 1A
Methylbenzol		CP-25
NCI-C07272		

Legitimate Uses:

In the manufacture of benzoic acid, benzaldehyde, explosives, dyes, and many other organic substances; as a solvent for paints, lacquers, gums, resins, the extraction of various plant principals; as a gasoline additive. Also, used as a substitute for benzene in chemical laboratories. Used in production of toluene diisocyanate which is used to make polyurethane foams and other elastomers. The latter which accounted for a major application of toluene in 1985 is declining because of declines in furniture sales, downsizing of automobiles, increased sales of waterbeds; and increased use of fire-retardant foam.

Illicit Uses:

Cocaine production.

Form of Product:

Flammable, refractive liquid; benzene-like odor.

Toxicity:

About the same acute toxicity as benzene. Chief symptoms are headache, nausea, giddiness, and faintness. Its toxic effects are less severe than those of benzene poisoning. It could cause liver injury and nervous disturbances.

Major Producers (USA):

Allied Corporation
Amerada Hess Corporation
Ashland Chemical Company
Arco Chemical Company
Burdick and Jackson
Chevron Chemical Company
Crown Central Petroleum Corporation
Fina Oil and Chemical Company
Lyondell Petrochemical Company
Shell Chemical Company
Sun Refining and Marketing Co., Inc.
Texaco Chemical Co.
Unocal Chemicals Div. Petrochemical Group
USS Chemicals

Other Sources:

Carboquimica Argentina (Buenos Aires, Argentina)
Cia, Brasileira de Estireno (Sao Paulo, Brazil)
COPENE - Petroquimica do Nordeste S.A. (Camacari, BA, Brazil)
COPESUL - Cia Petroquimica do Sul (Porto Alegre, Brazil)
COSIPA - Cia Siderurgica Paulista (Sao Paulo, Brazil)
Fabricaciones Militares (Buenos Aires, Argentina)
Montedison Farmaceutica S.A. (Sao Paulo, Brazil)
Pennwalt S.A. (Sao Paulo, Brazil)
Petroleo Brasileiro S.A. (Rio de Janeiro, Brazil)
Petroleos Mexicanos (Mexico City, Mexico)
Petroquimica Argentina S.A. (Buenos Aires, Argentina)
Productora Quimica Mexicana S.A. (Mexico City, Mexico)
Usiquimica do Brasil Ltda (Sao Paulo, Brazil)
Usinas Siderurgicas de Minas Gerais, S.A. (Belo Horizonte, M.G., Brazil)

Report of DEA Import Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

stination ate:	Acetic Anhydride	Acetone	Anthranilic Acid	Benzyl Chloride	Benzyl Cyanide	Ethyl Ether	Hydriodic Acid
CALIFORNIA	0	0	0	0	0	0	0
TRANS->CANAD	0	499850	0	0	0	0	0
CONNECTICUT	0	9772313	0	32800	229660	0	0
DELAWARE	0	634680	0	0	0	0	0
GEORGIA	0	500284	0	0	0	0	0
ILLINOIS	0	0	0	0	0	0	0
INDIANA	0	0	0	0	0	0	0
KENTUCKY	0	0	0	0	0	0	0
LOUISIANA	0	0	0	0	0	0	0
MASSACHUSETT	0	0	0	0	0	0	0
MICHIGAN	0	0	0	19080	0	0	0
MINNESOTA	0	0	0	0	0	0	0
MISSOURI	0	0	0	0	0	0	0
MONTANA	0	0	0	0	0	0	0
NORTH CAROLI	0	0	0	0	0	0	0
NEW HAMPSHIR	0	0	0	0	0	0	0
NEW JERSEY	0	0	19190	16000	317980	0	0
NEW YORK	0	2052	0	0	0	0	0
OHIO	0	0	0	0	0	0	0
OKLAHOMA	0	0	0	0	0	0	0
OREGON	0	0	0	0	0	0	0
PENNSYLVANIA	0	10238245	0	93000	92950	0	0
RTO RICO	3094	0	0	33220	0	0	0
JTH CAROLI	0	0	0	0	5000	0	0
TENNESSEE	0	0	0	0	0	0	0
TEXAS	1840000	27215520	0	0	0	5720	0
VIRGINIA	10083380	84220	0	0	0	0	0
WASHINGTON	0	0	0	0	0	0	0
WISCONSIN	0	0	0	0	0	0	0

Report of DEA Import Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

stination ate:	Ephedrine	Ergonovine	Ergotamine	NorPseudoephedrine	N-Acetyl-anthranilic acid	Methylene dioxy-phenyl-2-propanone
CALIFORNIA	0	0	0	0	0	0
TRANS->CANAD	0	0	0	0	0	0
CONNECTICUT	0	0	0	0	0	0
DELAWARE	0	0	0	0	0	0
GEORGIA	0	0	0	0	0	0
ILLINOIS	0	0	0	0	0	0
INDIANA	0	0	0	0	0	0
KENTUCKY	0	0	0	0	0	0
LOUISIANA	0	0	0	0	0	0
MASSACHUSETT	0	0	0	0	0	0
MICHIGAN	0	0	0	0	0	0
MINNESOTA	0	0	0	0	0	0
MISSOURI	0	0	0	0	0	0
MONTANA	0	0	0	0	0	0
NORTH CAROLI	0	0	0	0	0	0
NEW HAMPSHIR	0	0	0	0	0	0
NEW JERSEY	78000	281	61	0	0	100
NEW YORK	229675	0	0	0	0	0
OHIO	0	0	0	0	0	0
OKLAHOMA	0	0	0	0	0	0
OREGON	0	0	0	0	0	0
PENNSYLVANIA	0	0	0	0	0	0
'RTO RICO	475	0	0	0	0	0
JTH CAROLI	0	0	0	0	0	0
TENNESSEE	0	0	0	0	0	0
TEXAS	1	0	0	0	0	0
VIRGINIA	0	0	0	0	0	0
WASHINGTON	0	0	0	0	0	0
WISCONSIN	30	0	0	0	0	0

Report of DEA Import Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

Destination State:	MEK	Phenyl-acetic Acid	Phenyl-propan-olamine	Piperi-dine	Pot.Per-mangan-ate	Pseudo-ephe-drine	Toluene
CALIFORNIA	0	0	0	0	28000	0	6629723
TRANS->CANAD	0	0	0	0	0	0	0
CONNECTICUT	4495196	0	0	0	0	1000	13249080
DELAWARE	0	0	0	0	0	0	0
GEORGIA	1532333	0	0	0	0	0	20683
ILLINOIS	7888	0	10000	0	104600	0	17308239
INDIANA	0	0	0	0	0	0	11228743
KENTUCKY	0	0	0	0	0	0	2773485
LOUISIANA	0	0	0	0	87500	0	0
MASSACHUSETT	0	0	0	0	294520	0	0
MICHIGAN	70000	0	0	0	0	0	13581297
MINNESOTA	0	0	0	0	0	0	1791496
MISSOURI	0	0	0	1	0	500	453704
MONTANA	0	0	0	0	0	0	13112
NORTH CAROLI	0	0	0	0	27200	0	21000
NEW HAMPSHIR	0	0	0	0	0	0	1190
NEW JERSEY	999896	45205	52010	0	144000	88975	8573850
NEW YORK	1018523	6	27600	101	786400	134050	24263307
OHIO	0	0	0	0	18000	0	49826797
OKLAHOMA	0	0	0	0	0	0	3000000
OREGON	0	0	0	0	0	0	273831
PENNSYLVANIA	4894646	200	0	114	0	0	25929642
PUERTO RICO	0	0	0	0	0	1200	0
SOUTH CAROLI	0	0	0	0	0	0	0
TENNESSEE	0	0	0	0	0	0	324423
TEXAS	9526943	0	0	0	92000	1	92509992
VIRGINIA	0	0	0	0	0	0	16247
WASHINGTON	0	0	0	0	0	0	49526835
WISCONSIN	0	0	0	0	0	0	488486

NOTICE

NEW DRUG ENFORCEMENT ADMINISTRATION REQUIREMENTS CONTROL THE MANUFACTURE, DISTRIBUTION, EXPORT AND IMPORT OF CERTAIN CHEMICALS

As of March 18, 1989, the following chemicals and their salts, isomers and salts of optical isomers in threshold amounts, are subject to Federal Requirements under the Chemical Diversion and Trafficking Act of 1988. By your purchase you may be subject to record-keeping and reporting requirements of Federal Law. If you are not aware of this law, you should contact your local Drug Enforcement Administration office.

PRECURSOR CHEMICALS

Anthranilic acid
Benzyl cyanide
Ephedrine
Ergonovine
Ergotamine
N-Acetylanthranilic acid
Norpseudoephedrine
Phenylacetic acid
Phenylpropanolamine
Piperidine
Pseudoephedrine
3,4-Methylenedioxyphenyl-2-propanone

ESSENTIAL CHEMICALS

Acetic anhydride
Acetone
Benzyl chloride
Ethyl ether
Hydriodic acid
Potassium permanganate
2-Butanone
(Methyl Ethyl Ketone or MEK)
Toluene

The law also requires that certain records be kept regarding the distribution, export and import of a tableting or encapsulating machine.

This notice is being provided as a customer service to alert your firm to this new federal requirement.

