



INTERNATIONAL NARCOTICS CONTROL BOARD



Precursors

and chemicals frequently used in the illicit manufacture
of narcotic drugs and psychotropic substances

2018



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The *Report of the International Narcotics Control Board for 2018* (E/INCB/2018/1) is supplemented by the following reports:

Progress in ensuring adequate access to internationally controlled substances for medical and scientific purposes (E/INCB/2018/1/Supp.1)

Narcotic Drugs: Estimated World Requirements for 2019—Statistics for 2017 (E/INCB/2018/2)

Psychotropic Substances: Statistics for 2017—Assessments of Annual Medical and Scientific Requirements for Substances in Schedules II, III and IV of the Convention on Psychotropic Substances of 1971 (E/INCB/2018/3)

Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances: Report of the International Narcotics Control Board for 2018 on the Implementation of Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (E/INCB/2018/4)

The updated lists of substances under international control, comprising narcotic drugs, psychotropic substances and substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances, are contained in the latest editions of the annexes to the statistical forms (“Yellow List”, “Green List” and “Red List”), which are also issued by the Board.

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Foreword

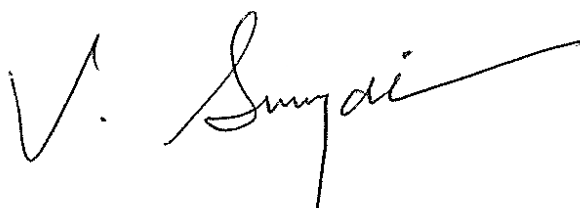
I am pleased to present the analysis of the International Narcotics Control Board (INCB) regarding the world precursor situation in 2018. This year's report marks the thirtieth anniversary of the conclusion of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

Over the years, INCB has noted overall improvements in the prevention of the diversion of chemicals listed in Table I and Table II of the 1988 Convention through the monitoring of their international trade, as set out in article 12 of that Convention. However, some challenges are not adequately addressed by the existing international precursor control framework. Above all, I am referring to the emergence of non-scheduled chemicals including, most recently, “designer” precursors purposely made to circumvent controls. Other developments are not specific to precursor control but affect it in significant ways and present new challenges to global cooperation and coordination. Those include changes in global trade relations, communication and transportation. In that connection, the Board would like to recall its 2014 report on precursors and the thematic chapter entitled “Making precursor control fit for 2019 and beyond”.

The theme of this year's report is the proliferation of non-scheduled “designer” precursors and the Board's reflection on possible ways to address it at the international level. It is the common thread running through the present report, as illustrated by the fact that nearly half of the chapter about global trends in precursor trafficking is devoted to non-scheduled chemicals, including “designer” precursors.

While it is important to find solutions that enable Governments worldwide to address the growing complexity and diversification of the problem, proven concepts in international precursor control also need to continue to be implemented to maintain the low level of diversion from international legitimate trade. This includes the applicable provisions of the 1988 Convention, precursor-related resolutions and established working mechanisms, such as the Pre-Export Notification Online system and the Precursors Incident Communication System. For some time now, INCB has been advocating a two-pronged approach with a focus on preventive action (such as voluntary cooperation with industry) and law enforcement action (investigating seizures and stopped shipments of chemicals that are known or suspected to be used for illicit purposes). Such a two-pronged approach can be taken to addressing both internationally controlled precursors and non-scheduled chemicals.

INCB invites Governments to continue to work with each other and the Board within the established framework, and to develop new concepts together to make precursor control fit for the future and reduce the flow of chemicals that reach clandestine laboratories.



Viroj Sumyai
President of the International
Narcotics Control Board

Preface

The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 requires the International Narcotics Control Board to report annually to the Commission on Narcotic Drugs on the implementation of article 12 of the Convention and requires the Commission to periodically review the adequacy and propriety of Table I and Table II of the Convention.

In addition to its annual report and other technical publications on narcotic drugs and psychotropic substances, the Board has prepared its report on the implementation of article 12 of the 1988 Convention in accordance with the following provisions, contained in article 23 of the Convention:

1. The Board shall prepare an annual report on its work containing an analysis of the information at its disposal and, in appropriate cases, an account of the explanations, if any, given by or required of parties, together with any observations and recommendations which the Board desires to make. The Board may make such additional reports as it considers necessary. The reports shall be submitted to the Economic and Social Council through the Commission which may make such comments as it sees fit.
2. The reports of the Board shall be communicated to the parties and subsequently published by the Secretary-General. The parties shall permit their unrestricted distribution.

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Explanatory notes

The boundaries and names shown and the designations used on the maps in the present publication do not imply official endorsement or acceptance by the United Nations.

The designations employed and the presentation of the material in the present publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Countries and areas are referred to by the names that were in official use at the time the relevant data were collected.

Multiple government sources of data were used to generate the present report, including form D (information on substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances); the Pre-Export Notification Online (PEN Online) system; the Precursors Incident Communication System (PICS); results achieved under Project Prism and Project Cohesion, which are the international operational initiatives regarding chemicals used in the illicit manufacture of, respectively, synthetic drugs, and cocaine and heroin; and official communications with competent national authorities and official national reports on the drug and precursor control situation.

Unless otherwise specified, data provided on form D are referred to by the calendar year to which they apply; the cut-off date for reporting the data is 30 June of the following year. The reporting period for data from the PEN Online system and PICS is from 1 November 2017 to 1 November 2018, unless otherwise specified. Where PEN Online system data are used for multiple years, calendar years are used. Additional information was provided through regional and international partner organizations, as indicated in the report.

With regard to data on seizures, readers should bear in mind that reported seizures generally reflect the corresponding level of regulatory and law enforcement activity at that specific time. In addition, as seizures are often the result of law enforcement cooperation among several countries (e.g., through controlled deliveries), the occurrence of seizures and the volumes seized in a given country should not be misinterpreted or used as an overestimation in assessing that country's role in the overall situation of trafficking in precursors.

Reference to "tons" is to metric tons, unless otherwise stated.

The following abbreviations have been used in the present report:

ANPP	4-anilino- <i>N</i> -phenethylpiperidine
APAA	<i>alpha</i> -phenylacetoacetamide (2-phenylacetoacetamide)
APAAN	<i>alpha</i> -phenylacetoacetonitrile
GBL	<i>gamma</i> -butyrolactone
GHB	<i>gamma</i> -hydroxybutyric acid
MAPA	methyl <i>alpha</i> -phenylacetoacetate
MDMA	3,4-methylenedioxymethamphetamine
3,4-MDP-2-P	3,4-methylenedioxyphenyl-2-propanone
3,4-MDP-2-P methyl glycidate	methyl ester of 3,4-MDP-2-P methyl glycidic acid
NPP	<i>N</i> -phenethyl-4-piperidone
P-2-P	1-phenyl-2-propanone
P-2-P methyl glycidate	methyl ester of P-2-P methyl glycidic acid
PEN Online system	Pre-Export Notification Online system
PICS	Precursors Incident Communication System

Summary

The manufacture of “designer” precursors without legitimate uses, specially made to circumvent controls, is one of the most important challenges that international precursor control faces in the year that marks the thirtieth anniversary of the adoption of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

The present 2018 precursors report of the International Narcotics Control Board devotes a special thematic chapter to this development; it highlights the trafficking trends observed and gives an analysis of the underlying causes. The review of three “designer” precursors and the recommendation to include them in Table I of the 1988 Convention also show that Governments must be proactive when proposing chemicals for international control.

At the same time, there has been further progress in monitoring international trade and in controlling the 26 chemicals currently listed in Table I and Table II of the 1988 Convention. There are now 189 States parties to the 1988 Convention, leaving just eight States (five in Oceania and three in Africa) that have yet to become parties and thus ensure universal accession. One hundred and thirteen Governments have requested to receive pre-export notifications in advance of a planned export to their territory, and 162 Governments are registered users of the PEN Online system through which they pro-actively inform each other of about 3,000 proposed shipments of scheduled precursors in international trade every month. As a result, there have been few diversions from international trade.

With regard to trafficking in precursors, there has been some decrease in the quality of the data submitted to the Board under the Convention. For 2017, while 120 States parties submitted the mandatory annual reporting form on precursors (form D), the information submitted has, in some cases, been incomplete. This complicates the Board’s efforts to comprehensively analyse regional and global precursor trends, identify weaknesses and recommend remedial action.

There are gaps in the information available on trafficking in methamphetamine precursors in East and South-East Asia, in amphetamine (“captagon”) precursors in West Asia, and in cocaine chemicals in South America. In all these regions, the Board has noted a marked discrepancy between seizures of key precursors and of the corresponding end-products, in some cases for longer periods of time. For all these regions, the assumption is that the illicit drug manufacture is fed by chemicals diverted from domestic distribution channels (with that diversion occurring either in the country of illicit manufacture itself or elsewhere; in the latter case, the chemicals are first diverted and then smuggled into the country of illicit manufacture). There is only partial information available about, in particular, the use of non-scheduled substitute chemicals, which limits the possibilities for effective intervention.

By contrast, the situation regarding trafficking in precursors in Europe and parts of North America is better understood. In those regions, more resources and attention are devoted to chemical control. A significant supply of non-scheduled “designer” precursors, including series of closely chemically-related substances, feeds the illicit synthetic drug manufacture. Innovative tools are being tested to address the situation, such as the “catch-all” clause in European Union legislation and a list of non-scheduled chemicals without known legitimate uses. PICS, which is being used by officials from almost 110 countries and territories, provides a global early warning mechanism for newly emerging “designer” chemicals.

PICS and the PEN Online system have also helped to establish commonalities between acetic anhydride cases that were encountered in 2016 and 2017, when the substance was being diverted on a large scale. As a result, a number of countries have been conducting investigations that have helped to identify weaknesses in national precursor regulations or their implementation, for example with regard to the registration of operators and the proportionality of administrative charges. However, the success

of those investigations is adversely affected by difficulties Governments face in exchanging operational information in a timely manner.

To address the challenges ahead, a two-pronged approach could be considered. On the one hand, it is important to continue to refine existing regulations and mechanisms and improve their implementation. On the other, such an approach would require new ideas to address the growing number of “designer” chemicals, because those do not lend themselves to monitoring in legitimate international trade flows, as they have no legitimate uses and are not traded legitimately. The Board is prepared, within the scope of its mandate, to continue to actively support Governments in their endeavours to limit the availability of chemicals for the illicit manufacture of drugs.

I. Introduction

1. The present report summarizes the action taken since the publication of the 2017 report on precursors¹ by Governments and by the International Narcotics Control Board (INCB) to prevent chemical diversion and implement the provisions of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988.

2. Chapter II begins with an account of the activities carried out during the reporting period with regard to the scheduling of substances. The remainder of chapter II contains statistical data and other information on action taken by Governments and the status of implementation of the tools and mechanisms provided or coordinated by the Board to assist Governments in implementing the provisions of article 12 of the 1988 Convention.

3. Chapter III provides an overview of the major trends and developments in licit trade and trafficking in and illicit use of individual chemicals. It contains a summary of seizures, cases of suspicious and stopped shipments, diversions or attempted diversions, and activities associated with illicit drug manufacture.

