

PRECURSOR CONTROL AT A GLANCE

Precursor Chemicals



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Preface

Precursor control is one of the five key areas identified by the United Nations General Assembly Special Session held in June 1998 as requiring time-bound action. For the past several years, UNODC's Regional Precursor Control Projects in South Asia have been assisting the governments of the seven SAARC countries to strengthen their precursor control regimes. Sensitising drug law enforcement officers to the threat of the diversion of precursors and the need to control them has, we believe, been one of the important achievements of our endeavours. As a result of these interventions, a trained pool of trainers is now available in each of the project countries.

However, the training programmes obviously cannot reach all those who need to know about precursors. Therefore, in order to expand the scope of the project's activities, this booklet has been prepared. Anyone who can spare the hour or so it will take to read and digest the booklet should come away with a much better understanding of the subject of precursor control.

UNODC greatly appreciates the efforts of the Regional Precursor Control Project team - Mr. Devendra Dutt, Mr. P. V. Subba Rao and Ms. Shveta Aima - who worked hard to distil the essence of precursor control into this small booklet. Special thanks also to Mr. Mark Colhoun, from the INCB Secretariat (Precursor Control Unit) in Vienna who reviewed the contents.

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ist of abbreviations

ATS Amphetamine Type Stimulants

CND Commission on Narcotic Drugs

DMT Dimethyltryptamine

ECOSOC Economic and Social Council

HCl Hydrochloride

ICPO-Interpol International Criminal Police Organisation

INCB International Narcotics Control Board

LSD Lysergic Acid Diethylamide

MDA 3,4-Methylenedioxyamphetamine

MDE 3,4-Methylenedioxyethamphetamine

MDMA 3,4- Methylenedioxymethamphetamine

NOC No Objection Certificate

PCP 1-(1-phenylcyclohexyl) Piperidine – also known as phencyclidine

PEN Pre-Export Notification

TCP 1-[1-(2-thienyl)cyclohexyl] Piperidine- also known as tenocyclidine

UNODC United Nations Office on Drugs and Crime

WCO World Customs Organisation

ntroduction

he illicit production and abuse of drugs is one of the major challenges faced by mankind today. Some drugs of abuse are produced from plants and are called *natural drugs*. There are three main species of plants from which drugs are produced.

The first of these, opium poppy (*Papaver somniferum*), is the source of opium. Opium is a natural drug which, acting on the central nervous system, has a depressant effect. The seeds of this plant, called poppy are used as a condiment in South Asian cooking.

Cannabis is the second drug producing plant. The flowering tops of this plant are called ganja while the resin derived by crushing the plant is known as hashish or *charas*. Like opium, cannabis is a natural drug.

The third drug producing plant, the coca plant, grows in South and Central America. Coca leaves and coca paste are natural drugs derived from this plant.

These *natural drugs* can be processed to isolate the active ingredient, i.e., the psychoactive substance in the natural drug that actually produces the effect on the user. Such active ingredients can also be modified chemically to make them more potent. The active ingredients so isolated or their chemically modified forms are known as *semi-synthetic drugs*. For instance, morphine and codeine are active ingredients isolated from opium. If morphine is chemically

combined with acetic anhydride, we get diacetylmorphine also known as heroin. Morphine, codeine and heroin are semisynthetic drugs produced from opium while cocaine is a semi-synthetic drug produced from coca.

There is a third category of drugs known as *synthetic drugs*. These are produced solely through chemical reactions. Diazepam, methaqualone (commonly called as mandrax), amphetamine-type stimulants such as amphetamine and MDMA (commonly known as ecstasy) are examples of synthetic drugs.

The majority of the drugs of abuse are either semi-synthetic or synthetic by nature. One of the techniques of containing them is curbing their production by denying illicit drug manufacturers access to the chemicals required to manufacture drugs. Such chemicals are widely referred to as *precursors*.

Precursors are legitimate chemicals with uses in industry, medicine, research, etc. and are legally produced. Illicit drug manufacturers divert them from legitimate trade and industry and use them to produce illicit drugs. The job of enforcement officers is to stop this diversion without impeding the normal legitimate trade.

Precursor control is thus a strategy to reduce the availability of narcotic drugs and psychotropic substances by preventing illicit drug manufacturers from obtaining the chemicals they require for such manufacture.

recursor chemicals

recursors are chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances. There are hundreds of synthetic and semi-synthetic drugs of abuse. In order to produce each of them, one requires precursors. If we try to control all these precursors, our job becomes unwieldy, our efforts will be spread too thin, over too many chemicals, rendering controls ineffective. We must, therefore, identify a few key precursors and control them. For instance, we can identify the most widely abused semi-synthetic and synthetic drugs and then identify the precursors most critical manufacture. Since precursors are often

trafficked across the borders, there should be harmony between the laws of different countries both in terms of which precursors are controlled and what kinds of controls are imposed on them.

The United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (which we shall call the 1988 Convention for the sake of brevity), therefore, identifies those precursors most crucial to the illicit manufacture of drugs. These are listed in Table-I and Table-II of the convention and are universally accepted as precursors. These chemicals are listed below and their licit and illicit uses are in the annexure.