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

stination intry:	Acetic Anhydride	Acetone	Anthranilic Acid	Benzyl Chloride	Benzyl Cyanide	Ethyl Ether	Hydriodic Acid
	0	0	0	0	0	0	0
ANGOLA	0	1891	0	0	0	0	0
AUSTRALIA	470904	506286	0	15513	1	0	317
ARGENTINA	0	0	0	30595	0	0	0
BARBADOS	0	14955	0	0	0	0	0
BAHAMA ISLAN	0	0	0	0	0	0	0
BELGIUM	1200000	0	0	0	0	0	0
BANGLADESH	69269	16200	0	0	0	0	0
BOLIVIA	0	0	0	0	0	0	0
BRAZIL	1298426	2200000	0	10126	0	1701	0
COLOMBIA	829982	1454000	0	0	0	0	0
CANADA	752065	1513668	0	54487	2	460303	1702
CHINA	411201	0	0	0	0	0	0
CHILE	0	500000	0	4955	0	0	0
COSTA RICA	0	705000	0	0	0	0	0
DENMARK	0	0	0	0	0	0	0
DOMINICAN RE	0	892354	0	0	0	0	0
EL SALVADOR	0	110000	0	0	0	0	0
ENGLAND	0	4000000	137522	0	15	0	0
ECUADOR	288121	0	0	3016	0	0	0
FRANCE	0	0	0	0	0	0	0
FRENCH POLYN	0	4048	0	0	0	0	0
ATEMALA	0	280000	0	0	0	0	0
ANA	0	3320	0	0	0	0	0
NDURAS	0	234756	0	0	0	0	0
HONG KONG	0	2008419	0	0	0	0	0
HAITI	0	71342	0	0	0	0	0
INDIA	482720	0	0	0	0	0	0
INDONESIA	818760	550000	0	0	0	0	0
ISRAEL	100000	13713	0	0	0	0	0
ITALY	0	5550000	12995	0	0	0	2381
JAPAN	1850000	8500000	44200	0	0	0	0
JAMAICA	0	299418	0	0	0	0	0
SOUTH KOREA	487506	1296538	0	15513	0	0	0
MEXICO	0	2666817	0	34473	0	1887	0
MOROCCO	0	0	0	0	0	0	0
MALAYSIA	0	16011	0	0	0	1417	0
NETHERLANDS	2950000	16000000	0	0	0	0	0
NETH. ANTILL	0	0	0	0	0	0	0
NEW ZEALAND	95040	100000	0	0	0	0	0
PHILIPPINE I	0	419319	0	0	0	1646	0
PAKISTAN	16200	0	0	0	0	0	0
PANAMA	0	88291	0	0	0	0	0
PERU	0	90047	0	2041	0	2912	0
SAUDI ARABIA	0	64	0	0	0	0	0
SOUTH AFRICA	1250000	0	0	0	0	0	0
SPAIN	0	0	0	0	0	0	0
SWEDEN	0	0	0	0	0	0	0
INGAPORE	517780	2531155	0	0	0	0	0
TLAND	0	0	0	0	0	0	0
ITZERLAND	23240910	3000000	11056	0	0	0	0

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

Destination Country:	Acetic Anhydride	Acetone	Anthranilic Acid	Benzyl Chloride	Benzyl Cyanide	Ethyl Ether	Hydriodic Acid
THAILAND	1052405	977591	0	0	0	7009	0
TRINIDAD AND	0	207406	0	0	0	0	0
TAIWAN	213509	24655853	66543	15513	0	0	0
TURKEY	937492	0	0	0	0	0	0
VENEZUELA	0	3184367	0	33611	0	0	0
WEST GERMANY	1400000	2507254	11124	0	0	0	0
WEST INDIES	0	18503	0	0	0	0	0
ST LUCIA	0	0	0	0	0	0	0

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

stination ntry:	Ephe-drine	Ergono-vine	Ergota-mine	NorPseu-doephe-drine	N-Acetyl-anthra-nilic acid	Methylene dioxy-phenyl-2-propanone
	0	0	0	0	0	0
ANGOLA	0	0	0	0	0	0
AUSTRALIA	0	0	0	0	0	0
ARGENTINA	0	0	0	0	0	0
BARBADOS	0	0	0	0	0	0
BAHAMA ISLAN	0	0	0	0	0	0
BELGIUM	0	0	0	0	0	0
BANGLADESH	0	0	0	0	0	0
BOLIVIA	0	0	0	0	0	0
BRAZIL	0	0	0	0	0	0
COLOMBIA	0	0	0	0	0	0
CANADA	150	0	0	0	0	0
CHINA	0	0	0	0	0	0
CHILE	0	0	0	0	0	0
COSTA RICA	0	0	0	0	0	0
DENMARK	0	0	0	0	0	0
DOMINICAN RE	0	0	0	0	0	0
EL SALVADOR	0	0	0	0	0	0
ENGLAND	0	0	0	0	0	0
ECUADOR	0	0	0	0	0	0
FRANCE	0	0	0	0	0	0
FRENCH POLYN	0	0	0	0	0	0
ATEMALA	0	0	0	0	0	0
ANA	0	0	0	0	0	0
NDURAS	0	0	0	0	0	0
HONG KONG	0	0	0	0	0	0
HAITI	0	0	0	0	0	0
INDIA	0	0	0	0	0	0
INDONESIA	0	0	0	0	0	0
ISRAEL	0	0	0	0	0	0
ITALY	0	0	0	0	0	0
JAPAN	0	0	0	0	0	0
JAMAICA	0	0	0	0	0	0
SOUTH KOREA	0	0	0	0	0	0
MEXICO	300	0	0	0	0	0
MOROCCO	0	0	0	0	0	0
MALAYSIA	0	0	0	0	0	0
NETHERLANDS	0	0	0	0	0	0
NETH. ANTILL	0	0	0	0	0	0
NEW ZEALAND	0	0	0	0	0	0
PHILIPPINE I	0	0	0	0	0	0
PAKISTAN	0	0	0	0	0	0
PANAMA	0	0	0	0	0	0
PERU	0	0	0	0	0	0
SAUDI ARABIA	0	0	0	0	0	0
SOUTH AFRICA	10	0	0	0	0	0
SPAIN	0	0	0	0	0	0
SWEDEN	0	0	0	0	0	0
NGAPORE	0	0	0	0	0	0
TLAND	0	0	0	0	0	0
ITZERLAND	0	0	0	0	0	0

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

stination ntry:	Ephe-drine	Ergono-vine	Ergota-mine	NorPseu-doephe-drine	N-Acetyl-anthra-nilic acid	Methylene dioxy-phenyl-2-propanone
THAILAND	0	0	0	0	0	0
TRINIDAD AND	0	0	0	0	0	0
TAIWAN	0	0	0	0	0	0
TURKEY	0	0	0	0	0	0
VENEZUELA	0	0	0	0	0	0
WEST GERMANY	25	0	0	0	0	0
WEST INDIES	0	0	0	0	0	0
ST LUCIA	0	0	0	0	0	0

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

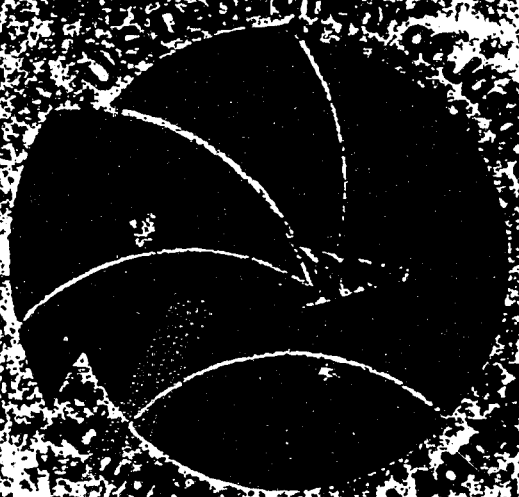
stination ntry:	MEK	Phenyl-acetic Acid	Phenyl-propan-olamine	Piperi-dine	Pot.Per-mangan-ate	Pseudo-ephe-drine	Toluene
	0	0	0	0	0	0	0
ANGOLA	0	0	0	0	0	0	0
AUSTRALIA	2260000	5	0	60	6500	5085	1000000
ARGENTINA	0	0	550	0	0	0	0
BARBADOS	1344	0	0	0	0	0	67180
BAHAMA ISLAN	0	0	0	0	0	0	183897
BELGIUM	0	0	0	0	0	0	10500000
BANGLADESH	0	0	0	0	0	0	0
BOLIVIA	1680	0	0	0	0	0	67589
BRAZIL	900000	0	1150	850	31200	0	0
COLOMBIA	2218000	0	7307	0	0	0	0
CANADA	12080553	57	700	7	216472	2775	69099568
CHINA	0	0	0	0	0	3000	6000000
CHILE	800000	0	0	1	0	0	1850000
COSTA RICA	343081	0	0	0	0	0	2300000
DENMARK	0	0	0	0	0	0	0
DOMINICAN RE	11412	0	0	0	0	0	4120519
EL SALVADOR	10000	0	0	0	0	0	568000
ENGLAND	0	1	0	3	112000	0	3004141
ECUADOR	2500000	0	0	0	0	0	3250000
FRANCE	0	0	0	0	0	0	3421
FRENCH POLYN	0	0	0	0	0	0	0
ATEMALA	440000	0	0	0	0	0	1575420
ANA	0	0	0	0	0	0	0
NDURAS	37370	0	0	0	0	0	1075434
HONG KONG	400325	0	0	0	0	350	1500000
HAITI	6981	0	0	0	0	0	49262
INDIA	0	0	400	5	0	0	0
INDONESIA	100000	0	0	0	0	0	2500000
ISRAEL	0	0	0	0	0	0	0
ITALY	0	0	0	3	0	0	1700000
JAPAN	3700000	0	500	3788	0	0	31880000
JAMAICA	67880	0	0	0	0	0	186628
SOUTH KOREA	5278000	0	0	0	0	0	5000540
MEXICO	4295929	4	7150	6263	41000	146	1120480
MOROCCO	0	0	0	0	1197	0	0
MALAYSIA	0	0	0	0	0	0	0
NETHERLANDS	0	0	0	0	0	0	63618712
NETH. ANTILL	35126	0	0	0	0	0	914406
NEW ZEALAND	175000	0	0	0	0	0	0
PHILIPPINE I	660000	0	1225	0	0	10	0
PAKISTAN	0	0	600	0	0	0	0
PANAMA	7842	0	150	0	2400	0	1041810
PERU	228011	0	0	0	0	0	1778701
SAUDI ARABIA	5254	0	0	0	0	0	0
SOUTH AFRICA	0	0	100	0	0	150	0
SPAIN	0	0	150	0	0	0	0
SWEDEN	0	0	0	0	0	0	0
NGAPORE	450000	0	0	10	0	0	21871000
TLAND	0	0	0	5	0	0	0
TZERLAND	0	0	0	266135	0	0	2000000

Report of DEA Export Applications
Processed During the Period 10/01/89 through 10/15/90 (In Kilograms)

tination ntry:	MEK	Phenyl-acetic Acid	Phenyl-propan-olamine	Piperi-dine	Pot.Per-mangan-ate	Pseudo-ephe-drine	Toluene
THAILAND	1500000	0	50	0	0	0	0
TRINIDAD AND	49971	0	0	0	0	0	87921
TAIWAN	2232	0	0	0	0	144	81858482
TURKEY	0	0	0	0	0	0	0
VENEZUELA	2780000	0	0	0	17600	0	7355609
WEST GERMANY	0	0	3300	3	372600	1669	5602425
WEST INDIES	15153	0	0	0	0	0	0
ST LUCIA	0	0	0	0	0	0	5440

U.S. Department of Justice
Drug Enforcement Administration
Office of Diversion Control

International Laws to Control the Sale and Distribution of Essential and Precursor Chemicals



October 1990

INTERNATIONAL LAWS TO CONTROL THE DISTRIBUTION OF ESSENTIAL AND PRECURSOR CHEMICALS

The following summarizes the laws and policies of countries outside the United States that attempt to control the trade and distribution of chemicals that may be used to manufacture illicit narcotic substances.