4. As has been the practice since 2011, one precursor-related theme is addressed in greater depth. In this year's report, the theme explored in chapter IV is the proliferation of non-scheduled "designer" precursors and the options available for addressing it at the international level. Throughout the report, specific recommendations and conclusions are highlighted to facilitate the taking of specific actions by Governments to prevent diversion.²

5. Annexes I to XI contain updated statistics and practical information for use by competent national authorities. The annexes are not included in the printed copies of the present report but are available on the INCB website.

¹E/INCB/2017/4.

²A compilation of the recommendations relating to international precursor control made by INCB in previous years is available on the Board's website (www.incb.org).

II. Action taken by Governments and the International Narcotics Control Board

A. Scope of control

6. In December 2017, the Government of Argentina proposed that three precursors of amphetamine-type stimulants be included in the tables of the 1988 Convention. Pursuant to article 12, paragraph 3, of the 1988 Convention, the Secretary-General then invited Governments to submit their comments concerning the proposal. Responses were received from 50 Governments, although many of those contained only limited information. Nevertheless, the Board assessed the three chemicals on the basis of the information available. It communicated its findings to the Commission on Narcotic Drugs and recommended the inclusion of APAA and 3,4-MDP-2-P methyl glycidate (the methyl ester of 3,4-MDP-2-P methyl glycidic acid) in Table I of the 1988 Convention. The Board further recommended that hydriodic acid not be included in the tables of that Convention. The Commission will vote on the Board's recommendations in March 2019.

7. In its assessment of 3,4-MDP-2-P methyl glycidate (the substance proposed for scheduling by Argentina), the Board noted that the sodium salt of 3,4-MDP-2-P methyl glycidic acid had been and continued to be seized in significant quantities, including in clandestine laboratories. Given the very comparable properties of the sodium salt with regard to the synthesis of MDMA and related substances, the Board considered that scheduling 3,4-MDP-2-P methyl glycidate alone could well be insufficient, as it would likely result in a mere shift to and an increased use of the sodium salt, and possibly of other salts as well.

8. Therefore, taking into account that the scope of Table I and Table II of the 1988 Convention automatically extends to the salts of the substances listed whenever the existence of such salts is possible, the Board considered that the acid form, i.e., 3,4-MDP-2-P methyl glycidic acid, should also be included in one of the tables of the 1988 Convention. Subsequently, in August 2018, the Board sent a supplementary notification to the Secretary-General to formally initiate the procedure for scheduling the acid together

with its salts.³ On the basis of the supplementary information received from Governments, INCB also submitted its recommendation for the international scheduling of 3,4-MDP-2-P methyl glycidic acid, to be considered by the Commission in March 2019.

9. None of the chemicals concerned has to date been given a unique Harmonized System code. Considering the length of the cycle to update the Harmonized System nomenclature, **INCB encourages Governments to adopt, on a voluntary basis, interim, discrete codes based on Harmonized System nomenclature.**⁴

B. Adherence to the 1988 Convention

10. As at 1 November 2018, the 1988 Convention had been ratified, acceded to or approved by 189 States and formally confirmed by the European Union (extent of competence: article 12).

11. Since the 2017 INCB report on precursors, the State of Palestine⁵ deposited its notification of accession to the 1988 Convention on 29 December 2017. As a result, 90 days after the date of deposit, on 29 March 2018, the Convention entered into force for the State of Palestine. The following eight States (by region) are not yet parties to the 1988 Convention:

Africa (three States): Equatorial Guinea, Somalia and South Sudan

Oceania (five States): Kiribati, Palau, Papua New Guinea, Solomon Islands and Tuvalu

C. Reporting to the Board pursuant to article 12 of the 1988 Convention

12. Under article 12, paragraph 12, of the 1988 Convention, parties are required to submit annually to INCB information on the amounts seized of substances included in Table I and Table II of that Convention and, when known, their origin. Parties are also required to submit information on any substance not included in

³The Board has further expressed concern over the illicit use of esters other than the methyl ester notified by the Government of Argentina and, more in general, about the proliferation of non-scheduled and “designer” precursors, the related challenges and the need for a wider policy discussion (see chapter IV for details).

⁴World Customs Organization, *Harmonized Commodity Description and Coding System*, 6th ed. (Brussels, 2017).

⁵In its resolution 67/19, the General Assembly accorded the State of Palestine non-member observer State status in the United Nations.

Table I or Table II that is identified as having been used in the illicit manufacture of narcotic drugs or psychotropic substances, as well as on methods of diversion and illicit manufacture.

13. In order to assist Governments in providing such data, INCB transmits to all Governments an annual questionnaire (known as form D).⁶ The deadline for submission of the 2017 questionnaire was 30 June 2018, although INCB continued to encourage earlier submission (30 April) to allow sufficient time for any necessary clarification of the information received.

14. As at 1 November 2018, a total of 120 States parties had submitted form D for 2017, up from 84 at 30 June 2018. While the submission rate as at 30 June was the highest in five years, the rate at the end of the reporting cycle was among the lowest in recent years. Sixty-six States parties to the 1988 Convention failed to submit form D for 2017.⁷ Of those, two (Gabon and Marshall Islands) have never submitted form D, and 32 have not done so in the past five years (see table). Comprehensive information about the submission of form D by all Governments is included in annex II.

15. INCB welcomes the fact that, of the States parties that failed to submit form D for more than one year in a row, Belize, Botswana and Qatar have resumed doing so. Four States parties submitted form D for the previous reporting cycle (calendar year 2016). INCB continues to be concerned about the number of incomplete or entirely blank forms it receives, about the fact that certain submitting authorities (often regulatory authorities) state that they do not receive seizure information from their law enforcement counterparts, and about the inability of Governments to determine whether or not there were any seizures. This situation continued to affect the Board’s analysis of regional and global precursor patterns and trends.

16. In 2017, 79 States parties reported seizures of substances included in Table I or Table II of the 1988 Convention (see figure I and, for further details, annex III). INCB regrets that, as in the past, few of those Governments supplemented their reports with the additional information required on seizures of substances not in Table I or Table II (51 Governments, or 43 per cent of all 120 submitting States parties) and on methods of diversion and illicit manufacture (32 Governments, or

⁶The latest version of form D is available on the INCB website in the six official languages of the United Nations.

⁷The Holy See and San Marino did not furnish form D separately as their data are included in the report of Italy. Similarly, the data for Liechtenstein are included in the report of Switzerland.

Table. States parties failing to report as required under article 12, paragraph 12, of the 1988 Convention, 2017

Antigua and Barbuda ^a	Libya ^a
Bahamas ^a	Madagascar
Barbados	Malawi ^a
Burkina Faso ^a	Mali
Burundi	Marshall Islands ^b
Cambodia	Mauritania
Cameroon	Mauritius ^a
Central African Republic ^a	Micronesia (Federated States of)
Chad	Mozambique
China	Namibia
Comoros ^a	Nauru ^a
Congo ^a	Niger ^a
Cook Islands ^a	Niue ^a
Côte d'Ivoire	Peru
Cuba ^a	Rwanda
Djibouti ^a	Saint Kitts and Nevis ^a
Dominica	Saint Vincent and the Grenadines
Eritrea ^a	Samoa ^a
Eswatini ^a	Sao Tome and Principe ^a
Ethiopia	Senegal
Fiji	Seychelles
Gabon ^b	Sierra Leone ^a
Gambia	Suriname ^a
Grenada ^a	The former Yugoslav Republic of Macedonia ^a
Guinea ^a	Timor-Leste
Guinea-Bissau ^a	Togo ^a
Guyana	Tonga ^a
Haiti	Turkmenistan
Iraq	Uganda
Kuwait	Vanuatu ^a
Kyrgyzstan	Viet Nam
Lesotho ^a	Yemen ^a
Liberia ^a	Zambia

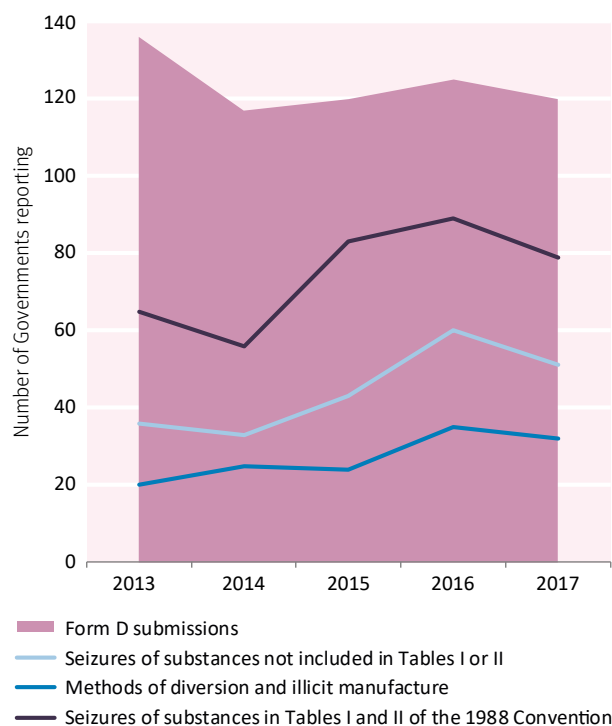
Note: See also annex II.

^aGovernment that failed to submit form D for any year during the period 2013–2017.

^bGovernment that has never submitted form D.

27 per cent). **INCB therefore urges all Governments that have effected seizures to collect and report that additional information, which is essential for determining emerging trends in trafficking in precursors and the underlying weaknesses in control measures. That knowledge, in turn, is essential for preventing future diversions worldwide.**

Figure I. Completeness of form D submissions by States parties to the 1988 Convention, 2013–2017



17. On form D for 2017, 14 Governments reported more than 200 stopped shipments, involving 15 chemicals in Table I and Table II. China reported having stopped 171 shipments totalling 67,500 tons of precursor chemicals.⁸ The majority of the shipments reported to INCB were stopped for administrative reasons. The stopped shipments that were actual diversion attempts are discussed in the relevant subsections of chapter III below. **INCB encourages Governments to ensure that stopped diversion attempts receive the same investigative attention that would be afforded to a seizure of the same substance, since such cases provide valuable intelligence that, if shared internationally, could prevent diversion elsewhere.**

D. Legislation and control measures

18. Establishing and strengthening appropriate national control measures constitutes the basis for effective monitoring of the movement of precursors both in international trade and domestic distribution. During the reporting period, the following changes in control measures have come to the attention of INCB.

19. In December 2017, the Government of the United Republic of Tanzania amended legislation to extend the

⁸China, *National Narcotics Control Commission, Annual Report on Drug Control in China 2018* (Beijing, 2018), p. 28.

powers of the Drug Control and Enforcement Authority to drug trafficking, including offences related to the diversion and illegal possession of precursors.

20. China scheduled five precursor chemicals in 2017, namely NPP, ANPP, bromine, 1-phenyl-1-propanone and chloroephedrine. The controls became effective on 1 February 2018. In addition, China issued a circular entitled “Strengthening the management of hydrogen cylinders and strictly preventing their diversion into drug manufacturing channels”.

21. The Russian Federation made a number of amendments to its catalogues of controlled precursors in decree No. 334 of 29 March 2018, effective 27 September 2018. Specifically, diphenylacetonitrile, a methadone precursor, was rescheduled from table III to table II of catalogue IV; NPP, ANPP and a few other precursors of fentanyl and fentanyl analogues were added to table I of catalogue IV; and thresholds for 1-phenyl-2-nitropropene, a pre-precursor of amphetamine and P-2-P, were removed.