Table I	Table II
Acetic anhydride	Acetone
N-acetylanthranilic acid	Anthranilic acid
Ephedrine	Ethyl ether
Ergometrine	Hydrochloric acid
Ergotamine	Methyl ethyl ketone
Isosafrole	Phenylacetic acid
Lysergic acid	Piperidine
3,4-methylenedioxyphenyl-2-propanone	Sulphuric acid
Norephedrine	Toluene
1-phenyl-2-propanone	
Piperonal	
Potassium permanganate	
Pseudoephedrine	
Safrole	
The salts of the substances listed in this Table whenever the existence of such salts is possible.	The salts of the substances listed in this Table whenever the existence of such salts is possible (the salts of hydrochloric acid and sulphuric acid are specifically excluded)

2.1 Precursors of concern in South Asia

Of the 23 precursors listed above, the following precursors are of special concern in South Asia.

2.1.1 Acetic anhydride

This chemical is widely used in textile processing, dyes and pharmaceutical industry. Since textiles and textile dyes are a major industry in South Asia, consumption of acetic anhydride is indispensable. In the pharmaceutical industry, the biggest consumption of acetic anhydride is in the manufacture of the common anti-pyretics-aspirin and paracetamol.

Acetic anhydride is used illicitly for the manufacture of amphetamine-type stimulants, heroin and methaqualone (commonly known as mandrax). South Asia is flanked by two of the world's largest illicit opium growing regions of the world. The opium so produced is processed into heroin. Acetic anhydride is not produced in neither of the two regions and hence traffickers divert heroin from other regions, including south Asia and smuggle it into these regions. Some of the world's largest methaqualone seizures during the past few years were made in India and in almost all cases, acetic anhydride was diverted and used to produce methaqualone.

2.1.2 Anthranilic acid

Anthranilic acid is also legally used in pharmaceutical and textile industries. Illegal drug manufacturers use it to produce methaqualone (mandrax). Typically, this precursor is diverted and used to manufacture mandrax within India.

The methaqualone so produced is largely smuggled to South Africa and onwards to other countries in Africa which form the bulk of the market for methaqualone.

2.1.3 Ephedrine and pseudoephedrine

Ephedrine and pseudoephedrine have similar chemical structure. Both are used legally to produce anti-asthmatic drugs - bronchodilators and nasal decongestants. Both are illegally used to produce the amphetamine type stimulant (ATS), methamphetamine.

Two of the world's largest producers of ephedrine are India and China. China extracts ephedrine from a herb, ephedra, while India produces synthetic ephedrine from molasses - a by-product of sugar factories.

Ephedrine and pseudoephedrine diverted from India and China are often smuggled into Myanmar and used for illicit production of methamphetamine. The bulk of the methamphetamine so produced is smuggled into Thailand and onwards to the rest of the world.

nternational controls over precursors

any countries - especially the ones known for illicit heroin production - neither manufacture precursors nor have the capacity to do so. Since precursors have licit uses and are available for those purposes, illicit drug manufacturers obtain them by either diverting them from international trade or through smuggling. They only rarely produce precursors themselves.

International control over precursors is, therefore, essential to prevent such diversion of precursors. The 1988 Convention provides the framework for international control and ensures:

- Some degree of harmony between the laws of different countries and
- ◆ Provide mechanisms for cooperation between different countries

To coordinate these activities, the Economic and Social Council requested Governments to identify a 'competent authority' for each country who serves as national nodal authority. The Competent Authorities also interact with their counterparts in other countries as well as international bodies such as the International Narcotics Control Board (INCB).

3.1 The United Nations Convention against illicit traffic in narcotic drugs and psychotropic substances, 1988

There are three UN Conventions, which deal with drug related matters:

◆ Single Convention on Narcotic Drugs, 1961

- Convention on Psychotropic Substances, 1971 and
- ◆ United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (hereinafter called 1988 Convention)

Although all these three UN conventions emphasized the need to regulate precursors, the 1988 convention has dealt with the subject in detail laying down the basic framework of control of precursors (*Article 12*). The article requires states to adopt legislative, regulatory and administrative measures they deem necessary to prevent diversion of precursors.

Furthermore, trafficking should be an offence in that country's law. The convention requires parties to make it a criminal offence to manufacture, possess, transport, or distribute precursors or equipment with the knowledge that they are meant for illicit production or manufacture of drugs (*Article 3*). The convention also requires states to cooperate closely with one another (*Article 9*). What does 'co-operation' mean in practical terms? It means that:

- States should establish and maintain channels to facilitate rapid exchange of information.
- They should also cooperate in conducting enquiries.

The 1988 Convention also requires states to make effective use of the technique called controlled delivery (*Article 11*). In this technique, suspect consignments of precursors or drugs are not immediately seized but are allowed to reach their final destination under surveillance of the authorities to identify the

real persons behind the transaction. Since consignments often move across international borders, cooperation is vital.