The information contained herein was collected from DEA sources and not necessarily from the governments of each country. Therefore, the views that are expressed in this report are not to be interpreted nor inferred as being the official government position on chemical control policies. Also, this report is not intended to be an exhaustive analysis of each country's legislative efforts. It is meant to serve as a tool to identify "weak links" in the chain of a global attempt to reduce essential chemical trafficking through legislative reforms.

This report is updated continuously to keep pace with changes in international chemical control. Two dates are provided to reflect the recency of information contained in this report. The first date, under each country heading, indicates when the laws for that country were last amended; a second date at the foot of each page shows the latest version of this report.

ARGENTINA
031690

Argentine decree number 365/86 and resolution 1317/86 establish control over the importation and exportation of 34 precursor and essential chemical products. The resolution charges Argentine Customs with the responsibility to monitor chemical imports and exports, as well as report annually to the appropriate international agencies the level of essential and precursor chemical trade.

Article 24 of the decree states:

> **Any person who, without authorization or in violation of health authority regulations, brings precursor or chemical products suitable for the production or manufacture of narcotics into the border area defined by law, shall be fined 3,000 to 600,000 australes, given a special disqualification lasting one to five years, and the merchandise in violation shall be confiscated, without affecting any other penalties that may apply.**

Argentine law mandates that any agency instituting formal charges for smuggling essential and precursor chemicals shall be required to maintain records of the following information: (1) type/quantity of chemical seized (2) net weight/volume expressed in kilograms (3) judicial authority intervening in process (4) date/place of seizure (5) individuals or corporate entities involved.

All requests for import and export permits are directed to the National Sanitary/Health Authority, with notice also to be given to the National Customs Administration. The petition for an import/export permit must reflect the following information:

(1) the registry number and date
(2) name of the importer and exporter
(3) country of original destination
(4) number of containers and weight
(5) labels
(6) identifying number
(7) Customs tracing number
(8) type of product
(9) means of transportation

ARUBA no information provided.
031690

AUSTRALIA:
031690

Import permit/license is required from the Director-General of Health to import ephedrine, ergonovine, ergotamine, and norpseudoephedrine.

AUSTRIA
031690

Does not control any chemicals listed in the Chemical Diversion and Trafficking Act of 1988.

BAHAMAS
031690

There are two major chemical plants in Freeport, both of which are closely monitored by Bahamian Customs during the importation and exportation of chemicals to/from Freeport and Grand Bahamas. Also, controls are enforced in the Customs-Privileged areas; no chemicals enter or exit Freeport without verification by the Bahamian Customs Service.

BELGIUM

101090

Belgium has not adopted legislation to control essential and precursor chemicals. According to DEA sources, chemical trafficking has not been considered a major problem by Belgian authorities. Further, it is believed that any chemical control policy proposed is evaluated in light of its potential effects on trade between the European countries. This is particularly significant with the pending unification of a single European trading bloc in 1992.

BELIZE no information provided.
031690

BOLIVIA
101090

During late 1988, the Government of Bolivia (GOB) expanded the Coca and Controlled Substances Law of 1988 (Law 1008) to place controls on the following precursor and essential chemicals: sulfuric acid, chloric acid, potassium permanganate, ammonium hydroxide, calcium hydroxide, sodium carbonate, ethyl ether, acetone, acetic anhydride. Law 1008 places authority in the Ministry of Health to issue licenses for the importation or sale of controlled chemical substances; recently, however, this authority has been transferred to the Subsecretariat of Interior for Social Defense (Counternarcotics law enforcement).

The GOB established mechanisms for the registration, control, and regulation of chemicals within the Subsecretariat in March 1990. The Subsecretariat exercises authority to license the import or sale of controlled chemicals, to investigate suspected instances of chemical diversion, and to destroy or sell seized chemicals to legitimate manufacturers.

Article 36 of Law 1008 states that additional chemicals may be added to the control list as designated by the Minister of Public Health. The Minister of Public Health, Mario Paz Zamora signed Ministerial Resolution 0769 on September 11, 1990, which included the following twelve chemicals to the original nine on the chemical control list:

methanol (methyl alcohol)	calcium carbonate
methyl ethyl ketone (butanona)	sodium bicarbonate
benzene (benzol)	xilenes (xiloles)
toluene (methyl benzene)	chloroform (trichloroethane)
liquified ammonia gas	petroleum ether (petroleum benzine)
ammonia in aqueous solution	Solvents or dilutants prepared for industrial use

BOTSWANA no information provided.
031690

BRAZIL
031690

Presently, Brazil has two administrative laws that control ethyl ether, sulphur ether, acetone, and acetic anhydride. One liter is the maximum quantity of these products that can be sold openly by drug stores. Brazil controls the sale and distribution of essential chemicals by (1) reporting, on a monthly basis, chemical sales over one liter to DIMED and the DRE of the Federal Police; (2) requiring companies to identify the final products for which the chemicals are used, and (3) requiring companies and individuals to report any suspicious illegal chemical activities. Currently, the DPF established a chemical control unit that consists of a supervisor and six agents within the DRE.

To tighten control on essential chemicals, representatives of the Federal Police Department in the Federal Drug Council have requested the organization issue a resolution to control the importation, exportation, re-exportation, distribution, storage, deposit and safekeeping, repackaging, use, transportation, and commercialization of the following chemicals: sulphur ether, ethyl ether, acetone, butane, cloridric acid, sulphur acid, sodium carbonate, sodium hydroxide, potassium hydroxide, ammonia, potassium permanganate, and chloroform. Also, it is anticipate that more permits will be required for chemical transfers to critical drug producing regions.

BRITISH VIRGIN ISLANDS No information provided.
031690

BULGARIA no information provided.
031690

BURMA (Myanmar) no information provided.
031690

CANADA
042090

Currently, there are is no Canadian legislation that monitors or controls the movement of essential or precursor chemicals. The Canadian government is currently revising existing drug laws. One intent of the new legislation is to include the control of chemical products into a consolidated Federal Statute to be entitled the Psychoactive Substance Control Act.

Canadian laws do provide for adequate storage and destruction of seized chemicals through the assistance of Environment Canada. All seized chemicals are destroyed in incinerators in accordance with environmental and pollution control standards of Canada.

CAYMAN ISLANDS no information provided.
031690

CHILE
031690

Although, there are currently no legal controls on the importation or exportation of ether or any other precursor chemicals, Chilean chemical producers have internal controls and regulations that govern the movement of chemicals. A National Drug Commission is currently conducting a study to aimed at tightening controls on precursor chemicals that are diverted to the illicit drug markets. The Commission does not have a firm time frame for completing this study, but expects some results before the end of 1989.

COLOMBIA
060790

According to one DEA report, "the Colombian laws and regulations governing trafficking in narcotics and cocaine essential chemicals are exemplary; in fact, they may be the finest laws in existence. The Colombian's ability to monitor cocaine essential chemical imports, transportation and end use is virtually fool-proof."

Despite its exhaustive laws, Colombia has been frustrated in its attempt to reduce significantly the level of chemical diversion. Most chemical shipments are diverted to the cocaine industry after state permits have been issued to individuals and businesses, whose legitimacy are uncertain, that allow them to legally import essential chemicals. In January 1986, Colombia enacted Public Law 30 that placed controls on the following chemicals:

ethyl ether	sulfuric acid
acetone	dilutants
potassium permanganate	solvents
sodium carbonate	hydrochloric acid

* or "any other substance which may be used toward the same end."

The Ministry of Public Health and the National Drug Council has primary jurisdiction to control the chemicals by regulating the importation, exportation, manufacture, distribution, and sale of chemicals. Public Law 30 provides that:

(1) the National Drug Counsel authorize prior issuance of an import license;
(2) a license then be issued by INCOMEX, Department of Commerce;
(3) the license be authorized by the Ministry of Public Health;
(4) Colombian Customs reviews all entry and control documentation;
(5) the F-2 investigative unit of the Colombian National Police then has responsibility to inspect after leaving Customs control.

In May 1990, the Government of Colombia adopted a decree that significantly strengthens existing chemical control laws. First, chemicals may no longer be imported through Customs free zones. Essential chemical imports are restricted to designated ports of entry and must be stored in Customs warehouses either in Bogota, Buenaventura, Barranquilla, or Cartegena. Second, individuals that wish to import chemicals must apply to the NCDD and provide detailed information that accounts for the ownership of the importing company and the legitimate use of the chemicals. Some of the information that must be provided to Colombian authorities includes: (1) the name of the importing company (2) the names of its shareholders and legal representative (3) the type and amount of chemicals to be imported (4) the name and address of the foreign chemical supplier, and (5) the purpose for which the chemicals are to be used. Finally, importers must account for the legitimate use of the controlled chemicals by submitting a quantitative comparison between the amount of chemicals imported and the amount used in industry.

COSTA RICA
031690

In June 1989, the GOCR passed an amendment to the new narcotics law. The new law is exhaustive in its coverage of chemicals by placing strict regulation and reporting requirements on individuals and companies involved in the importation, sale and use of 46 precursor and essential chemicals. The Amendment calls for the following:

A. No importation of the above listed products may be effected without prior approval of the GOCR Ministry of Health. The individual or company must: (1) register the company name, officers, and their signatures with the Ministry of Health; (2) identify the substances to be imported, the anticipated use, the generic names and the source of origin of the chemical shipment; (3) identify the quantity of the product to be used directly by the company and in what process; (4) indicate normal sources of supply for the product in question and country of origin with names and exact address; and (5) identify the trade route of the chemical shipment, including the ports of import and original export.

B. In order for a company or individual to sell, distribute, or export any of the controlled chemicals, the following criteria must be met: (1) Provide the Ministry of Health with a copy of the permission to purchase or import; (2) identify the purchaser in detail; (3) Receive permission in writing from the Ministry for the transaction, which will remain on file with the seller.

C. Every two months, companies dealing in controlled chemicals must inform the Ministry of Health of the quantities of chemicals that are needed for legitimate purposes and to provide appropriate documentation of chemical sales.

D. All chemical production are labeled with the chemical's generic name, purchaser, buyer, and company of manufacture.

E. Any deviation from the above requirements will prohibit any company or individual from further legitimate business involving the controlled chemical productions. Finally, in instances where it is shown that chemicals were trafficked for use in the production of illicit narcotics, any individual involved is subject to criminal prosecution and 4-8 years imprisonment.

CYPRUS No information provided.
031690

DENMARK
101090

Danish Customs and the Ministry of Health monitor the importation and use of chemicals under the Act on Euphoriant Drugs. Shipping documents such as custom declarations, manifests, and registration of goods are reviewed by Customs. Currently, the review process is performed manually, but is scheduled to be computerized soon.

Transportation

The Road Traffic Act states that certain substances that are deemed by the Ministry of Environment to be dangerous are to be overseen by the police to determine whether the packing and marking are in accordance with the regulations in force concerning road transport.