22. On 19 June 2018, the Parliament of Botswana passed the Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 2018, which, among other things, provides the legal basis for the establishment of a drug enforcement agency and aligns national legislation with the 1988 Convention. The Act entered into force on 29 June 2018.

23. Effective 13 August 2018, Argentina placed a number of precursors under national control or surveillance, including NPP and ANPP; methamphetamine precursors and reagents, namely esters of phenylacetic acid, APAA, chloroephedrine, chloropseudoephedrine, nitromethane and red phosphorous; ergocristine, a possible precursor of lysergic acid diethylamide (LSD); and the MDMA pre-precursor 3,4-MDP-2-P methyl glycidate. All were placed on list I. Argentina reclassified toluene and hydriodic acid as list I substances, and placed sodium bicarbonate and potassium and sodium cyanide under surveillance.

24. Some countries informed the Board of amendments to their national legislations relating to other chemicals recently added to Table I of the 1988 Convention, namely ANPP and NPP, whose scheduling became effective on 18 October 2017, and APAAN, whose scheduling became effective on 9 October 2014. In many cases, contrary to the Convention, the amendments in question were made well after the effective dates.⁹ As at 1 November 2018, as far as the Board is aware, NPP and ANPP are under national

control in some 60 countries, more than a year after international controls became effective. **Therefore, the Board urges all Governments that have not already done so to introduce the required controls, and to inform it accordingly.**

25. In accordance with resolution 1992/29 of the Economic and Social Council, information on the systems of authorization Governments apply to the import and export of the substances in Table I and Table II of the 1988 Convention, as well as control measures applied to additional chemicals under national control, is available as part of the Board’s information package on the control of precursors, which competent national authorities can access on the Board’s secure website. To ensure that the INCB information package on the control of precursors is up to date at all times, **INCB encourages all Governments to inform it regularly of relevant changes to their national precursor legislation.**

26. During the reporting period, INCB received several requests for clarification of the scope of controls of the tables of the 1988 Convention. These requests related to (a) mixtures containing substances in Table I and Table II of that Convention, and (b) isotopic variants of substances in those tables. With regard to the control of mixtures, the Board wishes to reiterate its opinion expressed in its report on precursors for 2004,¹⁰ namely that the control measures over substances listed in the tables of the 1988 Convention should also be directly applicable to the following types of mixtures:

(a) Combinations where additional (unscheduled) ingredients are present solely as additives such as preservatives, anti-oxidants or stabilizers;

(b) Simple solutions of scheduled substances in the form of solutions;

(c) Combinations knowingly formulated to circumvent existing controls.

27. Governments are therefore encouraged, where appropriate, to apply the relevant controls to prevent traffickers from making use of mixtures containing substances listed in the tables of the 1988 Convention in the illicit manufacture of drugs.

28. With regard to isotopic variants of internationally controlled precursors, INCB wishes to recall the considerations related to narcotic drugs and psychotropic substances, for which the scope of control is considered to

⁹Pursuant to article 12, paragraph 6, of the 1988 Convention, a decision to include a chemical in the tables of that Convention becomes fully effective with respect to each party 180 days after the date of communication by the Secretary-General.

¹⁰See E/INCB/2004/4, paras. 45 and 46.

extend to all isotopic variants,¹¹ mainly because isotopically pure substances do not exist. Moreover, there is no evidence that isotopic variants of the same narcotic drug or psychotropic substance have different biological properties and, hence, no evidence for differences in their public health effects.

29. In that light, and given that isotopic variants of drugs are manufactured from the corresponding isotopic variants of their precursors, the same considerations apply to precursors, in particular those precursors that, in the manufacturing process, become incorporated, in full or in part, into the molecule of a narcotic drug or psychotropic substance. However, in addressing the issue from a practical standpoint, Governments are encouraged to consider economic aspects, in particular whether it is economically viable to illicitly manufacture drugs from isotopic variants of precursors that differ from the normal compound. Such considerations may apply, in particular, to solvents.

Action taken by Member States to implement the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem

30. In the report on action taken by Member States to implement the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem,¹² between 97 and 100 per cent of all responding Member States self-reported their active engagement in precursor control, the highest rate for any supply reduction activity.

31. That includes activities such as compiling lists of national companies authorized to manufacture, distribute and trade in precursors; the adoption of new measures with the collaboration of the industries concerned (e.g., disseminating lists of controlled substances to companies, establishing a code of conduct and developing guidelines for operators, and enacting legislation requiring companies to report transactions involving controlled substances); and post-seizure investigations to track the origin and conduct controlled deliveries of precursors.

32. Meanwhile, the proportion of Member States reporting that existing international cooperation in the control of precursors adequately met the requirements increased

¹¹Multilingual Dictionary of Narcotic Drugs and Psychotropic Substances under International Control (United Nations publication, Sales No. M.06.XI.16), pp. xviii and xvix.

¹²E/CN.7/2018/6.

from 85 to 93 per cent in the course of the several reporting cycles. Government reports specifically highlighted the utilization of the PEN Online system, which 98 per cent of responding Member States reported using in 2016, up from 86 per cent in the period 2010–2011. Between 45 and 50 per cent of the responding Member States reported taking measures to counter the use of substitute chemicals during the four cycles. However, such measures primarily consisted of placing new substances under national control.

E. Submission of data on licit trade in, uses of and requirements for precursors

33. In accordance with Economic and Social Council resolution 1995/20, INCB requests Governments to voluntarily provide data on licit trade in, uses of and requirements for substances listed in Table I and Table II of the 1988 Convention. Such data greatly enhance the ability of INCB and Governments to monitor regular trade, understand its underlying patterns, identify suspicious activity and prevent diversion.

34. As at 1 November 2018, the Governments of 115 States parties had reported data on the licit movement of substances included in Table I or Table II of the 1988 Convention and 109 Governments had furnished data on the licit uses of and/or requirements for one or more of those substances (see annex IV). **INCB wishes to thank all Governments that submitted form D and also furnished data on the licit movement of substances included in Table I or Table II of the 1988 Convention.**

F. Annual legitimate requirements for imports of precursors of amphetamine-type stimulants

35. In its resolution 49/3, the Commission on Narcotic Drugs requested Member States to provide INCB with annual estimates of their legitimate requirements for 3,4-MDP-2-P, pseudoephedrine, ephedrine and P-2-P and, to the extent possible, estimated requirements for imports of preparations containing those substances.

36. The estimated annual legitimate requirements for those substances, as reported by Governments and published by the Board, are available in annex V to the present report. Regular updates of the annual legitimate requirements are available on the website of the Board. By 1 November 2018, 166 Governments had provided at least one such estimate.

37. INCB and exporting countries use these estimates to put the size of proposed shipments of these substances into context. Often, estimates of annual legitimate requirements are the very first – and sometimes the only – tangible point of reference to assess the legitimacy of a proposed import.

38. INCB has, in past reports, requested Governments to ensure that the estimated annual legitimate requirements always reflect the most recent market conditions. On form D for 2017, more than 80 Governments reconfirmed or updated their estimates. However, a number of other Governments worldwide have not done so, some for several years. **INCB therefore again invites Governments to assess their annual legitimate requirements for individual precursors, to review their requirements as published on the Board's website and to inform the Board of any necessary changes. Such changes can be communicated to the Board throughout the year.**

39. INCB is concerned that there are still countries that have never submitted any estimates of their annual legitimate requirements, even though exporting countries have been notifying shipments to them through the PEN Online system, sometimes for substantial amounts. Countries where this discrepancy is apparent include Burundi, the Congo, Kuwait and the former Yugoslav Republic of Macedonia.

40. INCB has regularly requested Governments to inform it of methodologies that they have found useful in preparing estimates of their annual legitimate requirements for precursors. In 2017, in Nigeria, the National Agency for Food and Drug Administration and Control published national guidelines on the estimation of psychotropic substances and precursors. These guidelines outline steps and processes for all national stakeholders to follow so as to ensure that the assessment of the country's needs for psychotropic substances is realistic.

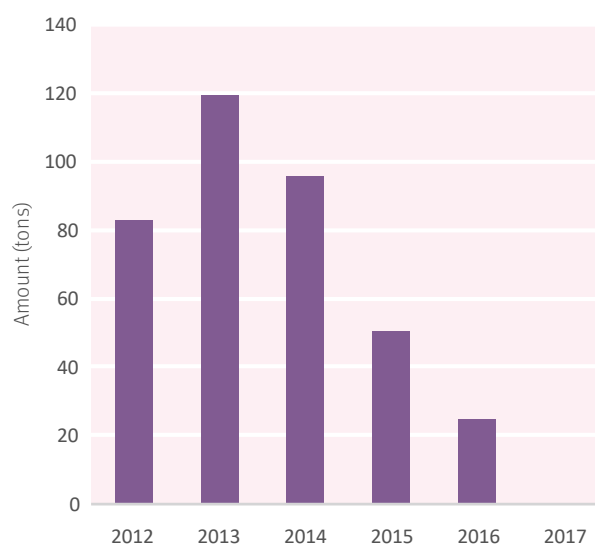
41. INCB is in the process of clarifying the proposed significant revisions of estimates provided by a number of countries, in particular with regard to ephedrine and pseudoephedrine and their preparations. The countries in question include Afghanistan, India, South Africa and Thailand.

42. The relatively high or strongly fluctuating estimated annual legitimate requirements for imports of ephedrine and pseudoephedrine in countries in West Asia remains an issue of concern. On form D for 2017, several countries submitted further increases in estimates or reversed past decreases. Those countries included Afghanistan, Iran (Islamic Republic of), Jordan, and Turkey. For Jordan,

there is the concern of exports to the Kurdistan region of Iraq (see para. 74 below). The estimates submitted by Afghanistan, in particular those for pseudoephedrine raw material, are to be seen against the backdrop of a limited pharmaceutical industry, as well as of several reports of illicit methamphetamine laboratories in that country. In the Islamic Republic of Iran, both the annual legitimate requirements for the import of pseudoephedrine and actual imports declined significantly over the period 2013–2015, although there have been signs of renewed increases in recent years. **INCB notes that accurate estimates of national needs and related import requirements remain key factors in preventing diversion. INCB encourages the competent authorities of exporting countries to use the published estimates of annual legitimate requirements of importing countries and suspend exports until initial doubts about their legitimacy have been dispelled or actual discrepancies have been removed.**

43. Annual legitimate requirements for the Syrian Arab Republic have not been revised since 2007. For pseudoephedrine they remain at the 50 tons initially submitted. However, the Government has extended the moratorium on the approval of pseudoephedrine imports for the third time, until the end of 2018.¹³ As in the past, INCB has disseminated information about the moratorium to competent national authorities worldwide. Imports of pseudoephedrine reported by the authorities on form D are shown in figure II.