3.2 The role of INCB

The International Narcotic Control Board or INCB was established in 1968 under the single convention on Narcotic drugs, 1961. It is an independent quasi-judicial body for monitoring the implementation of the drug conventions. It is responsible for monitoring the control of precursors by governments. It also assesses chemicals to be placed under international control as precursors.

At a more operational level, the INCB assists governments in verifying the legitimacy of the international trade in precursors.

For this purpose, the INCB maintains a databank and also interacts with the competent authorities of the importing, exporting and transit states.

The INCB receives reports from about 190 countries as well as information on individual international transactions or shipments, which have been stopped on suspicion and consignments of precursors seized. It compiles all this information and submits an annual report to the Economic and Social Council (ECOSOC) through the Commission on Narcotic drugs (CND).

3.3 The role of Competent Authorities

Effective international control on precursors requires countries to constantly interact with one another and with international bodies. The competent authority of each country acts as the nodal point. In 1992, the Economic and Social Council requested each country to designate a Competent Authority to facilitate such interaction through which any country can receive and transmit information to the country. It also executes requests for mutual legal assistance.

Let us see in detail, what role these competent authorities can play with respect to precursor control. Competent authorities issue Pre-Export Notifications, commonly known as PENs, to importing countries. These PENs serve as advance warnings and help the authorities in the importing country to verify the legitimacy of the transaction and seize any unauthorized shipments.

Competent authorities also interact with the INCB. In international trade, both the INCB and the competent authorities monitor movement of precursor chemicals.

The competent authorities also assist each other in investigations involving precursor chemicals and also furnish reports to the INCB.

reventing diversions

n this section we will examine the various methods that traffickers employ to divert precursors and the techniques through which we can counter them under the following five sub-headings:

- ◆ Methods of diversion
- ◆ Intelligence collection
- **◆** Investigation
- ◆ Role of different agencies in preventing diversions
- ◆ International operations

4.1 Methods of diversion

Precursors can be diverted from any stage in the course of legitimate trade. Some possible points of diversion are:

- ◆ From the place of manufacture
- ◆ At the point of sale
- ◆ During transportation
- ◆ During importation
- ◆ During exportation
- ◆ During use or consumption
- ◆ During re-cycling
- ◆ During destruction of seized precursors.

Traffickers employ a variety of techniques to divert precursors, including the following:

- a) Under-reporting production and clandestinely removing the remaining precursor: The manufacturer of the precursor enters only part of the production in his records and diverts the rest to illicit trade and sells it at a much higher price. The manufacturer also generates more profits by evading excise duty and other taxes.
- b) *Theft during transportation:* Criminals steal precursors in small quantities from tankers and trucks with the connivance

- of drivers. The quantity of precursors pilfered from each tanker or truck is so small that it can easily go undetected. But traffickers often accumulate significant quantities of precursors through repeated pilferage. In South Asia, this method has often been used to divert acetic anhydride.
- c) False reporting of leakage: The consignor sends a false report stating that the tanker leaked in transit and a significant quantity of precursor was lost. The precursor is meanwhile diverted into illicit channels.
- d) Misdeclaration of description: In many countries, one needs a licence to import or export precursors. Such consignments are also subjected to more intensive checks by customs services. Traffickers export the consignment of precursor chemical wrongly declaring it as a consignment of some other commodity to bypass both licensing requirements and rigorous checks. Through this method nine tons of acetic anhydride was successfully exported from India to Dubai by declaring the consignment of chemicals as consignment of acid for pickles. The diverted acetic anhydride was sufficient to produce 3.6 tons of heroin.
- e) Forged no objection certificates (NOCs) or import and export permits: Traffickers place an order for the import of a precursor along with a forged import permit and if the authorities in the exporting country do not detect the forgery, a huge consignment is available for diversion.

- f) Manipulation of the quantity in the NOC or import or export licence: This involves taking a genuine license and inserting a zero in the quantity descriptor. A Mumbai-based exporter once presented an NOC from the competent authority of the importing country to export 2 million ephedrine tablets to Trinidad and Tobago. When an enquiry was conducted, it was confirmed that the actual quantity permitted in the NOC was only two hundred thousand ephedrine tablets. The difference of one million eight hundred thousand tablets could have been easily used to produce methamphetamine.
- g) Orders placed using the names of non-existent firms: If you succeed, the entire consignment is available for illicit trade. If the authorities find out, there is very little chance of being caught. Alternatively, using the name of a bona fide company but inserting a false contact address with false telephone and fax numbers makes it easy to import. When the time for delivery comes, traffickers ask the transporter to deliver the consignment at a different address citing some place with storage provision.
- h) Conceal orders for precursors amongst innocuous chemicals: They begin with placing orders for small quantities of precursors and often conceal the true order for precursors amongst a list of innocuous or harmless chemicals and other materials.

4.2 Intelligence collection

Intelligence, by definition, is foreknowledge knowing all that you need to know beforehand. Since precursors are legitimate substances with a variety of legal uses, it is extremely difficult to detect diversion and trafficking without intelligence. To gather intelligence we need to concentrate our efforts at possible stages of diversion such as place of manufacture, sale and transportation. There are two methods of collecting intelligence - overt or open and covert or secret.