Sales and Consumption

The sale and consumption of chemicals are permitted except for those chemicals that are classified as poisonous. Only retailers that have obtained permits from the Ministry of Environment are allowed to sell regulated chemicals to specific entities e.g., hospitals, scientific and technical laboratories, and registered producing and importing firms. Firms that are licensed to consume these chemicals are controlled by the National health Service, the Factory Inspection Authorities, and the Inspection Committee on Chemicals.

The production and trade of chemicals that may be used to manufacture illicit substances are so extensive that a comprehensive and efficient control system is unlikely. Other reasons exist why stricter chemical control mechanisms have not been instituted. First, chemical controls may interfere needlessly will the desire for a quick and efficient free trade of merchandise among industry. Second, a considerable amount of resources that will be expended to implement a viable chemical control program. Third, there is a widespread

disbelief that efficient systematic measures of control can be implemented due to the enormous quantities of goods involved.

Danish authorities have proposed to restrict the distribution of chemicals that may be used in illicit narcotics production. First, chemicals that are produced in small quantities and having few legitimate uses should be controlled under the actual legislation on drugs. Further, essential and precursor chemicals should be included in the appropriate Prohibition lists. Enforcement of chemical regulations and penalties for violations should be analogous to those related to drugs. Also, intelligence projects are to be implemented based upon the cooperation agreements between the authorities and firms dealing with chemicals.

DOMINICA No information provided.
031690

DOMINICAN REPUBLIC
031690

In May 1988, the GODR passed a law requiring that an individual or company to receive a permit from the Ministry of Health and approved by the National Directorate for Drug Control (DNCD) prior to importing any controlled chemical. The following are controlled under the new law: anthranilic acid, n-acetylanthranilic acid, phenyl-2-propanolamine, phenylacetic acid, piperidine, ergonovine and its salts, ergotamine and its salts, acetone, ethyl ether, and acetic anhydride

Although not specifically listed in the legislation, the DNCD is also monitoring the importation of the remaining U.S. controlled essential chemicals. Also, in cooperation with the DEA Santo Domingo office, the DNCD has identified all known importers of precursor chemicals into the Dominican Republic. Only one chemical company in the Dominican Republic is licensed to export chemicals out of the country, however, export records have failed to identify any exports by this company.

ECUADOR
031690

Ecuador does not prohibit the importation or exportation of chemical products. However, there are restrictions on the following chemicals: acetone may be imported for pharmaceutical purposes; hydrochloric acid and ethyl ether may be imported for small industry and for use by artisans, e.g. leather tanning.

Imports of these chemicals require special permits from the Banco Central (Central Bank). Imports into Ecuador are regulated by the Ministerio de Comercio, Integracion Y Pesca (MICIP) (Minister of Commerce, Integration, and Fisheries) in conjunction with the Central Bank. MICIP is composed of

representatives from the Attorney General's office, Interpol Division of the Ecuadorian National Police, and Ministry of Commerce. Chemical importers are required to submit a list of all sales during the month to MICIP that reflect importations. ALthough, there are no quantitative limitations imposed on importations, there is a tax on such imports that range from zero to five percent.

EL SALVADOR No information provided.
031690

FEDERAL REPUBLIC OF GERMANY (FRG)
101090

FRG officials contend that voluntary monitoring of chemicals is fairly effective within the country; also they have acknowledged that gaps indeed exist with respect to exports. FRG officials have expressed an interest in closing some of the gaps in its system of chemical trade. In designing a new chemical monitoring system, an FRG official has stated that no regulation that shifts responsibility from industry to the government should be considered. One example would be a system by which the FRG government issues permits for essential chemical exports to certain customers of German chemical brokerages and manufacturers. The FRG reversed its customary position of non-interference in the trade of essential and precursor chemicals in July 1990. During the International Chemical Control Conference in Belgium, representatives of the FRG stated new measures will be designed and implemented to monitor and control the trade of certain chemicals that may be used to manufacture illicit substances.

FINLAND No information provided.
031690

FRANCE
101090

The responsibility for regulation, investigation, and control of chemicals that may be used to manufacture illicit narcotics is spread over several French ministries. France has signed the new 1988 Convention Against the Trafficking of Narcotic Drugs and Psychotropic Substances. However, the provision have not been explained to the French Parliament; therefore, the new Convention has not been ratified by the French Government. The Convention outlines twelve chemicals that are to be controlled and monitored by its signatories; of the twelve chemicals, only lysergic acid and phenyl-2-propanone are controlled in France. The two chemicals are controlled under Tableau B which requires

the strictest controls, i.e., import/export permits, thorough record keeping requirements, and stiff penalties for violations. The other ten chemicals are freely traded on the open market and French authorities are unaware of the number or names of companies that export, distribute, or manufacture the chemicals. Police authorities have designed and are beginning to implement a chemical monitoring program in several provinces.

FRENCH GUIANA No information provided.
031690

GABON No information provided.
031690

GHANA No information provided.
031690

GREAT BRITAIN
031690

The UK does not have formal legislation that controls the trade of chemicals. The National Drugs Intelligence Unit (NDIU) of Scotland Yard has developed a voluntary program in cooperation with the chemical industry in 1982 that monitors the 34 precursor and essential chemicals, including all chemical in the U.S. CDTA.

GREECE
101090

Greece has not adopted nor proposed legislation to control the trade or distribution of essential and precursor chemicals. Greek Customs and the Ministry of Health are the agencies responsible for overseeing the importation of chemicals and the production of licit drugs. According to the Ministry of Public Order (Greek Police), it is difficult to monitor the trade and distribution of chemicals and pharmaceuticals due to a basic lack of programs for enforcing the importation of legal drugs. The Greek government has shown interest in developing a plan for monitoring chemicals and drugs. Measures are being taken to adopt the European Community' drug control. Also, the Government of Greece has strengthened its liaison with the Athens C/O over the past two years related to drug and chemical trafficking matters.

GRENADA No information provided.
031690

GREENLAND No information provided.
031690

GUADELOUPE No information provided.
031690

GUATEMALA
031690

There are no special controls that govern the importation of chemicals into Guatemala. The Agency for International Development funded two Guatemalan attorneys in August 1989 to review existing Guatemalan laws. According to a 1988 DEA report the GCCO has indicated that Guatemala has few laws to control chemical; and what few regulations that do exist regarding import/export procedures, licensing, and regulatory procedures are sparse at best.

GUYANA No information provided.
031690

HAITI
031690

There is no known information regarding chemical control laws in Haiti. However, in a 1988 DEA trip report, it was noted by the Economic and Commercial Attache at the U.S. embassy that in theory all imports into Haiti require a shipping manifest, but in reality many imports may enter the country without proper documentation.

HONG KONG No information provided.
031690

HUNGARY No information provided.
031690

INDIA
031690

Import license required to import benzyl chloride, anthranilic acid, phenylacetic acid, acetone, and potassium permanganate.

The Government of India (GOI) imposed tighter controls over the distribution and movement of acetic anhydride (AA) in 1988, in an effort to reduce the amount of AA that is diverted to heroin processing labs in Burma and Thailand. A main feature of the law establishes a chemical-free zone along the eastern borders of India. Moreover, these "AA free zones" prohibit any amount of AA within 100 kilometers of the regions that stretch from Burma (Myanmar) and

China to the north and Bangladesh to the south. In addition, the Narcotics Control Board (NCB) has independently established a number of checkpoints along roads that have been suspected chemical and heroin trafficking routes.

IRELAND
031690

Import license required to import phenyl-2-propanone.

ITALY
031690

In June 1988, the an Italian Delegation held a working group on precursor and essential chemicals. The Italian Anti-Drug Central Bureau (SCA) proposed an effort by which to identify companies that engage in chemical diversion. Working closely with the Italian chemical industry, the SCA and the Ministry of Health adopted the following list of substances to be included into an "official" control program:

P2P	MEK
Ergotamine	acetone
anthranilic acid	methylene chloride
piperidine	methylene dichloride
ephedrine and ephedrol	toluene
acetic anhydride	benzene
ethyl ether	

JAMAICA No information provided.
031690

JAPAN
031690

Japan has shown a reluctance to impose laws or guidelines that restrict or place controls on the trade of essential and precursor chemicals. Japan produces acetone, ethyl ether, benzene, MEK, methylene chloride, toluene, and potassium permanganate, acetic anhydride, acetyl chloride, anthranilic acid, phenylacetic acid, and piperidine.

KOREA
031690

Volume of ephedrine imported must be reported to the Ministry of Health.

MALAYSIA
031690

Malaysian authorities reported in 1989 that none of the chemicals listed in the U.S. Chemical Diversion and Trafficking Act are manufactured in Malaysia. They also stated that all chemical shipments imported from the U.S. went to

legitimate uses and no incidents of diversion were detected. Malaysia became a signatory to the International Psychotropic Convention in 1989, and asserts that it abides by all restriction and directives set forth.

MEXICO
031990

It appears that Mexico maintains a system that regulates the handling, importation, and exportation of some of the precursor chemicals. According to Mexican officials, prior to importing a chemical shipment, an individual is required to obtain an import permit from the Secretary of Health and the Ministry of Commerce and Industrial Development.

NETHERLANDS
031990

The Dutch government is not a signatory to the 1971 Convention on Psychotropic Substances. Further, the government has not implemented legislation to control the movement of pharmaceutical or chemicals. Dutch privacy laws prohibit the GON from disclosing information for non-criminal or derogatory inquiries regarding Dutch companies suspected of engaging in essential chemical diversion. Dutch authorities, however, have expressed a willingness to release this information to DEA or any other investigative agency if "probable cause" of criminal activity on the part of a Dutch company can be demonstrated. Regarding the potential of proposing a chemical control law, one Dutch official stated the GON was not disposed to regulate chemicals, nor was it realistically possible to trace shipments from origin to end-user.

A Dutch newspaper, Het Parool, reported on 17 February 1990 that the Government of the Netherlands (GON) and the Dutch chemical industry are drafting a notification system for "suspect" exports of chemicals that may be used in the production of illicit drugs. According to the article an official with the Central Criminal Investigation and Information Service (CRI) stated, "the voluntary approach easily can be more tightly regulated and tied to stricter rules, but we don't have to go as far as the United States. We [the Netherlands] are thinking about an automated exchange of information which still guarantees the privacy of companies".

NETHERLANDS ANTILLES
031690

According to a 1988 DEA report, the legislative body of the Netherlands Antilles has drafted new drug laws that provides for chemical diversion by tightening import controls on essential and precursor chemicals.

NEW ZEALAND
031690

A permit is required from the Ministry of Health to import norpseudoephedrine, as well as notification to import any of the remaining essential and precursor chemicals.