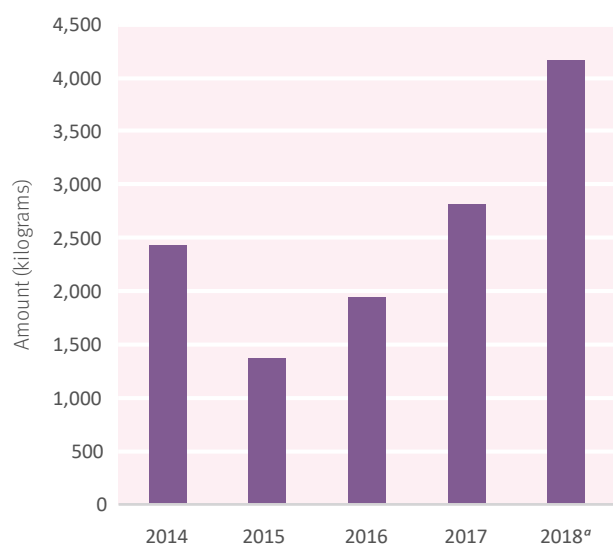
Figure II. Imports of pseudoephedrine reported on form D by the Syrian Arab Republic, 2012–2017



¹³E/INCB/2015/4, para. 71, E/INCB/2016/4, para. 30, and E/INCB/2017/4, para. 54.

44. Yemen is another country for which INCB has noted an increase in proposed pseudoephedrine shipments notified through the PEN Online system since 2015 (see figure III). INCB has encouraged the authorities of exporting countries to be more vigilant with pseudoephedrine shipments to Yemen, within the limits of their responsibility, and to ensure that the pseudoephedrine supply remains adequate while preventing diversion into illicit channels. The estimated annual legitimate requirement of Yemen for imports of pseudoephedrine, which have remained unchanged since 2013, amount to 5 tons, including 2 tons in the form of pharmaceutical preparations.

Figure III. Imports of pseudoephedrine into Yemen notified by exporting countries through the PEN Online system, 2014–2018



*First 10 months of 2018.

G. Pre-export notifications and utilization of the Pre-Export Notification Online system

45. One of the most effective measures to verify the legitimacy of transactions and detect and prevent diversions continues to be the real-time exchange of information between Governments of exporting and importing countries and territories about planned individual shipments of precursors. In that regard, the international precursor control system offers countries two complementary tools: invoking article 12, subparagraph 10 (a), of the 1988 Convention, which makes it mandatory for the exporting country to send pre-export notifications, and registering with the Board's PEN Online system to exchange pre-export notifications online and in real time. Upon receiving pre-export notifications, importing countries can verify the legitimacy of individual transactions and identify suspicious shipments.

1. Pre-export notifications

46. The number of Governments that have invoked article 12, subparagraph 10 (a), of the 1988 Convention continues to grow, albeit slowly. Since the Board's 2017 report on precursors, Bhutan has requested pre-export notifications for all substances in Table I and Table II of the 1988 Convention, thus bringing to 113 the number of Governments that have made use of that provision (see annex VI). However, as noted in past reports, in some regions, in particular Africa and Oceania, a majority of countries leaves it to the discretion of the authorities of exporting countries and territories to inform them of planned shipments of controlled precursors (see figure IV below). **The Board encourages all Governments to invoke their right to be notified of all precursor exports destined for their territory and especially urges Governments that experience difficulties in monitoring imports of controlled chemicals to officially request such notifications.**

2. Pre-Export Notification Online system

47. Governments are encouraged to register with the PEN Online system, the Board's automated online system for exchanging pre-export notifications. By registering, Governments ensure that they receive information in real time about all planned shipments of chemicals destined for their territory before those shipments leave the exporting country.

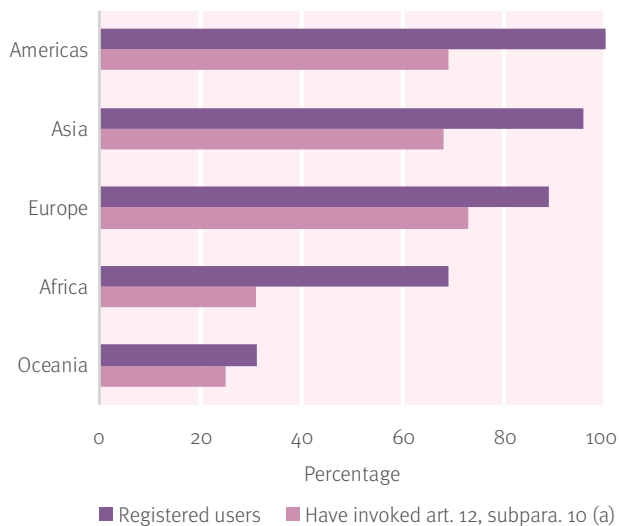
48. As the PEN Online system allows for the immediate analysis of trade data and direct follow-up communication between authorities, it has established itself as the only global system for monitoring international legitimate trade in controlled precursors. Currently, 162 exporting and importing countries and territories are authorized to access the PEN Online system. That number includes Botswana, Cameroon, the Democratic Republic of the Congo, Somalia and Togo, which have been registered since 1 November 2017. **The Board encourages the remaining 35 Governments to register without delay.¹⁴ The Board would once again like to remind Governments that by registering as users of the PEN Online system, they do not automatically invoke article 12, subparagraph 10 (a),**

¹⁴Those countries are: Angola, Antigua and Barbuda, Central African Republic, Comoros, Democratic People's Republic of Korea, Djibouti, Dominica, Equatorial Guinea, Eswatini, Fiji, Gabon, Guinea, Guinea-Bissau, Guyana, Kiribati, Lesotho, Liberia, Malawi, Mauritania, Monaco, Mongolia, Mozambique, Nauru, Niger, Palau, Papua New Guinea, Saint Kitts and Nevis, Samoa, San Marino, Sao Tome and Principe, the former Yugoslav Republic of Macedonia, Tonga, Turkmenistan, Tuvalu, and Vanuatu.

or vice versa. The Board furthermore reminds importing Governments that exporting authorities are not obliged to send pre-export notifications, unless the importing party has officially requested them to do so.

49. In Africa and Oceania, few countries have invoked article 12, subparagraph 10 (a), and few are registered as users of the PEN Online system. While in Europe, Asia and the Americas between 89 and 100 per cent of the countries are registered, in Africa that number is only 69 per cent and in Oceania 31 per cent (see figure IV).

Figure IV. Governments registered as users of the PEN Online system and having invoked article 12, subparagraph 10 (a) of the 1988 Convention, by region, as at 1 November 2018



50. Since the cut-off date for the Board's 2017 report on precursors, more than 35,000 pre-export notifications have been submitted using the PEN Online system. However, monitoring international transactions cannot work as a means to prevent diversion unless those notifications are acted on by the importing countries and any

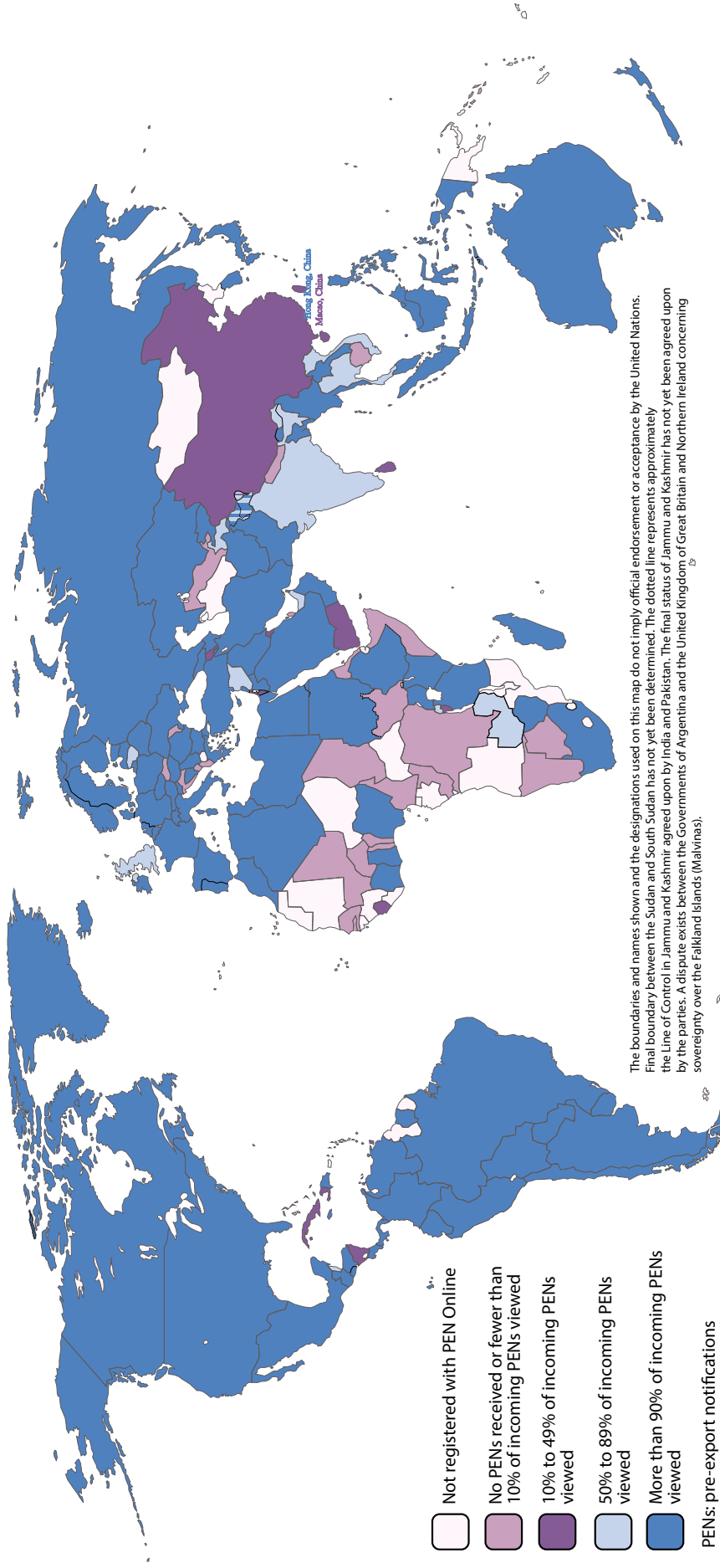
feedback they provide is taken into consideration by the exporting countries.

51. Specifically, the authority of the importing country should examine whether a transaction is legitimate as soon as it receives the pre-export notification in question. The importing authority should give immediate feedback to the exporting country if it objects to the proposed import, or at least well within the response date set by the authority of the exporting country, so as not to impede or delay legitimate trade. A timely response makes it possible to stop an unwanted consignment before it is exported and launch an investigation or arrange a controlled delivery.

52. Over the past few years, an average of about 6 per cent of proposed exports was objected to by the authorities of importing countries. As before, many of those objections were raised for administrative reasons. It is often unclear whether proposed shipments that are objected to are later released or not. To avoid unnecessary administrative objections and delays in shipments, **INCB reiterates its recommendation to share all available details about a planned shipment, including authorization numbers, under the relevant sections of the online pre-export notification form in the PEN Online system.**

53. It is fundamental for the PEN Online system that notifications are submitted on time and that feedback is given. INCB is pleased with the number of registered Governments that view pre-export notifications received through the system. Nonetheless, there is room for improvement in that regard, especially in certain regions (see map 1). **The Board urges importing Governments that have registered with the PEN Online system to make active use of the system for every transaction involving precursors and to respond to the exporting authority in a timely manner. If more time is needed to verify a particular transaction, the competent authority of the importing country should inform the exporting country using the system's conversation tool and ask it to delay the delivery of the shipment pending the outcome.**

Map 1. Active use of the PEN Online system, by percentage of pre-export notifications viewed, 2017



54. Pharmaceutical preparations containing ephedrine or pseudoephedrine remain an issue of concern. That said, a growing number of Governments voluntarily send pre-export notifications regarding such preparations to importing countries. INCB and the Commission on Narcotic Drugs recommend treating those preparations in the same manner as the precursors they contain.¹⁵ In the period 2016–2018, pre-export notifications for pharmaceutical preparations accounted for 65 per cent of the transactions in international trade involving ephedrine and pseudoephedrine (see also para. 73 below). At the same time, imports of pharmaceutical preparations continue to exceed actual needs in some countries and regions. The preparations in question, including those diverted domestically, remain a source of ephedrines used in the illicit manufacture of drugs. In the absence of clear national regulations, competent national authorities sometimes face difficulties objecting to exports, even when those exports are suspicious.