4.2.1 Overt or open methods

The overt or open method refers to the collection of information regarding a possible diversion from secondary sources like newspapers, books, and technical publications as well as data from other government sources or other bodies. The data so gathered when put through the "intelligence mill", may provide extremely useful pointers that enable the enforcement officers to decide where to concentrate their efforts. Often referred to as profiling, this helps identify the most likely suspicious consignments of precursors passing through the international trade.

Profiling starts off with the systematic analysis of past cases to determine the characteristics of a typical suspect consignment or trafficker. By examining such characteristics carefully, we can zero in on suspect consignments and traffickers. A few pointers could be:

Destination of the goods

A consignment of precursors destined to a border area adjoining a country known for illicit manufacture of drugs runs a high risk of being smuggled to that adjoining country.

Change in custom house agent

If an exporter suddenly changes his custom house agent for exporting precursor chemicals, that would constitute a cause for suspicion.

First time orders should be subject to greater scrutiny.

 If the chemical is sold at a very high price compared with the prevailing market price, it requires a careful examination. Unusual and special packaging of the chemical is another cause for suspicion.

- ◆ Similarly, *incorrect or vague labelling* is also a reasonable cause for suspicion.
- ◆ Bulky consignments of chemicals being sent by air should also be checked carefully since it does not make business sense to send such consignments by air.

4.2.2 Covert methods

Covert methods often provide direct, actionable intelligence. There are three primary covert methods: informers, surveillance and undercover operations.

Informers are persons with inside information about an illicit activity who are willing to share it with the authorities for any of the variety of reasons including financial reward, recognition, revenge or thrill factor. In order to get information on diversion of precursors, informers should be cultivated in places such factories manufacturing precursor chemicals, associations of brokers and transport agencies used by such companies. Informers can also be cultivated among truck drivers engaged in the transportation of precursors, among custom house agents, forwarding agents, in inspection agencies or in the offices of port / airport authorities. Other places to cultivate informers are chambers of commerce and also in shipping lines or airlines and in roadside restaurants. You may wonder why roadside restaurants? Roadside restaurants often act as collection points for the precursors pilfered by truck drivers. From these restaurants, the precursors are sent to illicit drug manufacturers through intermediaries.

The second covert method - *surveillance* - is of two types; physical and electronic.

Physical surveillance consists of keeping a discrete watch over places and persons, where as electronic surveillance comprises telephone *intercepts*, GPS-based satellite tracking, etc. Interception of telephones, when permitted legally, can be extremely useful in identifying and preventing diversions. Satellite tracking devices are extremely useful to monitor international movement of suspect consignments.

Finally, *undercover operations*, including the infiltration of networks by agents or the conducting controlled deliveries, provide a useful source of intelligence and can be orientated directly for a prosecution in a court of law or in furthering investigations to learn more of the methods used by trafficking networks and those involved in the illicit activities.

4.3 Investigation

Let us consider what factors can trigger investigations into cases of diversion:

- a. Specific intelligence about diversion;
- b. Follow-up into a detection and seizure at an illicit drug-manufacturing factory;
- c. Investigations into shipments stopped in international trade as reasons exist to believe the order was an attempt to divert the precursors in question;
- d. Follow-up into a case in some other country

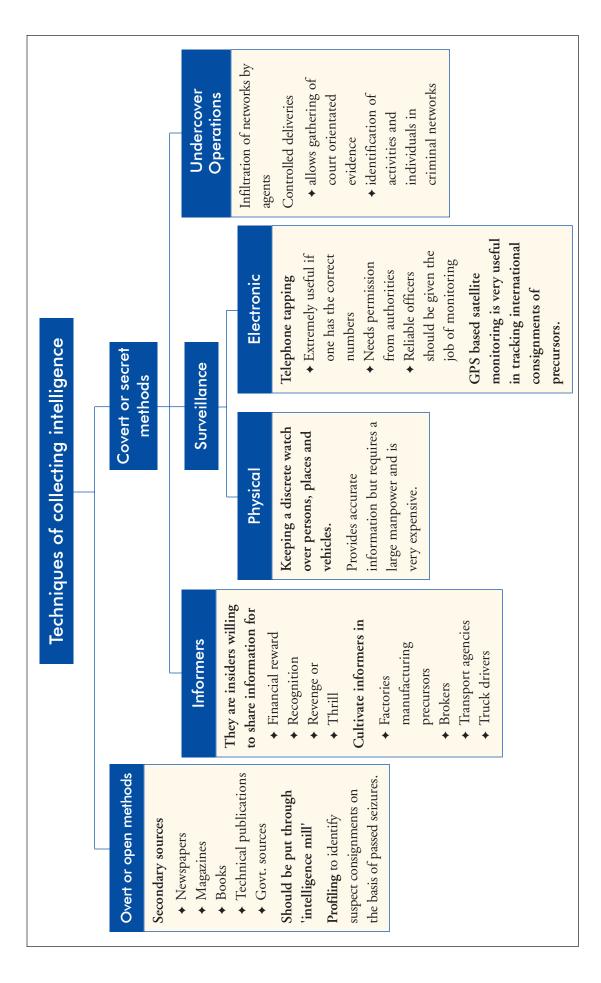
In investigations into diversions of precursors from international trade, special attention should be paid to the following:

- ◆ Consignment
- ◆ Documents
- **♦** Statements
- ◆ Immediate follow up

4.3.1 Consignment

In the case of an export of precursor chemicals, the following should be checked:

- Does the exporting company actually exist?
- ◆ Is it registered for the purpose?
- ◆ Is the ordered chemical consistent with the use for which it is specified?