NIGERIA
031990

According to a March 90 DEA report from Lagos, the Pharmacists Board of Nigeria (PBI) allegedly controls acetone, as well as other chemicals. Also, a permit must be issued to the distributor of chemicals by the Board and quantities must conform to legitimate usage. The report further states that the Board "is obviously unable to control acetone."

PAKISTAN
031690

Currently, the GOP has no restriction on the importation of acetic anhydride into Pakistan. An account of individuals and amounts of acetic anhydride imported are maintained with each Customs Collectorate in Peshaar, Hyderabad, Islamabad, Lahorne, Sialkot, and karachi ports of entry. No other information has been provided regarding the control of other precursor and essential chemicals.

PANAMA
051190

According to a DEA memo from the PCCO, the GOP established a precursor control program in 1986 that is designed to track the importation, distribution, consumption, and re-exportation of precursor chemicals. The chemical control program works in cooperation with Panamanian Customs authorities. It is unknown whether or not Panama has instituted formal laws to control the sale and distribution of essential chemicals since 1986. The PCCO reported that the Policia Tecnica Judicial (PTJ) requires that importers of precursor and essential chemicals obtain approval from the PTJ before importing a shipment of controlled chemicals into Panama.

PARAGUAY
031690

Although Paraguay does not presently manufacture essential or precursor chemicals, information has been received that indicates a company intends to produce hydrochloric acid in that country. Further, the GOP has recently passed a new drug law that does provide for the control of essential and precursor chemicals. The new law increases the maximum sentence for drug trafficking and also establishes maximum punishment for essential chemical trafficking at 25 years imprisonment.

PEOPLES REPUBLIC OF CHINA
031690

On January 1, 1989, the PRC implemented national level regulations controlling certain chemicals effective January 1, 1989. The PRC is the world's leading

producer of potassium permanganate, however, it is not known if this chemical was included the control list of controlled chemicals.

PERU
031690

Peru has the following laws regarding essential/precursor chemicals: Article 42 of the General Narcotics Law of 1978, states that all products or precursor elements utilized in the elaboration of drugs are subject to government controls to prevent their unlawful use. Annex 11 of this law provides for import controls with the primary purpose of controlling the commercialization for both imported and nationally produced precursor chemicals used in the cocaine conversion process. The specific chemicals listed are sulfuric aced, sodium carbonate, ethyl ether, acetone, and hydrochloric acid. All parties affect by this law are required to be licensed with a Special Sales Registration that indicates the invoice number, date of sale, and type and quantity of chemical, names and address of all parties, and the point of delivery and/or acquisition.

On January 9, 1990, Peruvian law Decreto Supremo NO. 059-82-EFC, which control essential cocaine chemicals, was modified to include an additional fifteen precursor and essential chemicals. The original list of five chemicals was expanded to include the following 15 chemicals:

Sodium Hydroxide
Acetic Acid
Potassium Carbonate
Potassium Permanganate
Methyl Ethyl Ketone
Potassium Hydroxide
Benzene
Methyl Chloride
Petroleum Ether
Liquid Ammonia
Chloroform
Carbon Sulfate
Alcohol
Sodium Sulfate
Toluene

According to Article II of the law, the Policia Nacional del Peru (PNP) is responsible for enforcing the control of the 20 essential and precursor chemicals at all stages to include their manufacturing, importation, commercialization, and application.

PHILIPPINES
031690

The Philippines do not have formal laws that control the sale and distribution of essential and precursor chemicals; however, the GOP does require that individuals obtain a letter of credit from the Central Bank of the Philippines as well as certification from the Dangerous Drug Board to import the following chemicals: acetone, ether, MEK, and toluene. Once pending legislation is passed in the Philippine Congress, the remaining essential and precursor chemicals will be added to the list of controlled chemicals.

SEYCHELLES
031690

According to a January 1990 memo, all essential and precursor of the CDTA were placed on a controlled substance list by the GOS' Seychelles Marketing Board (SMB) in January 1990 and the SMB will automatically the police should anyone request an import license for any of these chemicals. Further, Seychelles law that governs narcotics is being revised to reflect the inclusion of these chemicals in the new law.

SINGAPORE
031690

As the world's largest seaport for containerized cargo, the majority of acetic anhydride distributed throughout Indonesia transits Singapore. Although, import/ export documents are required for chemicals, the magnitude of commerce that transits the country makes any effort to estimate the degree of chemical diversion extremely difficult.

SOUTH AFRICA No information provided.
031690

SOVIET UNION No information provided.
031690

SPAIN
031690

Spain signed the December 1988 United Nations vienna Convention regarding chemical precursor controls. Currently, the GOS, in concert with the U.S. Embassy are working on a Mutual Legal Assistance Treaty.

SWAZILAND
031690

Swaziland does no place any quantitative restriction on the importation of essential and precursor chemicals that are listed in the CDTA, although an import permit is required by the Ministry of Finance for all imported goods.

SWITZERLAND
031690

It is unclear whether or not Switzerland has chemical control laws. Currently a "Gentleman's Agreement" is being drafted between the Swiss pharmaceutical industry and the Swiss Federal Department of Health, in cooperation with the DEA. This agreement is being drafted with the intent of checking the legitimacy of U.S. customers that purchase essential/precursor chemicals from Swiss companies.

THAILAND
031690

Thailand passed a several laws that control the movement, sale, and distribution of essential chemicals that are used primarily to manufacture illicit narcotic. The laws were enacted to restrict the amount of acetic anhydride, acetyl chloride, chloroform, and ether, all of which are used in heroin manufacturing. Neither ether nor acetic anhydride are manufactured in Thailand. In the case of ether, the Thai government has declared the majority of the country a free trade zone where there is no real control of ether. Only in the northern and southern-most provinces are there any controls. In provinces, such as Chiang Mai, Nan, Payas, Yala, and Satun an individual needs the permission of the area governors or his "designee" to possess ether. Acetic Anhydride and acetyl chloride are controlled nation-wide.

Legally, importation of the acetic anhydride was formerly regulated by the Ministry of Commerce, but after the promulgation of the Narcotics Act, such permission must be sought from the Ministry of Public Health. Following are some of the penalties for violating these chemical control laws:

Production: Imprisonment for 1-10 years;
Importation: Fine of $400-$4,000 dollars;
Exportation: same as above:
Sale: 1-10 years imprisonment;
Possession:
Less than 10k: Imprisonment up to 5 years and/or fine up to $2,000 dollars;
Over 10k: Imprisonment for 1-10 years and/or fine between $400-$4,000 dollars.

TUNISIA
031690

The GOT has stated that the Ministry of Public Health must authorize the import of all chemicals, included those outlined in the in the U.S. Chemical Diversion and Trafficking Act.

TURKEY No information provided.
031690

UGANDA
031690

According to a January 1990 DEA teletype, there is no Ugandan law that specifically controls the importation of the essential and precursor chemicals outlined in the Chemical Diversion and Trafficking Act.

URUGUAY No information provided.
031690

VENEZUELA
031690

Articles 28 and 84 of the Venezuelan Psychotropic and Narcotics Substances Act of 1984 provides for control of essential chemicals in Venezuela. Currently, there are 11 chemicals under that are under control as published in the June 20, 1985 issue of the Republic of Venezuela Official Gazette. The chemicals are:

Hydrochloric acid
Sulfuric acid
Ammonia (gas)
Sodium carbonate
Other neutral
sodium carbonates
sodium bicarbonate Other sodium bicarbonate
Other carbonates (magnesium, iron)
Ethyl ether
Acetone

In addition to these, 13 other chemicals have been proposed for control in Venezuela and are under review by the Secretary of Justice as of July 1988. These chemicals are:

Hexane	Methyl Ethyl Ketone
Toluene	Methyl Isobutyl Ketone
Ethyl chloride	Petroleum Ether
Ammonium carbonate	Sodium Permanganate
Methanol	Sodium Hydroxide
Chloroform	Methylene Chloride
Benzene	

According to a October 1989 DEA memo, Venezuelan chemical control efforts appear to be ineffective due to lack of human and financial resources. The program also suffers From weak control laws that do not authorize the Tecnico de Policia Judicial (PTJ) to strongly penalize violators of the law. The most

severe punishment for a violator of the chemical control statutes is a letter of admonition from the PTJ, unless it can be proven the had used the chemicals to process an illicit substance.

LIST OF CHEMICALS USED IN CLANDESTINE DRUG MANUFACTURE

The following are the most frequently encountered chemicals used in the major synthetic processes of the drugs which are manufactured in illicit clandestine laboratories. The lists do not represent, however, all of the known methods to produce the drugs which are available in the open scientific literature. Additionally, only chemicals which are known to be obtained commercially are listed. Each chemical is appropriately identified below as a precursor or essential chemical, as defined in this report.

AMPHETAMINE

Synthesis I

Precursors: Phenyl-2-propanone
N-Formylamphetamine

Essential Chemicals: Ammonium formate
Formamide
Hydrochloric acid
Ethyl ether
Sodium hydroxide
Sodium sulfate

Synthesis II

Precursors: Benzaldehyde
1-Phenyl-2-nitropropene

Essential Chemicals: Nitroethane
Butylamine
Ethanol
Acetic acid
Sulfuric acid
Lithium aluminum hydride
Tetrahydrofuran
Hydrogen (gas)
Raney Nickel

Synthesis III

Precursors: Phenyl-2-propanone
Phenyl-2-propanone oxime

Essential Chemicals: Hydroxylamine hydrochloride
Methanol
Sodium acetate
Lithium aluminum hydride

Synthesis IV

Precursor: Phenyl-2-propanone

Essential Chemicals: Ethanol
Ammonia
Aluminum
Mercuric chloride

Synthesis V

Precursors: Phenyl-2-propanone

Essential Chemicals: Ammonium acetate
Sodium cyanotrihydridoborate
Methanol
Hydrochloric acid
Ethyl ether
Potassium hydroxide
Magnesium sulfate

Synthesis VI

Precursors: Phenylpropanolamine

Essential Chemicals: Hydrochloric acid
Ethanol
Hydrogen (gas)
Palladium
Ethyl ether
Sodium hydroxide
Sodium sulfate

Synthesis VII

Precursors: Benzene
1-Phenyl-2-chloropropane

Essential Chemicals: Allyl chloride
Ferric chloride
Ammonia
Hydrochloric acid
Ethanol
Sodium hydroxide

Synthesis VIII

Precursors: Allylbenzene
N-Acetylamphetamine

Essential Chemicals: Acetonitrile
Hydrochloric acid
Sulfuric acid
Sodium hydroxide
Hexane

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

Synthesis

Precursor: 2,5-Dimethoxyamphetamine (DMA)*

Essential Chemicals: Bromine
Acetic acid
Sodium hydroxide
Ethyl ether
Magnesium sulfate
Hydrogen chloride (gas)
Ethanol

COCAINE

Processing

Essential Chemicals: Ethyl ether
Benzene
Acetone
Potassium permanganate
Methyl ethyl ketone
Methylene chloride
Kerosene
Calcium Carbonate
Sulfuric acid
Ammonium hydroxide
Hydrochloric acid

* See precursors and essential chemicals for DMA.