H. Other activities and achievements in international precursor control

1. Project Prism and Project Cohesion

55. Steered by the INCB Precursors Task Force, Project Prism and Project Cohesion continued to serve as the framework for international cooperation in matters related to trafficking in chemicals used in the illicit manufacture of drugs, specifically synthetic drugs (Project Prism) and heroin and cocaine (Project Cohesion). Under those two projects, the success of case cooperation at the operational level critically depends on rapid and direct communication between the authorities concerned. **Therefore, INCB encourages all Governments to review the contact lists available on the secure website and ensure that the details of their focal points for Project Prism and Project Cohesion are up to date. INCB also encourages Governments to participate actively in activities under the two projects, and to provide feedback and timely responses to enquiries by the Board and by other project participants.**¹⁶

56. During the reporting period, the INCB Precursors Task Force coordinated a survey on specialized equipment used in the illicit manufacture of synthetic drugs. The survey was conducted in April and May of 2018 among all

focal points for Project Prism, Project Cohesion and Project Ion. The purpose was to gather recent information about: (a) the types of equipment most frequently encountered in the illicit manufacture, including tableting, of synthetic drugs, precursors and new psychoactive substances; and (b) the legislative basis for authorities' activities directed at equipment within and between countries, and the extent of those activities. The survey was intended to provide a basis for global approaches and measures to counter the unlawful supply of equipment, such as targeted, time-limited operations and other collaborative, global efforts to prevent key materials and equipment from reaching illicit laboratories and to trace their sources to prevent future supplies from those sources. Forty responses were received that provided insights into the numbers and types of equipment incidents in a wide range of countries.

57. A further purpose of the survey on specialized equipment was to explore whether article 13 of the 1988 Convention could be capitalized on as a complementary tool to disrupt the illicit supply of drugs. Article 13 requires Governments to take such measures as they deem appropriate to prevent trade in and the diversion of materials and equipment for illicit production or manufacture of narcotic drugs and psychotropic substances and to cooperate to that end. Given that retail processing operations, such as tableting, often occur closer to consumer markets, away from the countries and regions where the drugs have been illicitly synthesized, the investigation of equipment incidents shows promise as a complementary tool to disrupt the illicit supply of drugs.

58. In April 2018, under Project Cohesion, INCB convened a closed, operational case meeting on trafficking in acetic anhydride. The meeting was attended by case officers from Afghanistan, Pakistan, Poland, the United Arab Emirates and the United Republic of Tanzania, as well as by representatives of the Gulf Cooperation Council and the United Nations Office on Drugs and Crime. The participants identified commonalities between several cases in Africa, the Middle East and Asia. Similar *modi operandi* are still being encountered, suggesting that the criminal organizations behind those cases are still active and attempting to secure supplies of acetic anhydride. The meeting confirmed previously identified deficiencies in national precursor control systems and challenges in operational case cooperation that continued to prevent criminal activities from being investigated and prosecuted to the fullest extent possible (see box 4 below).¹⁷

59. The focal points for Project Prism and Project Cohesion received the second global survey on illicit

¹⁵See, for example, E/INCB/2016/4, para. 72, and Commission on Narcotic Drugs resolution 54/8.

¹⁶A summary of minimum action for international cooperation under Project Prism and Project Cohesion is available in the INCB 2015 report on precursors (E/INCB/2015/4), box 2 (p. 9).

¹⁷E/INCB/2017/4, para. 58.

synthetic opioids and their precursors. It was aimed at gathering updated information on the sources and modi operandi used by traffickers to obtain illicitly manufactured fentanyl and fentanyl analogues, other opioid-type new psychoactive substances and related precursors. The survey had been conducted jointly by the INCB Precursors Task Force and the INCB New Psychoactive Substances Task Force.

60. Communication among focal points for the two projects continued to be supported by PICS on an ongoing basis (see paras. 62–64 below). In addition, as in the past, focal points were being sent special alerts about suspicious shipments, diversions and attempted diversions, newly emerging precursors and other major trends in precursor trafficking. During the reporting period, eight such alerts were issued.

61. The INCB Precursors Task Force met twice in 2018, once in March and once in October, to discuss progress and plan future activities. The Task Force also held a side event during the sixty-first session of the Commission on Narcotic Drugs, at which selected Task Force members gave presentations about flexible approaches to drug precursor control. Those included the “catch-all” provision in force in the European Union, voluntary cooperation with industry in Germany, the experience of the United States of America with regulatory measures to reduce the administrative burden (e.g., the use of thresholds and the practice of excluding transactions), and measures to cope with non-scheduled precursor chemicals in China.

2. Precursors Incident Communication System

62. PICS continues to offer registered users a platform for the real-time exchange of information on incidents involving substances in Table I and Table II of the 1988 Convention and substances not under international control. Incidents include seizures, shipments stopped in transit and dismantled illicit laboratories. A growing number of users enter details about modi operandi and other operationally relevant information in the free text fields of the system. INCB continued to act as moderator and facilitator, establishing direct contact between competent authorities to exchange information on specific incidents and, where sufficient information was available, pointing them to possible links between incidents that appeared to make up isolated cases. As a result, PICS has provided national authorities with leads that enabled them to initiate backtracking investigations and, on several occasions, to conduct further seizures or prevent diversion attempts because details of precursor incidents had been communicated in a timely manner.

63. As at 1 November 2018, PICS had registered users from 109 countries and territories, representing nearly 250 agencies.¹⁸ More than 2,300 incidents had been communicated through PICS since its establishment in 2012. Those incidents involved more than 30 countries and territories each year.

64. As a platform for the global exchange of actionable information, PICS provides a means to profile trafficking cases (see box 1). Actionable information includes routing information (i.e., information about source, transit and destination), company information, relevant documentation and the false names or descriptions used to disguise the identity of the chemicals involved. PICS offers various level of detail. Where available, the information shared may include the type of location where the incident occurred, for example an illicit laboratory or the border, or it may merely refer to a suspicious supply request. The most detailed actionable information that may be shared are the names of the companies involved in the trafficking, the methods of diversion and other modi operandi. In addition to being a platform for profiling trafficking cases, PICS serves as an early-warning mechanism for new non-scheduled precursor chemicals. On average, about 25 per cent of all chemicals mentioned in PICS communications in a given year appeared in the system for the first time.

3. Voluntary cooperation with industry

65. INCB has repeatedly highlighted the central role of public-private partnerships and voluntary cooperation with industry as an effective strategy to confront chemical diversion. This role was also highlighted in the outcome document of the thirtieth special session of the General Assembly on the world drug problem, entitled “Our joint commitment to effectively addressing and countering the world drug problem”, as well as in the available tools, in particular the INCB *Guidelines for a Voluntary Code of Practice for the Chemical Industry*. To facilitate the implementation of the Guidelines, INCB has issued a set of practical notes, a quick guide and a model memorandum of understanding for use by Governments and the chemical industry as a basis to develop or enhance voluntary partnerships. Another important tool in the voluntary cooperation with industry is the INCB limited international special surveillance list of non-scheduled substances, which contains substitute chemicals encountered in illicit markets, and chemical descriptions of series of chemically related substances that can easily be converted into controlled precursors. All these tools are available on

¹⁸Governments that have not yet registered PICS focal points for their national authorities involved in precursor control may request an account by writing to incb.pics@un.org.

Box 1. Use of PICS to profile trafficking in acetic anhydride

Thanks to the gradual growth in both the quantity and the quality of the information communicated through PICS, it is now possible to analyse the *modi operandi* used by traffickers of acetic anhydride. The information indicates that traffickers most often conceal acetic anhydride contraband in second-hand cars and spare car parts. The second most frequently used commodities are various liquids used for the operation and maintenance of motor vehicles, such as motor oils, anti-freeze liquids and windshield cleaners.

In January 2016, Pakistan provided first-time evidence of glacial acetic acid being used, as a cover load or otherwise, to disguise trafficking in acetic anhydride. Since then, several countries, including Afghanistan, Czechia, Iran (Islamic Republic of), the Netherlands, Turkey, the United Arab Emirates and the United Republic of Tanzania, have communicated incidents involving glacial acetic acid alone, acetic anhydride transported along with or declared as glacial acetic acid, or attempts by dubious buyers to purchase both glacial acetic acid and acetic anhydride. **National competent authorities are advised to be vigilant regarding shipments declared as acetic acid or glacial acetic acid, in particular if those shipments are destined for countries in West Asia, and to make efforts to verify the nature of the substance being shipped.**

Afghanistan and the Netherlands are among the most active users of PICS, having shared through the system or other communication channels information about seizures of acetic anhydride on their territories, including pictures of labels found on jerrycans traffickers had used to conceal acetic anhydride. The same labels were then found in other countries, which made it possible to establish links between cases that had previously appeared to be isolated. In one particular case, pictures of a seizure of acetic anhydride were shared in a timely manner, which led to another seizure of a similar shipment. When links between two or more seizures are identified, INCB, in cooperation with the countries that conducted the seizures, disseminates the information to other countries using Project Cohesion alerts.

the secure website of INCB and will be sent to competent national authorities upon request. **INCB would again like to remind Governments that traffickers may approach legitimate industry actors with enquiries about the customized synthesis of non-scheduled chemicals and that those actors need to be alerted to that possibility.**

66. INCB has highlighted for some time that voluntary cooperation should not be limited to the chemical industry, but should extend to manufacturers of pharmaceuticals, flavours and fragrances, fine chemicals and other relevant products alike, as well as to the transportation and distribution sectors, including shipping and courier companies. The Board has also voiced its view that industry should voluntarily report to the authorities any suspicious activity along the supply chain, from enquiries and requests for supplies to actual orders, to enable the authorities to investigate the source of the requests or orders and prevent “company shopping”, i.e., the shifting from one supplier to another. To avoid company shopping across borders, it is important that INCB is alerted as well. These observations apply to both controlled and non-scheduled chemicals.

67. The information INCB has about the level of voluntary partnerships worldwide is incomplete. For example, China has reported that it has checked the activities of 14,000 companies in 2017.¹⁹ Within the European Union, whose legislation provides for cooperation with industry, France and Germany appear to have particularly well-established partnerships. As far as INCB is aware, France is one of the few countries with a partnership that expressly extends to non-scheduled substances.

68. Since 2016, INCB has encouraged the twinning between Governments that have established public-private partnerships and those that wish to develop or enhance such partnerships. **In that regard, the Board commends the cooperation of authorities in France and Switzerland with, for example, the United Republic of Tanzania.**

¹⁹ *Annual Report on Drug Control in China 2018*, p. 28.