- ◆ Is there a requirement for this particular chemical in the importing country?
- ◆ Is it a first time order or is it part of an irregular ordering pattern?
- ◆ Has the customer specified any unusual packaging requirements?
- ◆ Is the consignment to travel by airfreight? Is this cost effective for the particular chemical?
- ◆ Is there a bona fide delivery address? Do the delivery requirements specify a post office box number?
- ◆ Is the consignment destined for a named individual within a company?

4.3.2 Documents

The documents recovered during a search should be carefully examined. Pay special attention to the following documents:

- ◆ Past shipping bill or bills of entry
- ◆ Transport documents
- ◆ Private documents relating to transactions
- ◆ Documents relating to bank accounts
- ◆ Documents relating to properties

Careful and timely scrutiny of documents may provide valuable clues and evidence of links between members of trafficking networks, their foreign links and the flow of money earned from the illegal venture.

4.3.3 Statements

Questioning the persons involved in, or concerned with, a diversion and carefully recording their statements play a very important role in successful investigations.

The statements should, among other things, contain the following:

- ◆ Place, date and time.
- ◆ Name and address of person giving the
- ◆ Name and designation of person asking the questions.
- Name and addresses of persons who are witnesses, if any.

- Notice given to the person being questioned concerning his right against self-incrimination.
- Signature of the person preparing the statement should also be taken into consideration.

Investigating officers should keep in mind the following while recording statements.

- ◆ Use short questions confined to one topic that can be clearly and easily understood.
- ◆ Ask questions that require narrative answer and avoid questions that can be answered by 'YES' or 'NO'.
- Avoid leading questions, that is, questions that suggest an answer.
- Ask the interviewee how he or she learned what he or she states to be a fact. The interviewee should also be required to deliver the factual basis of any conclusions stated.
- ◆ Remain alert to prevent the interviewee from aimless wandering and demand a direct response.
- Concentrate more on the answer than on the next question.
- ◆ To avoid an unrelated or incomplete chronology, the investigating officer should clearly understand each answer and ensure that any lack of clarity is eliminated before continuing further.

When all the important points get resolved, the officer should terminate the interview. If possible, leave the door open for further contact with the person giving statements.

The investigating officer should get the answers from the person under questioning to the basic questions such as Who? What? Why? Where? When? and How? of the events.

4.3.4 Follow-up

Follow-up should be immediate and swift as any delay facilitates the destruction of evidence by

the suspects. Samples of seized precursors should be drawn and sealed as per the prescribed procedure and sent to a laboratory for testing as early as possible. The chain of custody of the seized goods, documents and other forms of evidence should be properly recorded to establish their integrity in a court of law.

4.4 Role of different agencies in preventing diversions

Different law enforcement agencies can help prevent and detect diversions of precursors and the role each agency can play is discussed below:

4.4.1 Role of Customs Department

Since Customs officers regulate import and export of all consignments they can play an important role in preventing their diversion from international trade. They are also responsible for the prevention and detection of smuggling. In order to prevent diversions, custom officers should carefully examine documents related to import, export and transit consignments.

The following aspects should be checked in the documents:

- ◆ Was the mode of payment in conformity with normal commercial practice?
- Was there any unusual request for shipping or delivery?
- ◆ Are there any specific requests for packing / labelling / shipment that are not in conformity with normal commercial practice and or means of transport?
- ◆ Does the transaction involve a combination of controlled chemicals, which can be used illicitly to manufacture a controlled drug?
- ◆ Does the order involve an unusual mixture containing a high content of a precursor chemical?

◆ Is the means of transport, for example by air, consistent with the value of the precursor chemical?

Answers to these questions can enable customs officers to narrow down suspicious consignments of precursor chemicals.

4.4.2 Role of the Excise Department or Department of Trade and Industry¹

This department exercises control over the manufacturers of precursor chemicals. They inspect or audit, assess the production and examine records of clearance of goods of those manufacturing units that produce and use precursors. Any unusual increase in consumption of raw materials or any inexplicable drop in the production of finished products of a precursor manufacturing unit should be carefully scrutinized. The input or output ratio of such factories should be compared to other factories producing similar products. It is necessary to look for abnormalities that can, after investigation, lead to the detection of diversions.

4.4.3 Role of Police

Police have an extensive networks and, therefore, can check consignments of precursors in transit within a national territory as this is one of the weakest links in the chain of control over precursors.