CYCLOHEXAMINE (PCE ; N-ETHYL-1-PHENYLCYCLOHEXYLAMINE)

Synthesis

Precursor: Ethylamine (gas)
N-Cyclohexylidine-ethylamine

Essential Chemicals: Cyclohexanone
Phenyl lithium
Potassium hydroxide
Ethyl ether

DIETHYLTRYPTAMINE (DET)

Synthesis

Precursors: Indole
3-Indoleglyoxyl chloride
N,N-Diethyl-3-indoleglyoxylamide

Essential Chemicals: Oxalyl chloride
Diethylamine
Lithium aluminum hydride
Ethyl ether
Tetrahydrofuran
Benzene
Methanol
Chloroform
Petroleum ether
Sodium hydroxide
Hydrochloric acid
Sodium sulfate

2,5-DIMETHOXYAMPHETAMINE (DMA)

Synthesis

Precursors: 2,5-Dimethoxybenzaldehyde
2,5-Dimethoxy-β-methyl-β-nitrostyrene

Essential Chemicals: Nitroethane
Lithium aluminum hydride
Ammonium acetate
Acetic acid
Hydrogen chloride
Ethyl ether
Tetrahydrofuran
Ethanol

2,5-DIMETHOXY-4-METHYLAMPHETAMINE (DOM,STP)

Synthesis

Precursors: Methylhydroquinone
2,5-Dimethoxytoluene
2,5-Dimethoxy-4-methylbenzaldehyde
2,5-Dimethoxy-4-β-methyl-β-nitrostyrene

Essential Chemicals: N-methylformanilide
Nitroethane
Lithium aluminum hydride
Dimethyl sulfate

DIMETHYLTRYPTAMINE (DMT)

Synthesis

Precursors: Indole
3-Indoleglyoxalyl chloride
N-N-Dimethyl-3-indoleglyoxylamide

Essential Chemicals: Oxalyl chloride
Dimethylamine
Lithium aluminum hydride
Tetrahydrofuran
Ethyl ether
Benzene
Methanol
Chloroform
Hydrochloric acid
Sodium hydroxide

FENTANYL

Synthesis I

Precursors: N-(4-Piperidinyl)-aniline
N-(1-Phenethyl-4-piperidinyl)aniline

Essential Chemicals: 2-Phenyl-1-bromoethane
Sodium carbonate
Acetonitrile
Propionic anhydride
Hydrogen chloride (gas)

Synthesis II

Precursors: Phenethylamine
N-(1-Phenethyl)-piperidin-4-one
N-(1-Phenethyl-4-piperidinyl)aniline

Essential Chemicals: Methyl acrylate
Sodium methoxide
Methanol
Toluene
Hydrochloric acid
Sodium hydroxide
Ethyl ether
Aniline
p-Toluenesulfonic acid

p-FLUOROFENTANYL

Synthesis

Precursors: Phenethylamine
N-(1-Phenylethyl)-piperidin-4-one
N-(1-Phenylethyl-4-piperidinyl)-4-fluoroaniline

Essential Chemicals: Methyl acrylate
Methanol
Sodium methoxide
Toluene
Hydrochloric acid
Sodium hydroxide
Ethyl ether
p-Fluoroaniline
p-Toluenesulfonic acid
Sodium borohydride
Propionic anhydride

HEROIN

Synthesis I

Precursor: Morphine

Essential Chemicals: Acetic anydride
Sodium carbonate
Sodium bicarbonate
Calcium carbonate
Hydrochloric acid
Acetone

Synthesis II

Precursor: Morphine

Essential Chemicals: Acetyl chloride

Synthesis III

Precursor: Codeine

Essential Chemicals: Boron Tribromide
Acetic Anhydride

LSD (d-LYSERGIC ACID DIETHYLAMIDE)

Synthesis I

Precursors: Lysergic acid
Lysergamide
Ergotamine, Ergonovine, or other ergot alkaloid

Essential Chemicals: Potassium hydroxide
Hydrazine
Phosphoric acid
Sulfuric acid
Acetic acid
Lithium hydroxide
Diethylamine
Sulfur trioxide

Synthesis II

Precursors: Lysergic acid
Lysergamide
Ergotamine, ergonovine, or other ergot alkaloid

Essential Chemicals: N,N-carbonyldiimidazole
Diethylamine
Dimethylformamide
Tartaric acid

Synthesis III

Precursors: Lysergic acid
Lysergamide
Ergotamine, Ergonovine, or other ergot alkaloid

Essential Chemicals: Trifluoroacetic anydride
Acetonitrile
Diethylamine

Synthesis IV

Precursors: Lysergic Acid
Lysergamide
Ergotamine, Ergonovine, or other ergot alkaloid

Essential Chemicals: Hydrazine
Diethylamine
Hydrochloric acid
Ethanol

3,4-METHYLENEDIOXYAMPHETAMINE (MDA)

Synthesis I

Precursors: Isafrole
1-(3,4-Methylenedioxyphenyl)-2-propanone

Essential Chemicals: Hydrogen peroxide
Acetone
Formic acid
Formamide
Ammonium formate

Synthesis II

Precursors: Piperonal
3,4-Methylenedioxy-β-methyl-β-nitrostyrene

Essential Chemicals: Nitroethane
Lithium aluminum hydride
Ammonium acetate
Acetic acid
Tetrahydrofuran

Synthesis III

Precursors: Safrole
1-(3,4-Methylenedioxyphenyl)-2-bromopropane

Essential Chemicals: Hydrobromic acid
Ammonia
Acetic acid
Mercuric chloride
Ethyl ether
Hydrochloric acid

3,4-METHYLENEDIOXYMETHAMPHETAMINE (MDMA)

Synthesis

Precursors: Isosafrole
1-(3,4-Methylenedioxyphenyl)-2-propanone

Essential Chemicals: Methylamine
N-Methylformamide
Formic acid
Acetone

MECLOQUALONE

Synthesis

Precursors: N-Acetylanthranilic acid

Essential Chemicals: ortho - chloroaniline
Phosphorus trichloride
Sodium carbonate
Hydrochloric acid
Toluene
Ethyl ether

MESCALINE

Synthesis I

Precursors: 3,4,5-Trimethoxy-β-nitrostyrene
3,4,5-Trimethoxybenzaldehyde
Gallic Acid
3,4,5-Trimethoxybenzoic acid
3,4,5-Trimethoxybenzoyl chloride

Essential Chemicals: Dimethyl sulfate
Phosphorus pentachloride
Thionyl chloride
Hydrogen (gas)
Nitromethane
Lithium aluminum hydride

Synthesis II

Precursors: 3,4,5-Trimethoxybenzoic acid
Methyl 3,4,5-Trimethoxybenzoate
3,4,5-Trimethoxybenzyl alcohol
3,4,5-Trimethoxybenzyl chloride
3,4,5-Trimethoxyphenylacetonitrile

Essential Chemicals: Dimethyl sulfate
Lithium aluminum hydride
Hydrochloric acid
Potassium cyanide

METHAMPHETAMINE

Synthesis I

Precursors: P2P

Essential Chemicals: Methylamine
Mercuric chloride
Aluminum (Foil)

Synthesis II

Precursors: P2P
N-Formylmethamphetamine

Essential Chemicals: N-methylformamide
Methylamine
Formic acid
Hydrochloric acid

Synthesis III

Precursors: Benzyl chloride
Benzylmagnesium chloride

Essential Chemicals: Acetaldehyde
Magnesium
Methylamine

Synthesis IV

Precursors: P2P

Essential Chemicals: Methylamine
Sodium cyanotrihydroborate

Synthesis V

Precursors: P2P

Essential Chemicals: Methylamine
Hydrogen (gas)
Platinum oxide (catalyst)

Synthesis VI

Precursors: Ephedrine/Pseudoephedrine

Essential Chemicals: Hydrogen (gas)
Acetic acid
Perchloric acid
Palladium on barium sulfate

Synthesis VII

Precursors: Ephedrine/Pseudoephedrine
1-Phenyl-1-chloro-2-methylaminopropane

Essential Chemicals: Phosphorus pentachloride
Thionyl chloride
Hydrogen

METHAQUALONE

Synthesis I

Precursors: N-Acetylanthranilic acid

Essential Chemicals: ortho-Toluidine
Phosphorus trichloride
Toluene
Hydrochloric acid
Pyridine
Phosphorus pentoxide
Phosphoric acid

Synthesis II

Precursors: Anthranilic acid

Essential Chemicals: Sodium carbonate
Acetic anhydride
ortho-Toluidine
Phosphorus oxychloride
Chloroform

Synthesis III

Precursors: N-Acetylanthranilic acid

Essential Chemicals: ortho-Toluidine hydrochloride
Ethyl ether
Hydrochloric acid

Synthesis IV

Precursors: Anthranil

Essential Chemicals: ortho-Toluidine

Synthesis V

Precursors: Isatoic anhydride
N-(ortho-tolyl)anthranilamide

Essential Chemicals: ortho-Toluidine
Acetic anhydride

α- METHYLFENTANYL

Synthesis I

Precursors: N-(4-Piperidinyl)-aniline
N-[1-(2-Phenylisopropyl)-4-piperidinyl]aniline

Essential Chemicals: 1-Phenyl-2-bromopropane
Propionic anhydride
Toluene
Acetonitrile
Hydrochloric acid
Sodium carbonate
Potassium iodide

Synthesis II

Precursors: Amphetamine
N-[1-(2-phenylisopropyl)]-piperidin-4-one
N-[1-(2-phenylisopropyl)-4-piperidinyl]aniline

Essential Chemicals: Methyl acrylate
Sodium methoxide
Aniline
Propionic anhydride
Toluene
Methanol
Ethyl ether
Sodium borohydride
p-Toluenesulfonic acid
Hydrochloric acid
Sodium hydroxide

3-METHYLFENTANYL

Synthesis I

Precursors: Phenethylamine
3-Methyl-N-[1-(2-phenylethyl)]-piperidin-4-one
N-[1-(2-Phenylethyl)-3-methyl-4-piperidinyl]aniline

Essential Chemicals: Methyl methacrylate
Methyl acrylate
Aniline
Propionic anhydride
Sodium borohydride
p-Toluenesulfonic acid
Hydrochloric acid
Sodium methoxide
Sodium hydroxide
Toluene
Methanol
Ethyl ether