III. Extent of licit trade and latest trends in trafficking in precursors

69. The present chapter is based primarily on data provided by Governments on form D and through the PEN Online system. Other sources of information include national reports, Project Prism, Project Cohesion and PICS. The analysis covers the period up to 1 November 2018.

70. Information about chemicals not included in Table I or Table II of the 1988 Convention but nonetheless used in the illicit manufacture of controlled drugs is shared with INCB pursuant to article 12, subparagraph 12 (b), of that Convention. While such reporting is mandatory, Governments have some leeway in what they consider “sufficiently significant to be brought to the attention of the Board”. In addition, the identification of non-scheduled chemicals presents challenges in that products found in clandestine laboratories often lack labelling and that smuggled consignments are often mislabelled and/or misdeclared. In addition, there are forensic challenges. **Nevertheless, INCB would like to remind Governments that comprehensive reporting on form D of information regarding non-scheduled substances and of circumstantial information is critical to establishing trends. Without the sharing of such information, new trends in precursor trafficking and illicit drug manufacture cannot be identified and addressed at an early stage and globally.**

A. Substances used in the illicit manufacture of amphetamine-type stimulants

1. Substances used in the illicit manufacture of amphetamines

71. Ephedrine and pseudoephedrine are precursors used in the illicit manufacture of methamphetamine. They also account for a significant proportion of legitimate trade in substances included in Table I of the 1988 Convention in the form of both raw materials and pharmaceutical preparations. As alternative methamphetamine precursors criminal groups may use P-2-P, phenylacetic acid, APAAN and a number of non-scheduled substances, although those are more often associated with the illicit manufacture of amphetamine (see also paras. 116–129 and annex VIII).

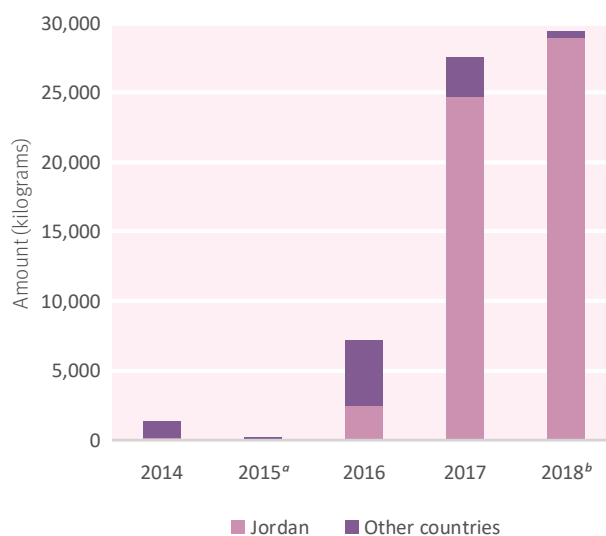
(a) Ephedrine and pseudoephedrine

Licit trade

72. During the reporting period, details regarding 5,200 planned shipments of ephedrine and pseudoephedrine were submitted through the PEN Online system. The shipments consisted of approximately 1,220 tons of pseudoephedrine and almost 100 tons of ephedrine. As in the past, India was the largest exporter in terms of volume, followed by Germany. The largest importer was the United States, followed by Switzerland. In total, shipments originated in 43 exporting countries and territories and were destined for 173 importing countries and territories.

73. Of all pre-export notifications, 35 per cent involved ephedrine and pseudoephedrine in bulk and 65 per cent involved pharmaceutical preparations. In 2017, of all shipments in the form of pharmaceutical preparations (about 260 tons), about 30 per cent were proposed imports for countries in West Asia and another 30 per cent for countries in Western and Central Europe, followed by 20 per cent for countries in North America, 10 per cent for countries in Africa, 5 per cent for countries in East and South-East Asia and another 5 per cent for countries in South America. Within West Asia, in the past few years, INCB has noted a substantial increase in the number of proposed exports to Iraq of pharmaceutical preparations containing pseudoephedrine. The main source is Jordan (see figure V).

Figure V. Amounts of preparations containing pseudoephedrine notified through the PEN Online system for export to Iraq, 2014–2018



^aNo data available for Jordan.

^bFirst 10 months of 2018.

74. The competent national authority of Iraq systematically objects to proposed exports destined for the Kurdistan region of the country that are notified through the PEN Online system. In the past, INCB has expressed concern at the risk that traffickers exploit the lack of effective governmental control of certain territories in order to divert precursors. **INCB urges all Governments concerned to make every effort to address loopholes of this kind in international precursor control efforts.**

75. The situation is further complicated by the fact that pharmaceutical preparations containing pseudoephedrine or other controlled precursors are not under international control and that the sending of pre-export notifications for such preparations, although highly recommended,²⁰ is not mandatory. It will therefore be particularly important to gather information and hard evidence to prove any diversion and actual use of a particular pharmaceutical product in the illicit manufacture of drugs and provide the authorities of the countries concerned with a factual basis to deny shipments of such products. As in similar situations in the past, for example, in relation to the alleged end-use of P-2-P in a cleaning product, chemical analysis of the final product could be particularly useful.²¹

76. No thefts of ephedrine or pseudoephedrine were reported on form D for 2017.

Trafficking

77. Use of ephedrines in the illicit manufacture of methamphetamine is predominant in Asia and Oceania, in Africa and in some regions in Europe. In North America, the bulk of illicitly manufactured methamphetamine is made using P-2-P-based methods.

East and South-East Asia

78. On form D for 2017, Thailand reported the second-largest amount of pseudoephedrine preparations ever seized in that country in one year, totalling more than 1.1 tons. The largest amount ever seized in one year had been reported for 2016 (more than 3.8 tons). Unfortunately, no additional information was available that could have helped to contextualize the amount, such as the sources of the preparations and the methods of diversion. In addition to Thailand, five countries in East and South-East Asia reported seizures of ephedrines and their preparations. Together with seizures in Thailand and Myanmar (420 kg), the total added up to about 2 tons, the lowest amount reported in a decade. This was explained in part by the fact

²⁰See, for example, resolution 54/8 of the Commission on Narcotic Drugs.

²¹See E/INCB/2011/4, para. 70.

that no form D was received from several countries in the region, and in part by a decrease in the size of reported seizures. In its annual report, China reported seizures of 68.5 tons of ephedrine.²²

79. INCB has previously expressed its concern at the discrepancy between the low number of seizures of methamphetamine precursors and the limited amounts seized on the one hand, and seizures reported for methamphetamine end-product (both crystalline methamphetamine and methamphetamine tablets) on the other.²³ That situation has not improved. For example, if all methamphetamine reported seized in East and South-East Asia²⁴ were to have been manufactured from either ephedrine or pseudoephedrine, an average of about 70 tons per year of either substance would have been required for the period 2014–2016. Reported seizures during that period amounted to an average of less than 25 tons per year; they were even lower in 2017 despite a further increase in methamphetamine seizures. At the same time, with the exception of China and to some extent the Philippines, no country in the region has ever reported any notable seizures of substitute chemicals. In 2017, the first indications were found that non-scheduled P-2-P pre-precursors, in particular APAA, had become available for the illicit manufacture of methamphetamine in the Golden Triangle area (see para. 118 below).

80. Given the continuously increasing amounts of methamphetamine seized, the exacerbation of the methamphetamine problem in East and South-East Asia, the scarcity of information about precursor incidents – including about the extent of backtracking investigations and their outcomes – and the limited response the Board receives to its enquiries about this issue, **INCB once again calls on the countries concerned to fulfil their obligations under the 1988 Convention and cooperate with each other and the Board to identify the type and sources of precursors, address their diversion and use in the illicit manufacture of methamphetamine, and allow for related criminal activities to be fully investigated and prosecuted. INCB also calls on the United Nations Office on Drugs and Crime and countries that provide technical assistance and mentoring to countries in East and South-East Asia, to support those efforts and improve the overall**

²²Annual Report on Drug Control in China 2018, p. 24.

²³See E/INCB/2016/4, para. 61 and E/INCB/2017/4, paras. 80–82.

²⁴World Drug Report 2018: Analysis of Drug Markets—Opiates, Cocaine, Cannabis, Synthetic Drugs (United Nations publication, Sales No. E.18.XI.9 (Booklet 3)), three-year average over the period 2014–2016. There are indications that seizures and the availability of methamphetamine in the region, in particular in the countries participating in the Safe Mekong Initiative, have meanwhile significantly increased. However, information about the precursors involved, as well as about their sources, remains wholly insufficient.

capacity in the region to prevent the diversion of precursors and investigate cases related to the diversion of precursors.

81. While many countries in East and South-East Asia share very limited information on precursors and their sources on form D, INCB is aware that clandestine methamphetamine laboratories of varying size and capacity have been dismantled in Malaysia, Myanmar and the Republic of Korea.

West Asia

82. The situation with regard to precursors of methamphetamine in West Asia continues to be unclear, and insufficient information has been provided to enable INCB to assess it. With the exception of the Islamic Republic of Iran for 2010 and 2011, countries in the region have consistently reported low amounts of ephedrines seized on form D. For 2017, the amount was less than 50 grams in the entire region, all of it seized in Georgia. In 2018, a seizure in Afghanistan of 50 kg of pseudoephedrine was communicated through PICS. INCB is also aware of seizures in Afghanistan in 2018 of locally grown ephedra, a new development that deserves close monitoring. According to media reports, there has also been a seizure of one ton of unspecified methamphetamine precursors in the north-western part of the Islamic Republic of Iran in late December 2017.

83. By forensically analysing samples of street methamphetamine, authorities can obtain evidence indicating the specific precursors used in its illicit manufacture. To shed light on the situation, INCB regularly requests information from Governments of countries for which such analyses have been conducted. The scientific literature provides evidence that the illicit manufacturing methods and related precursor requirements in the Islamic Republic of Iran are diversifying. In particular, INCB is aware of three studies conducted on samples of street methamphetamine in 2010,²⁵ in 2012 and 2013 (Tehran)²⁶ and in 2014 (western part of the country).²⁷ These studies suggest that, in addition to the traditional methods, whose starting materials are ephedrine, pseudoephedrine or preparations containing those substances, P-2-P-based methods, in particular the Leuckart method, may have been gaining in importance.

²⁵ Ali Reza Khajeamiri and others, "Determination of impurities in illicit methamphetamine samples seized in Iran", *Forensic Science International*, vol. 217, Nos. 1–3 (April 2012), pp. 204–206.

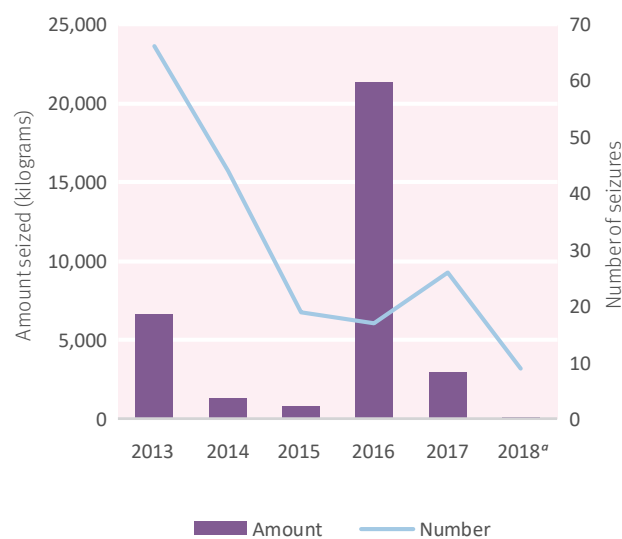
²⁶ Ahmad Shekari and others, "Impurity characteristics of street methamphetamine crystals seized in Tehran, Iran", *Journal of Substance Use*, vol. 21, No. 5 (January 2016), pp. 501–505.