Precursors stolen during transit are often sold to illicit operators along the highways who, in turn, sell them to the illicit drug manufacturers. Often, this takes place through a series of intermediaries.

The presence of alert, trained police on roads and along highways can help in checking suspicious movements of precursor chemicals.

¹Responsible departments vary between countries in accordance with national legislation, competencies and mandates.

4.4.4 Role of the Regulatory Authority

The regulatory authority, by whatever name it is called in any country (e.g., the Narcotics Control Bureau in India), usually issues and receives pre-export notifications, verifies the legitimacy of transactions and co-ordinates with other countries.

This authority may also be responsible for educating the chemical industry and trade to the possible threat of diversion of precursors. An enlightened industry and trade can develop voluntary codes of conduct to prevent diversion of precursors. Any attempt to divert a precursor by a trafficker will almost always be first known to someone in the trade who can pass on such intelligence to the authorities.

Since training is vital to the efficacy of precursor control measures in a country, the regulatory authority should take the lead in organizing precursor-training programmes. It is necessary for enforcement officers as well as the trade to be involved in such training.

The regulatory authority should also maintain a national database on precursor chemicals. This would help exercise better control over precursors meant for both domestic and international trade.

4.4.5 Role of Border Guards

Almost all countries deploy guards along their borders for the security of the nation. These border guards form the first line of defence against the smuggling of both goods and persons and can help foil attempts to smuggle precursor chemicals.

4.5 International Operations

There are international operations aimed at preventing the diversion of precursors. Different countries and international bodies work in tandem in these operations. Three such operations namely Operation Purple, Operation Topaz and Project Prism have so far been launched.

4.5.1 Operation Purple

Operation Purple was launched in 1999 to monitor the international movement of shipments of potassium permanganate (the precursor used in the illicit production of cocaine) to minimize the scope for their diversion.

Thirty-one authorities and three international bodies - ICPO-Interpol, INCB, and WCO participate in this operation which is guided by a steering committee. Central national authorities (CNAs) are designated under the operation to exchange intelligence on movements of potassium permanganate and monitor all shipments over 100 kg from the exporting countries till they reach their final destination. The operation has been successful as a result of which, illicit prices of potassium permanganate increased and the purity of cocaine has fallen.

4.5.2 Operation Topaz

Operation Topaz was launched in 2001 to monitor the international movement of consignments of acetic anhydride. Forty-six authorities and three international bodies - ICPO-Interpol, INCB, and WCO participate while a steering committee monitors the operation. International movements of consignments of acetic anhydride over 100 kg are monitored till they reach their final destination.

Operational activities have resulted in the identification of trafficking routes of acetic anhydride from Europe to West Asia. Furthermore, the networks responsible have been dismantled and the individuals involved prosecuted.

4.5.3 Project Prism

Project Prism, the latest of the international initiatives, is designed to address diversions of five main precursors used in the illicit manufacture of ATS, namely, (i) ephedrine, (ii) 3,4-methylenedioxyphenyl-2-propanone, (iii) 1-phenyl-2-propanone, (iv) pseudoephedrine and (v) safrole as well as the equipment

used in such manufacture . Project Prism is directed by a task force supported by two working groups-the Chemicals Working Group and the Equipments Working Group. Operational activities commenced in January 2003 with a focus being placed on specific time-bound regional operations.



Information about precursors

N- Acetylanthranilic Acid



Physical appearance

Fine, white or off-white crystalline powder

Countries where produced

Belgium, Germany, USA and UK

Licit / Illicit uses

Licit- pharmaceuticals, plastics, fine chemicals Illicit- Methaqualone, Meclaqualone

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 1 kg methaqualone

Hazards

Harmful if swallowed

Acetic Anhydride

Physical appearance

Colourless (sometimes yellowish) liquid with a strong, vinegar-like smell

Countries where produced

China, India, France, Germany, Russian Federation, Switzerland, UK and USA are major producers

Licit / Illicit uses

Licit- pharmaceuticals, paints, dyes, plastics, explosives and chemical industries Illicit- Heroin, Methaqualone

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 0.4 kg heroin

Hazards

Vapour can irritate eyes, ears and nose. Acetic anhydride is highly corrosive



Ephedrine



Physical appearance

Waxy solid crystals or granules with a soapy feel

Countries where produced

China, the CIS, Czech Republic, Germany, India and Japan

Licit / Illicit uses

Licit- in manufacture of bronchodilators and nasal decongestants Illicit- in manufacture of ATS

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 700 grams of amphetamines

Hazards

Harmful if swallowed

Ergometrine

Physical appearance

White crystalline substance

Countries where produced

Czech Republic, Slovenia, Switzerland

Licit / Illicit uses

Licit- as oxytocin in treatment of obstretics and treatment of migraine Illicit- to produce Lysergic acid diethylamide (LSD)

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 300 grams of LSD

Hazards

Ingestion can cause vomiting, diarrhoea, severe thirst, confusion and even unconsciousness