MPPP (1-METHYL-4-PHENYL-4-PROPIONOXYPIPERIDINE)

Synthesis

Precursors: 1-Methyl-piperidone
1-Methyl-4-phenyl-4-hydroxypiperidine

Essential Chemicals: Phenylmagnesium bromide
Bromobenzene
Magnesium
Phenyl lithium
Propionyl chloride
Propionic anhydride

PHENCYCLIDINE (PCP)

Synthesis I

Precursors: Piperidine
1-Piperidinocyclohexanecarbonitrile

Essential Chemicals: Potassium cyanide
Sodium cyanide
Cyclohexanone
Phenylmagnesium bromide
Bromobenzene
Magnesium

Synthesis II

Precursors: Piperidine
1-Piperidinocyclohexanecarbonitrile

Essential Chemicals: Cyclohexanone
Potassium cyanide
Sodium cyanide
Sodium bisulfite
Phenylmagnesium bromide
Bromobenzene
Magnesium

Synthesis III

Precursors: Piperidine
1-(Cyclohexenyl)-piperidine

Essential Chemicals: Cyclohexanone
Benzene
p-Toluenesulfonic acid
Toluene
Ethyl ether
Phenylmagnesium bromide
Bromobenzene
Magnesium

ROLICYCLIDINE (PHP)

Synthesis I

Precursor: Pyrrolidine
1- Pyrrolidinocyclohexanecarbonitrile

Essential Chemicals: Cyclohexanone
Potassium cyanide
Sodium cyanide
Bromobenzene
Magnesium
Phenylmagnesium bromide

Synthesis II

Precursor: Pyrrolidine
1-Pyrrolidinocyclohexanecarbonitrile

Essential Chemicals: Sodium bisulfite
Cyclohexanone
Potassium cyanide
Sodium cyanide
Bromobenzene
Magnesium
Phenylmagnesium bromide

Synthesis III

Precursor: Pyrrolidine
1-(1-Cyclohexenyl)-pyrrolidine

Essential Chemicals: Cyclohexanone
p-Toluenesulfonic acid
Toluene
Bromobenzene
Magnesium
Phenylmagnesium bromide

PHENYLACETONE (P2P)

Synthesis I

Precursors: Phenylacetic acid

Essential Chemicals: Acetic anhydride
Sodium acetate
Sodium hydroxide
Sodium bisulfite

Synthesis II

Precursors: Benzyl chloride
Benzyl cyanide
α-Phenylacetoacetonitrile

Essential Chemicals: Sodium ethoxide
Ethyl acetate
Ethyl ether
Acetic acid
Sulfuric acid
Phosphoric acid
Sodium sulfate

Synthesis III

Precursors: Phenylacetic acid

Essential Chemicals: Acetic acid
Benzene
Ethyl ether
Thorium oxide

Synthesis IV

Precursors: Benzene

Essential Chemicals: Chloroacetone
Aluminum chloride
Benzene
Sodium bisulfite

Synthesis V

Precursors: Benzaldehyde
1-Phenyl-2-nitropropene

Essential Chemicals: Nitroethane
Hydrochloric acid
Butylamine

PSILOCIN

Synthesis I

Precursors: 4-Benzyloxyindole
4-Benzyloxy-3-indoleglyoxylyl chloride
4-Benzyloxy-3-indole-N,N-dimethylglyoxylamide
4-Benzyloxy-3-(2-dimethylaminoethyl)-indole

Essential Chemicals: Oxalyl chloride
Dimethylamine
Lithium aluminium hydride
Hydrogen (gas)

Synthesis II

Precursors: 4-Methoxyindole
4-Methoxy-3-indole-N,N-dimethylglyoxylamide
4-Methoxy-3-(2-dimethylaminoethyl)-indole

Essential Chemicals: Oxalyl chloride
Dimethylamine
Lithium aluminum hydride
Hydriodic acid

Synthesis III

Extraction of psilocybin (the dihydrophosphoric acid ester of psilocin) from the Psilocybe mushroom.

1-[1-(2-THIENYL)-CYCOLHEXYL]PIPERIDINE
TCP - THIOPHENE ANALOG of PCP

Synthesis

Precursors: Piperidine
1-Piperidinocyclohexanecarbonitrile

Essential Chemicals: Potassium cyanide
Sodium cyanide
2-Thienylmagnesium bromide
2-Bromothiophene
Magnesium
Cyclohexanone

Synthesis II

Precursors: Piperidine
1-Piperidinocycohexanecarbonitrile

Essential Chemicals: Sodium bisulfite
Potassium cyanide
Sodium cyanide
2-Thienylmagnesium bromide
2-Bromothiophene
Magnesium
Cyclohexanone

Synthesis III

Precursors: Piperidine
1-(1-cyclohexenyl)-piperidine

Essential Chemicals: Cyclohexanone
2-Thienylmagnesium bromide
2-Bromothiophene
Magnesium
p-Toluenesulfonic acid
Toluene

3,4,5-TRIMETHOXYAMPHETAMINE (TMA)

Synthesis I

Precursors: 3,4,5-Trimethoxybenzaldehyde
3,4,5-Trimethoxy-β-methyl-β-nitrostyrene

Essential Chemicals: Nitroethane
Ammonium acetate
Acetic acid
Tetrahydrofuran
Lithium aluminum hydride
Hydrochloric acid

Synthesis II

Precursors: 3,4,5-Trimethoxyphenylpropene
3,4,5-Trimethoxy-β-methyl-β-nitrostyrene

Essential Chemicals: Tetranitromethane
Lithium aluminum hydride
Pyridine
Acetone
Hydrochloric acid

Precursor Chemicals Currently Under Control

1. Morphine — Precursor to heroin; drug CII - CSA 1970
2. Psilocybin — Precursor to psilocin; CI - CSA 1970
3. 2,5-Dimethoxyamphetamine (DMA)
   Precursor to 4-Bromo-2,5-dimethoxyamphetamine (DOB)
   CI - (38 FR 26447; 9/21/73)
   1986 Quota: 10,500 kg. used in photographic industry
4. Thebaine — Precursor to many opiates; CII- CSA 1970
5. Methadone Intermediate (4-cyano-2-dimethylamino-4,4-diphenylbutane);
   CII - CSA 1970
   1985 Quota: 1,839 kg; 1986 Quota: 2,113 kg.
6. Moramide Intermediate (2-methyl-3-morpholino-1,1-diphenylpropane-carboxylic acid); CII - CSA 1970
   1985/86 Quotas: 0
7. Meperidine Intermediate A (4-cyano-1-methyl-4-phenylpiperidine);
   CII - CSA 1970
   1985 Quota: 6,058 kg; 1986 Quota: 0
8. Meperidine Intermediate B (Ethyl-4-phenylpiperidine-4-carboxylate);
   CII - CSA 1970
   1985/86 Quotas: 0
9. Meperidine Intermediate C (1-Methyl-4-phenylpiperidine-4-carboxylic acid);
   CII - CSA 1970
   1985/86 Quotas: 0
10. Phenyl-2-propanone (P2P) - Precursor to amphetamine and methamphetamine;
    CII - (44 FR 71822; 2/11/80)
    1986 Quota: 1,135 kg.
11. 1-Phenylcyclohexylamine - Precursor to phencyclidine (PCP);
    CII - (43 FR 21324, 6/16/78)
    1986 Quota: 0
12. 1-Piperidinocyclohexanecarbonitrile - Precursor to PCP
    CII - (43 FR 21324; 6/16/78)
    1986 Quota: 0
13. Lysergic Acid - Precursor to LSD; CIII - CSA 1970
14. Lysergic acid amide - Precursor to LSD; CIII - CSA 1970
15. Piperidine - Precursor to PCP

    Not controlled - However, piperidine reporting and customer identification is required for any person who distributes, transfers, sells, ships or imports piperidine, of all quantities involved and of all thefts or significant losses. (Is covered under CDTA)
    (44 FR 12993 - 3/9/79)

October 31, 1990

Memorandum

TO: Commissioner Carnes
Drug Working Group

FROM: Ronnie Scotkin

SUBJECT: Precursor case review

Attached are summaries of six cases involving convictions for precursors. After a search of the monitoring data base for all cases with convictions under the new precursor statues, as well as telephone count cases, only five cases were found. One additional case was brought to my attention through a hotline call. This case was a precursor case charged under a racketeering statute so it did not appear in the run Candy Johnson did for us.

The small number of cases is probably attributable to both the recency of the effective date of the statute (March 18, 1990) and the DEA threshold regulations (August 9, 1989).

Case 89-26389 (Judge R. Allan Edgar, Eastern District of Tennessee)

The defendant (Mr. A) and two others decided to manufacture methamphetamine. Mr. C agreed to pay for all the chemicals. Mr. A (this defendant) ordered and picked up two kilograms of phenylacetic acid from a chemical supply company. Mr. B then ordered and picked up the rest of the chemicals necessary from the same supply company.

Mr. B had a book explaining how to make methamphetamine. There is no mention in the PSI of any lab equipment.

Based on an estimate from a DEA chemist, two kilograms of phenylacetic acid could have been used to manufacture 500 grams of methamphetamine. Using §2D1.1, the offense level was 26. A two-level reduction was given for acceptance of responsibility. His criminal history category was II. The guideline range was 57-71. The judge sentenced him to 41 months but gave no reason for departing from the guidelines.

Case 90-28797 (Judge David K. Winder, District of Utah)

Defendant was charged in a five-count indictment for manufacture of methamphetamine; possession of a listed precursor chemical with intent to manufacture methamphetamine; possession of a three-necked, round-bottom flask with intent to manufacture methamphetamine; aiding and abetting; carrying a firearm during and in relation to a drug trafficking crime; and, possession of a firearm by a convicted felon. The defendant pled guilty to Count III - 21 U.S.C. § 843(a)(6), possession of a three-necked, round-bottom flask with intent to manufacture methamphetamine and 18 U.S.C. § 2, aiding and abetting.

The initial investigation began when a real estate agent asked agents to investigate one of his rental properties. Discovered in the house were "numerous chemicals, precursors and glassware commonly associated with methamphetamine, including approximately 50 pounds of phenylacetic acid [a listed precursor]." The two defendants who rented this house were arrested and charged separately.

As part of this investigation, officials followed up on a report of sale of restricted chemicals in a nearby city. Police found listed chemicals, drug paraphernalia, glassware and cookers in the cars of the subject and a co-defendant.

The offense level for this defendant was determined using §2D1.1. The probation officer was told that the 110 pounds of phenylacetic acid seized could produce 33 kilograms of methamphetamine. This resulted in a base offense level of 38 minus 2 for acceptance of responsibility, resulting in an offense level of 36. The defendant's Criminal History Category was VI, leading to a guideline range of 262-327 months. The judge sentenced him to 48 months imprisonment, the statutory maximum for the offense of conviction.