²⁷ Neda Amini, Afshar Etemadi-Alegha and Maryam Akhgari, "Impurity profiling of street methamphetamine samples seized in Kermanshah, Iran, with special focus on methamphetamine impurities health hazards", *Journal of Clinical Toxicology*, vol. 5, No. 4 (July 2015).

South Asia

84. For 2017 as for previous years, India was the only country that reported seizures of ephedrines on form D (see figure VI). India reported 15 incidents that together amounted to 1.1 tons of preparations containing ephedrine, about 5 per cent of the record seizures of 2016. In addition, there were 11 incidents involving a total of 1.9 tons of preparations containing pseudoephedrine.

Figure VI Seizures of ephedrine and pseudoephedrine (combined), reported by India on form D and in national reports, 2013–2018



^aJanuary–August 2018.

85. Notable seizures in 2017 included 260 kg of ephedrine manufactured in a clandestine laboratory on the premises of a chemical supplier in the southern Indian state of Karnataka. In another instance, 179 kg of ephedrine were seized in an illicit laboratory in Hyderabad. INCB understands that the ephedrine was found at a chemical factory in an industrial part of the city that the suspects had leased for 15 days by providing false information to the owner. According to Indian authorities,²⁸ south India (mainly Bangalore, Hyderabad and Chennai) is a major centre for trafficking in ephedrines to other countries, mainly through the airports of Delhi, Chennai, Cochin and Bangalore. Malaysia is the main destination country, followed by countries in Africa including South Africa and Zambia. Trafficking in ephedrines across the border between India and Myanmar is linked with reverse trafficking in methamphetamine.

²⁸ India, Ministry of Home Affairs, Narcotics Control Bureau, *Annual Report 2017* (New Delhi, n.d.), p. 35.

86. Media reports suggest that the recent increase in the illicit manufacture of methamphetamine in India is linked to international criminal groups. The same reports suggest that the manufacturing takes place in the Mumbai area, with the possible involvement of pharmaceutical companies in the west Indian states of Maharashtra and Gujarat. Another manufacturing area is south India. Much of the methamphetamine is smuggled abroad, often to destinations in South-East Asia, Oceania, Europe and Africa. The laboratories are supplied with ephedrine and pseudoephedrine diverted from within India. The situation in India is a reflection of the illicit market economy, with organized criminal groups moving their laboratories between countries and regions depending on their access to key precursor chemicals and the risk of detection.

87. Also in India, in June 2018, authorities disposed of more than 20 tons of ephedrine and 2.5 tons of acetic anhydride in what is considered to be the biggest drug disposal event to date. The chemicals had been seized from a pharmaceutical company in Solapur and in other locations in the west Indian states of Maharashtra and Gujarat more than two years earlier.

88. In 2018, India continued to communicate seizures of ephedrines through PICS. As in the past, the seizures represented small amounts, typically less than 10 kg, which were destined for countries in Africa and East and South-East Asia. In one incident, the destination was Oman. One notable incident involved reverse trafficking in 123 kg of pseudoephedrine from Myanmar to India.

Oceania

89. Australia reported its largest ever ephedrine seizures on form D for 2017, amounting to almost 6 tons. When looked at by number, the vast majority of the shipments seized, more than 80 per cent, had originated in China, including Hong Kong, China. By amount, nearly two-thirds had entered Australia from Thailand, including a single seizure of 3.9 tons of liquid ephedrine in bottles labelled as iced tea. Depending on the concentration of ephedrine in the liquid, the amount involved in that seizure could have been used to produce an estimated 900 kg to 3,600 kg of methamphetamine. By contrast, authorities in Australia seized less than 150 kg of pseudoephedrine, with the bulk reportedly originating in the Republic of Korea. This confirms the shift observed earlier from pseudoephedrine to ephedrine, which is probably linked to the emergence of ephedrine illicitly manufactured in China using the 2-bromopropiophenone method.

90. Reported seizures in New Zealand amounted to about 560 kg of ephedrine and 25 kg of pseudoephedrine.

This continued the shift from pseudoephedrine to ephedrine observed since 2014, but, compared with 2016, represented a sizeable decrease in the frequency and amount of ephedrine seizures both at the border and inside the country. By weight, most ephedrine of which the origin could be determined had originated in China. However, there are indications of an increase in trans-shipments, presumably to disguise the actual geographical source. Specifically, the New Zealand Customs Service observed an increase in both the frequency and the amounts involved in seizures from the United Kingdom of Great Britain and Northern Ireland. In March 2018, the United Kingdom made up nearly 40 per cent of ephedrine seizures by weight, up from 26 per cent in the same period in 2017.

91. With 79 clandestine laboratories dismantled in New Zealand in 2017, the illicit manufacture of methamphetamine remained at levels comparable to the previous five years. In addition to ephedrine, the most common precursor chemicals seized were iodine and hypophosphorous acid. Since 2014, when ephedrine, rather than pseudoephedrine, became the main precursor seized at the border, the price of ephedrine on the black market has barely fluctuated. This continued to make the domestic manufacture of methamphetamine from ephedrine a lucrative business for suppliers, even though the risk and effort involved appeared to make it more attractive for criminals to import methamphetamine as a finished product. In 2018, seizures of ephedrine and pseudoephedrine again showed an upward trend; there were indications that the amounts might surpass those of 2017.

Africa

92. In the past five years, seizures of ephedrines larger than 100 kg were reported on form D by only three countries in Africa: Benin, Nigeria and Zimbabwe. Nigeria also reported cases of illicit methamphetamine manufacture on its territory. Illicit manufacture typically started from ephedrine, although in 2016, an industrial-scale illicit laboratory was dismantled at which the so-called nitrostyrene method had been used (see para. 126–129 below).

93. Nigeria reported no ephedrine seizures on form D for 2017. However, nine incidents were communicated through PICS, each involving between 3 kg and 25 kg of ephedrine. As in the past, most seizures in 2017 involved ephedrine intended for South Africa. In 2018, however, Mozambique was the destination cited most frequently. Moreover, Nigeria made seizures of methamphetamine whose alleged origin was also Mozambique. These facts further indicate that methamphetamine is possibly being manufactured illicitly in that country. In addition, intelligence suggests that Nigerian nationals may be operating

illicit methamphetamine laboratories in Mozambique and South Africa. Within Nigeria, three illicit methamphetamine laboratories were dismantled in the first 10 months of 2018. Although no ephedrine was recovered, the other chemicals found suggested that ephedrine-based manufacturing methods had been used.

94. In Nigeria, the authorities have developed a methodology to estimate the country's legitimate needs for ephedrine (see also para. 40 above), on the basis of which they have determined that the quantities imported in the past exceeded legitimate needs. The authorities therefore expect legitimate imports to decrease. The illicit market will likely adapt to the new situation; new precursor trafficking routes are likely to emerge, and ephedrine is likely to be smuggled into Nigeria from other countries in West Africa. **INCB encourages the authorities of countries in West Africa to share experiences and best practices to prevent diversion schemes from repeating themselves and to deny traffickers access to the precursors they require. Specifically, INCB encourages the Nigerian authorities to share with interested countries their methodology for estimating legitimate needs, as well as known *modi operandi* and ephedrine diversion schemes used by traffickers.**

95. In 2017, Benin reported seizures totalling more than 150 kg of preparations containing ephedrine, about half the amount reported for 2016; information on the sources of the products was not provided. The last incident in Benin that INCB is aware of was communicated through PICS in mid-2013 and involved 226 kg of ephedrine allegedly originating in China and destined for Nigeria.

Europe

96. In 2017, the situation in Europe remained unchanged compared with 2015 and 2016, with only very small amounts of ephedrine, pseudoephedrine and their preparations having been seized. Seizures were reported by 15 countries and totalled around 40 kg of ephedrine and 50 kg of pseudoephedrine, including in the form of preparations containing them. Where such information was provided, the origin of the seized substances lay, with few exceptions, within Europe. This contrasts with the situation that existed some years ago, when Turkey was frequently alleged to be the origin, and suggests that the controls implemented in Turkey are having the desired effect.²⁹

97. Within Europe, Czechia is the country with the longest history of illicit methamphetamine manufacture. On form D for 2017, a total of 264 illicit methamphetamine

laboratories were reported dismantled, about the same number as in 2016. Laboratories in Czechia are typically small and their supply is intended for local consumption. They use pseudoephedrine extracted from preparations smuggled from abroad, mainly from or through Poland. In 2017, about 30 kg of preparations containing pseudoephedrine were reported seized. At the same time, the authorities noted an increase in large-scale facilities with an estimated annual capacity of 10 to 12 tons of methamphetamine; such facilities were reported to involve Vietnamese organized criminal groups that manufactured methamphetamine for a larger regional market. Another trend observed by authorities in Czechia in 2017 was that the illicit manufacture of methamphetamine shifted across the border into neighbouring Poland and Germany, as well as to the Netherlands. INCB is also aware of the dismantling of illicit methamphetamine laboratories in Slovakia, including a laboratory of considerable capacity that was dismantled in 2018.

Americas

98. Notable seizures of ephedrines in the Americas in 2017 were once again limited to the United States. Authorities in that country seized about 200 kg in total, of which 97 per cent was pseudoephedrine. Information from the United States confirms that the illicit domestic manufacture of methamphetamine, in which ephedrines are typically used, continues to decrease. Meanwhile, the increasing demand for methamphetamine in the United States continues to be met from illicit manufacture that takes place in Mexico, where P-2-P-based manufacturing methods prevail.

(b) Norephedrine and ephedra

Licit trade

99. Between 1 November 2017 and 1 November 2018, 13 exporting countries notified through the PEN Online system a total of 182 exports of norephedrine, a substance that can be used in the illicit manufacture of amphetamine. These exports were destined for 36 importing countries and territories and amounted to more than 26 tons of raw material and nearly 1.7 tons of pharmaceutical preparations. As in the past, the largest exporters by volume were India and Indonesia, followed, in descending order, by Switzerland and Japan, and the largest importers were the United States, Myanmar and Algeria, followed by Cambodia. On form D for 2017, Germany reported small imports of ephedra.

Trafficking

100. On form D for 2017, only four countries reported seizures of norephedrine. Seizures in Australia were the

²⁹See E/INCB/2015/4, para. 18.

largest worldwide in more than five years. They amounted to nearly 250 kg, of which two-thirds originated in Indonesia. Other origins included the Philippines and Hong Kong, China. The United Kingdom reported one seizure of just above 20 kg, smuggled from the Netherlands. The incident had previously been communicated through PICS, together with operational details. In the first 10 months of 2018, no norephedrine or ephedra incident was communicated through PICS (see, however, para. 82 above).