Ergotamine



Physical appearance

Made of hygroscopic crystal

Countries where produced

Czech Republic, Slovenia, Switzerland

Licit / Illicit uses

Licit- used in treating acute attacks of migraine and as oxytocin in obstetrics Illicit- manufacture of LSD

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 200 grams of LSD

Hazards

Ingestion can cause vomiting, unconsciousness, confusion, unquenchable thirst and diarrhoea

Isosafrole

Physical appearance

Colourless (sometimes yellowish) viscous liquid with sweet odour

Countries where produced

China and Taiwan

Licit / Illicit uses

Licit- used in manufacture of piperonal , perfumes, fragrances, flavours and pesticides. Illicit- Tenamphetamine or MDA, 3, 4-methylenedioxymethamphetamine or MDMA and N-ethyltenamphetamine or MDE

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 200 grams of MDA or MDMA or MDE

Hazards

Moderately toxic. Poisonous if it takes parenteral route i.e., routes other than alimentary tract. Skin irritant. Experimental carcinogen and tumorigen



Lysergic Acid



Physical appearance

White crystalline powder

Countries where produced

Information not available

Licit / Illicit uses

Licit- used in organic synthesis of chemicals Illicit- manufacture of LSD

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 600 grams of LSD

Hazards

Highly toxic. Ingestion can cause vomiting, unconsciousness, confusion, unquenchable thirst and diarrhoea

3,4-Methylenedioxyphenyl - 2-Propanone

Physical appearance

Liquid with anise-like odour

Countries where produced

Germany and India

Licit / Illicit uses

Licit- used in production of piperonal and perfume components Illicit- Used in manufacture of MDA, MDMA or MDE

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 400 grams of MDA, MDMA or MDE

Hazards

Can cause severe irritation to eyes and skin



Norephedrine



Physical appearance

White powder

Countries where produced

Germany, India, United States of America

Licit / Illicit uses

Licit- Used as appetite suppressant and nasal decongestant. Illicit- Used in manufacture of ATS

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 700 grams of ATS

Hazards

Harmful if inhaled, ingested or absorbed through skin. Can cause irritation to eyes, skin and respiratory tracts

1-Phenyl-2-Propanone

Physical appearance

Colourless, yellowish moderately viscous liquid

Countries where produced

India, France and United States of America

Licit / Illicit uses

Licit- used in chemical and pharmaceutical industries. Illicit- Used in manufacture of ATS

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 500 grams of ATS

Hazards

Is inflammable, can cause injuries. Irritates skin and eyes



Piperonal



Physical appearance

Colourless, lustrous needle-shaped crystal with heliotrope odour

Countries where produced

Austria, China, France, Taiwan and United States of America

Licit / Illicit uses

Licit- In manufacture of perfumes. Flavouring agent in cherry and vanilla flavours. Manufacture of mosquito repellent Illicit- Used in manufacture of MDMA, MDA and MDE

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 200 grams of MDMA or MDA or MDE

Hazards

Severe irritation to eyes and skin. If inhaled or ingested can cause headaches, dizziness and vomiting

Potassium permanganate

Physical appearance

Dark purple or bronze like crystal. It tastes sweet but has an astringent after taste

Countries where produced

Spain, Japan, Germany, Taiwan Czech Republic, India and United States of America

Licit / Illicit uses

Licit- Used as reagent in analytical laboratories. Disinfectant and in manufacture of anti-bacterial and anti-fungal agents, in water purification and bleaching agents
Illicit- Used in conversion of coca paste to cocaine base

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 4 kg of cocaine

Hazards

May cause explosion on contact with organic or other oxidizable substances both in solution and in dry state



Pseudoephedrine



Physical appearance

Crystalline White

Countries where produced

Germany, India and United States of America

Licit / Illicit uses

Licit- Used to manufacture bronchodilators and nasal decongestants.

Illicit- Used in manufacture of ATS

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 700 grams of ATS

Hazards

Harmful if swallowed

Safrole

Physical appearance

Colourless or slightly yellow liquid or crystals with an odour much like that of sassafras tree

Countries where produced

China, Taiwan and United States of America

Licit / Illicit uses

Licit- Used in manufacture of perfumes and piperonal. It is also used as denaturing fats in soap production.

Illicit- Used in manufacture of MDA or MDMA or MDE

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 100 grams of MDMA, MDA, MDE

Hazards

Moderately toxic when ingested. Known skin irritant. Experimental carcinogen and neoplastigen. Can turn combustible if exposed to heat or flame



Acetone



Physical appearance

Colourless liquid with quickly evaporating sweetish odour

Countries where produced

Argentina, Australia, Brazil, Ecuador, Finland, France, Germany, India, Italy, Japan, Korea, Mexico, Spain, Taiwan, Netherlands, Pakistan, United Kingdom, Venezuela and United States of America

Licit / Illicit uses

Licit- Used as solvent and chemical intermediary in production of plastics, paints, cosmetics, lubricants, pharmaceuticals, agricultural products and varnish etc.