Case 90-46865 (Judge Tom Stagg, Western District of Louisiana)

The defendant was indicted for 1) conspiracy to manufacture and distribute 100 grams of methamphetamine, 2) possession of a three-necked, round-bottom flask and, 3) allegedly manufacturing and possessing with the intent to distribute phenylacetone and methamphetamine, both Schedule II substances. He pled guilty to possession of listed chemicals with intent to manufacture a controlled substance and possession of a three-necked, round-bottom flask.

The defendant acted as a moving man for one of the partners in a methamphetamine lab. There had been a dispute between the partners and this defendant moved the lab, for one partner, to a secret location so the other partner could not find it. He was present at several encounters between the two partners and acted as a bodyguard.

The offense guideline for the first count was calculated as offense level 34 based on 15.9 kilograms of methamphetamine. A two-level decrease was given for both role in the offense and acceptance of responsibility, resulting in an offense level of 30. The Criminal History Category was I, resulting in a guideline range of 97-121 months for the first count. The court ruled there was no analogous guideline for the possession of the three-necked, round bottom flask.

The court sentenced the defendant to 48 months imprisonment because "1) defendant['s] lesser role in the offense, 2) no evidence defendant manufactured drugs or designated as a distributor, and 3) absence of clear-cut guideline to count one.

Case 90-33203 (Judge James R. Nowlin, Western District of Texas)

The defendant pled guilty to a one count indictment charging distribution of a tableting machine in violation of 21 U.S.C. §843(a)(7).

The defendant negotiated with an undercover agent to sell him a tableting machine and laboratory glassware to be used manufacture controlled substances.

The probation officer used §2D3.1 for a base offense level of 6. Her criminal History Category was I for a guideline range of 0-6 months. The defendant was sentenced to five years' probation.

Case 90-39445 (Judge Orinda D. Evans, Northern District of Georgia)

The defendant was convicted on a 7 count indictment charging possession with intent to distribute cocaine (count 1), use of a communication facility [mail] to facilitate distribution of cocaine and aiding and abetting (counts 2-6), and possession of a three-neck round bottom flack with intent to manufacture a controlled substance (count 7).

The offense involved a interstate scheme using the mail to deliver cocaine and methamphetamine. The defendant "cooked" methamphetamine which was sent to Florida and received cocaine from Florida. At least three kilograms of cocaine and five kilograms of methamphetamine were included in the conspiracy.

The defendant's base offense level from §2D1.1 was 32. Three levels were added for role in the offense and two were added for obstruction of justice for a total offense level of 37. His Criminal History Category was III giving him a guideline range of 262-327 months. He was sentenced to 288 months imprisonment.

Case xxxx (Judge Lewis T. Babcock, District of Colorado)

Defendant was originally charged with possession of hydriodic acid with intent to manufacture methamphetamine. He pled guilty to a one count indictment for travel in interstate commerce to facilitate the commission of an unlawful act to wit: possession and distribution of hydriodic acid with intent to manufacture methamphetamine.

The defendant and an unindicted co-defendant arranged to purchase 30 gallons of hydriodic acid (a listed precursor) from a chemical company in Colorado. When they were told it would cost an additional thousand dollars to ship it to Los Angeles, they decided to drive it there themselves. At the time of pick-up, they told an undercover DEA agent posing as a salesman that they knew the hydriodic acid would be used to manufacture methamphetamine.

The judge decided there was no analogous guideline for the possession of the listed precursor and, under 18 U.S.C. § 3553(a)(2) and (b), sentenced the defendant 42 months imprisonment.

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MEMORANDUM

TO: Commissioner Carnes
Rich Murphy
Drug Working Group

FROM: Pam Barron

DATE: October 30, 1990

RE: Appellate Decisions Involving Precursor Chemicals

This memorandum summarizes the reported appellate cases which discuss the calculation of drug amounts when precursor chemicals are present alone or in conjunction with the intended final product. The majority of these cases were brought as conspiracies or attempts to manufacture methamphetamine.

United States v. Boyd, 885 U.S. 246 (5th Cir. 1989)

Appellant was convicted of one count each of conspiracy to manufacture methamphetamine, aiding and abetting the manufacture of methamphetamine, and carrying a firearm during a drug-trafficking offense, violation of 21 U.S.C. §§ 841(a)(1), 841(b)(1)(C), 846, and 18 U.S.C. §§ 2, and 924(c)(1). Appellant was arrested December 9, 1987, as a result of a DEA sting. At the time of the arrest, the chemicals had cooked enough to form phenylacetone, a precursor chemical to methamphetamine. Appellant was placed in criminal history category V, and was given a 240-month sentence (range 235-293 months). A co-accused in criminal history category I, range 151-188, received a departure sentence of 24 months. Appellant challenged the disparity of the sentence and the validity of the firearms conviction. He did not apparently challenge the calculation of the drugs. Affirmed.

methamphetamine. Appellant contended that the proper amount was much less, based on the expert opinion of a chemistry professor in another co-accused's case, who opined that no more than 227 grams of methamphetamine could have been produced by this particular operation because of the rudimentary filtering and drying procedures used. The government bears the burden of proof to establish by a preponderance the greater contested amount. Here, the government's evidence "fails to meet the requisite level of reliability to support probable accuracy." The co-accused's statement that she was told there would be 2.25 pounds yield was based upon information provided by an unidentified, uncorroborated source. Remanded to the district court for further proceedings to determine the amount of methamphetamine involved in the conspiracy, "based on sufficiently reliable evidence."

United States v. Manthei, No. 89-1970 (5th Cir. Sept. 20, 1990)

Appellant pled guilty to distribution of two ounces of amphetamine, in violation of 21 U.S.C. § 841(a)(1). Her base offense level was calculated based upon over 7,000 grams, a figure which included 16 to 20 pounds which could have been produced from the precursor chemical found at the lab. Given an increase under §3B1.1(a) for her aggravating role, and a reduction of 2 levels for acceptance, §3E1.1, appellant's offense level was set at 34, and she received 180 months imprisonment. Appellant contended that the level should be based on 56 grams, or base offense level 16, or level 14 (15-21 months) after 2 levels were subtracted under §3E1.1. in this case, the district court determined the amount of drugs based upon the presentence report, which relied upon DEA investigative records. The information met the sufficient indicia of reliability. Affirmed.

United States v. McKeever, 906 F.2d 129 (5th Cir. 1990)

Appellants were convicted of conspiracy to possess with intent to manufacture phenylacetone and conspiracy to manufacture amphetamine.

The trial court calculated the amount of controlled substance seized according to §2D1.1. Two large flasks containing 26 liters of a substance containing detectable amounts of phenylacetone were seized. Under §2D1.1, the court converted the 26 liters to 26,000 grams, and multiplied by .075 to obtain the heroin equivalency of 1968.042 grams, offense level 32. Appellants argued that this amount did not reflect the scale of the offense because the laboratory was incapable of producing that amount, relying upon §2D1.4, comment. (n.2), which says the judge may consider the size or capability of the laboratory in approximating the drug quantity when there is no drug seizure or the amount seized does not reflect the scale of the offense. The court instead relied on §2D1.1--where a compound containing a detectable amount of controlled substance is seized, the total weight of the compound is considered. The Guidelines drug equivalency

table recognizes that the phenylacetone seized is not the equivalent of fully processed amphetamine. See §2D1.1. However, phenylacetone is a controlled substance itself, and is therefore converted to a heroin equivalency. Affirmed.

United States v. Mueller, 902 F.2d 336 (5th Cir. 1990)

Appellant pled guilty to manufacturing methamphetamine in violation of 21 U.S.C. § 841(a)(1). The court used 8.5 gallons of methamphetamine to determine the offense level from the drug quantity table. See §2D1.1. Appellant argued that most of the mixture was acetone, and that only the amount of pure methamphetamine should have been used. The total weight of a liquid containing any detectable amount of methamphetamine should be used; this violates neither due process nor equal protection. See United States v. Baker, 883 F.2d 13, 15 (5th Cir.), cert. denied, 110 S.Ct. 517 (1989).

United States v. Putney, 906 F.2d 477 (9th Cir. 1990)

Appellant pled guilty to manufacturing methamphetamine in violation of 21 U.S.C. § 841(a)(1). January 15, 1988 Guidelines apply. These guidelines required conversion of 1 gram methamphetamine to 5.0 grams cocaine. Twelve pounds, the estimate of the quantity the laboratory was capable of producing, was the quantity used by the court. The January 15, 1988 amendments to §2D1.1 added application note 11, which refers to §2D1.4 application note 2, which states that the court shall approximate the quantity when the amount seized "does not reflect the scale of the offense." The small amount seized did not reflect the amount appellant made or could have made in the future if undetected. District court properly used the estimated capacity of the laboratory to determine the base offense level.

United States v. Touby, 909 F.2d 759 (3rd Cir. 1990)

Appellants were convicted of conspiring to manufacture and manufacturing 4-methylaminorex (Euphoria), in violation of 21 U.S.C. § 841(a)(1) (1988) and 21 U.S.C. § 846 (1988). "Euphoria" was placed on Schedule I by the administrator of DEA on October 15, 1987, pursuant to the temporary scheduling provisions of 21 U.S.C. § 811(h) (1988). Appellants contested the district court's calculation of the total quantity of the drugs involved in the conspiracy. The probation office proposed that 10 kilograms were involved, arriving at base offense level 32. The district court adopted a base offense level of 18, based upon a finding of fact that there were sufficient ingredients found to manufacture 250 grams of Euphoria. Appellant argued that only the pure drug, rather than the total weight of the product, should be used. The court rejected this argument, citing U.S.S.G. §2D1.1(a)(3). Affirmed.

United States v. Wagner, 884 F.2d 1090 (8th Cir. 1989)

Appellants were convicted of attempting to manufacture methamphetamine in violation of 21 U.S.C. §§ 841(a)(1), 846 (1982), and 18 U.S.C. § 2 (1982), based upon seizure of glassware, precursor chemicals, a heating mantel, a scale, and a formula for making methamphetamine. The court properly calculated the amount of methamphetamine based upon expert testimony that, based upon the chemicals and glassware seized, appellants were capable of manufacturing 3.7 pounds of methamphetamine. See §2D1.4. The court rejected appellants' contention that the estimate of 3.7 pounds should have been taken as a maximum amount, and that a lower estimate should have been used to account for their inexperience and the fact that no manufacture was undertaken. The appellate court held that the district court "correctly used the estimated amount of methamphetamine, the production of which was the 'object of the attempt' as discussed in Section 2D1.4, in determining the base offense level for appellants' attempted manufacture."