Illicit- Used in manufacture of heroine and cocaine

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 500 grams of cocaine or heroine HCl

Hazards

Highly inflammable. Causes severs irritation to eyes and skin. Inhalation and ingestion may lead to headaches and dizziness followed by nausea

Anthranilic Acid

Physical appearance

Powder with a colour range from white to yellow. Sweet to taste

Countries where produced

Denmark, Germany, India, Japan, and United States of America

Licit / Illicit uses

Licit- Used to manufacture bird and insect repellents. Used as chemical intermediate in manufacture of dyes, pharmaceuticals and perfumes.

Illicit- Used in manufacture of methaqualone

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce equivalent quantity of methaqualone

Hazards

Harmful if swallowed. Causes irritation to eyes and respiratory tract



Ethyl Ether



Physical appearance

Colourless liquid with sweet pungent odour and burning taste

Countries where produced

France, Germany, Japan, Norway, Spain, Taiwan and United States of America

Licit / Illicit uses

Licit- Used as solvent in chemical laboratories. Also used in extraction of fats, oils, waxes and resins and also in munitions, perfumes and plastics.

Illicit- Used in manufacture of various drugs like heroine, LSD, cocaine, mescaline, methadone amphetamines, methaqualone and DMT

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 500 grams of heroine or cocaine HCl

Hazards

Mildly toxic when inhaled or ingested. Can cause severe irritation to eyes and skin

Hydrochloric Acid

Physical appearance

Clear, colourless to light yellow furning liquid with a pungent odour

Countries where produced

Australia, France, Germany, India, Norway, Spain and United States of America

Licit / Illicit uses

Licit- Used to manufacture chlorides and hydrochlorides. Used as neutralization of basic systems. Used as catalyst and solvent in organic synthesis.

Illicit- Used in manufacture of hydrochloric salt of narcotic drugs. Conversion of any salt in its hydrochloric form renders it soluble in water

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 3.3 kgs of either heroine or cocaine HCl

Hazards

Strongly corrosive. Vapours can induce irritation into respiratory tracts, mucous membranes and eyes



Methyl Ethyl Ketone



Physical appearance

Colourless liquid with mint like moderately sharp odour

Countries where produced

France, Germany, India, Japan, Netherlands, United Kingdom and United States of America

Licit / Illicit uses

Licit- Used as common solvent. Also used to produce coatings, degreasing agents, lacquers and resins etc Illicit- Used to convert cocaine base to cocaine hydrochloride

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 50 grams of cocaine HCl

Hazards

Highly inflammable. Causes severe irritation to eyes and skin. Inhalation and ingestion may lead to headaches and dizziness and vomiting

Phenylacetic Acid

Physical appearance

White powder with disagreeable, pungent odour

Countries where produced

Denmark, France, Germany, India, Japan, Spain and United Kingdom

Licit / Illicit uses

Licit- Used in the production of perfumes, phenyl acetic acid esters, herbicides ,penicillin and pharmaceutical products Illicit- Used in manufacture of ATS

Drug that can be produced from 1 kg or 1 Litre

Each kg is sufficient to produce 2.5 kgs of ATS

Hazards

Moderately toxic when ingested. Is an experimental teratogen i.e can cause malformation of embryo or foetus



Piperdine



Physical appearance

Colourless or yellowish-brown liquid with intensely unpleasant odour.

Countries where produced

France, Germany, India, Japan, United Kingdom and United States of America

Licit / Illicit uses

Licit- Used in manufacture of anaesthetics and analgesics. Used in production of rubber products and plastics. Illicit- Used to produce phencyclidine or PCP and tenocyclidine or TCP.

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce an equal amount of phencyclidine or PCP

Hazards

Toxic if inhaled or on coming in contact with skin.

Physical appearance

Odourless, clear and colourless oily liquid. It is more viscous than water.

Countries where produced

Czech Republic, Germany, India, Japan, Spain, Taiwan and United States of America

Licit / Illicit uses

Licit- Acidic oxidizer, dehydrating and purifying agent ,catalyst in organic synthesis, anti-rust compound, component of drain and metal cleaners. Also used in manufacture of fertilizers, explosives, dyestuffs, paper and glues, in automobile battery fluids, in the production of sulphates and for neutralization of alkaline solutions Illicit- Used to extract cocaine from coca leaves.

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 500 grams of cocaine HCL.

Hazards

Extremely corrosive. Reacts with water or steam to produce heat.

Sulphuric Acid



Toluene



Physical appearance

Mobile, refractive, Colourless liquid with benzene like odour

Countries where produced

Germany, India, Japan, Netherlands, Spain, Taiwan and United States of America

Licit / Illicit uses

Licit- Used as industrial solvent. Also used in manufacture of explosives, dyes and coatings

Illicit- Used as a solvent in production of fentanyl, ATS, PCP, methaqualone, methadone, cocaine and psilocine

Drug that can be produced from 1 kg or 1 Litre

Each litre is sufficient to produce 50 grams of cocaine

Hazards

Moderately toxic on inhalation or ingestion. Inhalation in higher doses can result in headache, nausea and impairment of coordination and reaction time. Severe irritant to eyes and skin. Experimental teratogen