(c) 1-Phenyl-2-propanone, phenylacetic acid and *alpha*-phenylacetoacetonitrile

101. P-2-P, phenylacetic acid and APAAN are precursors that can be used in the illicit manufacture of amphetamine and methamphetamine. P-2-P is an immediate precursor of both amphetamine and methamphetamine, while phenylacetic acid and APAAN are precursors of P-2-P. Of the three substances, phenylacetic acid is the most widely traded, while trade in APAAN is almost non-existent. When P-2-P is seized, it has usually been illicitly manufactured, as P-2-P is rarely diverted from legitimate trade. Non-scheduled substitutes for P-2-P used in the illicit manufacture of amphetamine and methamphetamine are discussed in paragraphs 116–129 below.

Licit trade

102. P-2-P, phenylacetic acid and APAAN differ quite significantly in terms of the volume and extent of their legitimate international trade and the number of countries involved in that trade. Between 1 November 2017 and 1 November 2018, there were 35 pre-export notifications involving P-2-P, from six exporting countries to nine importing countries. During the same period, there were no transactions involving APAAN. By contrast, legitimate international trade in phenylacetic acid involved 11 exporting countries. They notified 47 importing countries and territories about more than 620 proposed shipments of phenylacetic acid.

Trafficking

103. Seizures of P-2-P reported on form D for 2017 were the lowest in five years, amounting to approximately 4,200 litres. Importantly, those seizures almost certainly included P-2-P illicitly manufactured from controlled and non-scheduled pre-precursors such as APAAN and APAA, and by means of the nitrostyrene method. For that reason, information on P-2-P seizures is of no more than limited value to efforts to prevent diversion, especially when no circumstantial information is provided.

104. The situation with regard to seizures of phenylacetic acid was dominated by an amount of almost 19.5 tons

seized in clandestine methamphetamine laboratories in Mexico. The origin of the phenylacetic acid was unknown. Also, no information was provided on whether it had been illicitly manufactured from one of its precursors, such as 2-phenylacetamide. 2-Phenylacetamide is controlled in Mexico and was, moreover, seized in that country in an incident involving nearly 6.5 tons. In Australia, about 225 kg of phenylacetic acid was reported seized that had allegedly originated in China. In 2018, Poland communicated through PICS a seizure of more than 13.6 tons of phenylacetic acid.

105. With 2,500 litres, Mexico also reported the largest seizures of P-2-P. The seizures took place in illicit methamphetamine laboratories. The P-2-P was presumed to have been illicitly manufactured from one of its precursors, several of which are controlled in Mexico. P-2-P seized in Belgium (about 40 litres) was assumed to have been an intermediate in the illicit manufacture of amphetamine from APAAN.

106. The United Kingdom reported two seizures totalling almost 600 litres of P-2-P in 2017. Both shipments were misdeclared and had allegedly originated in China, including Hong Kong, China. In one case, P-2-P may have been an impurity in a chemically related, non-scheduled “designer” precursor.

107. Impurity profiling of street methamphetamine seized in the western part of the Islamic Republic of Iran suggest that a significant share of the samples involved may have been manufactured using P-2-P-based methods.³⁰

108. For the first time in five years, on form D for 2017, countries in West Asia reported seizures of P-2-P. Specifically, in December 2016, authorities in Jordan seized almost 3,300 litres of P-2-P at a large clandestine laboratory together with 1,500 litres of methamphetamine and a number of other chemicals, such as formamide (more than 250,000 litres), suggesting that the Leuckart method was being used. In addition, caffeine and other cutting agents, excipients and tableting aids were seized. Although no pre-precursors were found at the site, authorities believe that the P-2-P had been the product of illicit manufacture.

109. In January 2018, law enforcement authorities in Jordan dismantled a facility in an industrial area of the capital Amman and found indications that the facility had

³⁰ Amini, Etemadi-Aleagha and Akhgari, “Impurity profiling of street methamphetamine samples seized in Kermanshah, Iran, with special focus on methamphetamine impurities health hazards”, *Journal of Clinical Toxicology*, vol.5, No. 4 (July 2015).

been used for the illicit manufacture of “captagon”.³¹ The suspects had rented the facility under the pretext of using it as a factory for cleaning products. The Board understands that significant quantities of APAAN were found among the chemicals seized at the premises. This confirmed the finding, made in 2017 under operation “Missing links”, that APAAN was being used as a precursor in the illicit manufacture of amphetamine for use in “captagon” tablets. In 2017, forensic analysts had identified APAAN in more than 80 per cent of the seized “captagon” tablets analysed under that operation.³²

110. INCB has previously noted the discrepancy between seizures of amphetamine and “captagon” tablets, in particular in countries in the Near and Middle East, and the lack of information about the sources of the amphetamine and its precursors. On the basis of data from 2016, if all amphetamine that was reported seized in the subregion of the Near and Middle East/South-West Asia — 46 tons in 2016³³ — had been synthesized from APAAN, 70 to 100 tons of APAAN would have been required (for conversion figures, see annex VIII, figure II). However, no seizures of APAAN have ever been reported outside Europe and North America.

111. In Europe, three countries reported seizures of APAAN on form D for 2017. Poland made one seizure of 5 tons, the remainder, seized in other countries, totalled about 70 kg. In addition, INCB is aware of APAAN seizures totalling 1.3 tons in Albania in 2017. Incidents communicated through PICS in the first 10 months of 2018 indicate a resurgence of APAAN, a development that precursor experts also believe is occurring. Nine APAAN incidents were communicated during this period, including several large seizures of between 500 kg and 4.4 tons each. Although some APAAN is trafficked by air, most is trafficked by sea. One of the reasons for the reappearance of APAAN in Europe may be the availability of stocks in the countries of origin. Another may be the increasing attention law enforcement has been paying to APAA, which emerged as the main substitute for APAAN after APAAN came under international control. Now that APAA has come under closer scrutiny, the risk associated with trafficking in either substance may be similar.

³¹The term “captagon” is used to refer to the illicit drug currently available on the illicit market in countries in the Middle East. The composition of the product has nothing in common with Captagon, the pharmaceutical product that was available from the early 1960s and that contained fenethylline.

³²E/INCB/2017/4, para. 112.

³³*World Drug Report 2018: Analysis of Drug Markets* (Booklet 3), p. 58.

112. The emergence and subsequent decline in Europe of APAAN in the period 2010–2016, and its use as a precursor in the illicit manufacture of amphetamine, were also confirmed by retrospective forensic profiling of amphetamine samples seized in Germany and the Netherlands between 2009 and 2016. The analysis confirmed that APAAN had been used in Europe since 2010 and that it had been the main precursor between 2013 and 2015, with nearly 100 per cent of amphetamine samples analysed showing evidence of synthesis from APAAN. The use of APAAN declined from 2016 onward. Because the use of APAAN remained high after it had been scheduled in Europe in December 2013 and internationally in October 2014, the authors of one study concluded that it might have been stockpiled; the subsequent decline coincided with the widespread availability of APAA (see paras. 116–120 below).³⁴

(d) Use of non-scheduled substances and other trends in the illicit manufacture of amphetamine and methamphetamine

Precursors for the illicit manufacture of ephedrine and pseudoephedrine

113. In recent years, authorities in China have observed the widespread illicit manufacture of ephedrine from 2-bromopropiophenone, a substance not scheduled internationally but placed under control in China in May 2014. In 2017, China seized 206 tons of 2-bromopropiophenone.³⁵ After it had been put under national control, the authorities observed a gradual shift to its precursors and other chemicals not yet controlled in China, whose imports increased. One example of a chemical that can be used to produce 2-bromopropiophenone is 1-phenyl-1-propanone, a substance that is not under international control, but is on the INCB limited international special surveillance list of non-scheduled substances. The authorities in China estimated that only about 20 per cent of the 1-phenyl-1-propanone being imported was required for legitimate uses, for example as a raw material in the pharmaceutical industry or in the production of liquid crystal displays. A case of large-scale imports into China is currently under investigation.

114. While more recently, China has observed a further shift towards precursors of 1-phenyl-1-propanone, the first seizures of 2-bromopropiophenone outside China

³⁴Frank M. Hauser and others, “Identification of specific markers for amphetamine synthesised from the pre-precursor APAAN following the Leuckart route and retrospective search for APAAN markers in profiling databases from Germany and the Netherlands” *Drug Testing and Analysis*, vol. 10, No. 4 (April 2018), pp. 671–680.

³⁵*Annual Report on Drug Control in China 2018*, p. 24.

have been brought to the attention of INCB. They took place in Australia in 2017 and early 2018.

115. The shift observed in China in the precursors used in the illicit manufacture of methamphetamine following the gradual tightening of national controls over individual products and substances once again illustrates the limitations of a substance-by-substance scheduling approach. This is particularly true in the light of evidence that in China, and probably elsewhere, certain organized criminal groups specialize in supplying custom-made chemicals and, in some cases, equipment on demand.³⁶

Alpha-phenylacetoacetamide

116. APAA is a substitute chemical for P-2-P and APAAN and is as yet non-scheduled. APAA replaced APAAN on the illicit market after APAAN was included in Table I of the 1988 Convention in October 2014. In November 2018, INCB recommended the international scheduling of APAA.

117. Seizures of APAA were reported on form D for 2017 by a number of European countries. The largest amounts were seized in the Netherlands (more than 10 tons), followed by France (more than 600 kg) and Belgium (250 kg). Information on the origin was usually not provided; where it was, the APAA had originated in China, including Hong Kong, China, had transited through European countries, such as Belgium, and had been destined for the Netherlands. The Russian Federation was also mentioned as a transit country, and Belarus and Poland as countries of destination. In most instances, APAA was mislabelled or misdeclared, a further indication that it was intended for illicit purposes. In 2018, APAA incidents continued to occur in high numbers and amounts. Many seizures were made in laboratories, in particular in the Netherlands, and APAA was found along with a variety of other “designer” precursors for both amphetamine and MDMA.

118. INCB is also aware of APAA seizures outside Europe, namely in East and South-East Asia. Those suggest the possibility of a gradual change in the manufacturing methods in that subregion, and more in particular in the Golden Triangle, from methods using ephedrine or pseudoephedrine and pharmaceutical preparations containing them, to P-2-P-based methods.

119. One of the largest schemes involving trafficking in APAA to Europe was identified in January 2018, when a consignment of 900 kg was intercepted at Copenhagen airport en route from Hong Kong, China, to Lithuania.

Follow-up investigations revealed that in 2017, the same importer in Lithuania had brought in 12 shipments totalling almost 9 tons of APAA exported by the same manufacturer in China. Investigations further indicated that, after arriving in Lithuania, those consignments had been transported by truck to a company in the Netherlands. Another 900 kg were seized at another Danish airport later in January 2018; the consignment had been sent by the same Chinese supplier but was destined for a consignor in the United Kingdom. INCB understands that investigations are currently ongoing in a number of European countries and China. The findings are expected to afford valuable insights into the *modi operandi* used by traffickers to feed illicit laboratories with non-scheduled chemicals. This is expected to help in the prevention of future shipments using similar *modi operandi*.

120. The first conviction for possession of APAA was handed down in the Netherlands in August 2017. The suspect had received money to transport 600 kg of APAA and was found guilty under the Opium Act of knowingly committing acts to prepare the production of amphetamine. He was sentenced to 12 months’ imprisonment. Six months of his term were conditional.

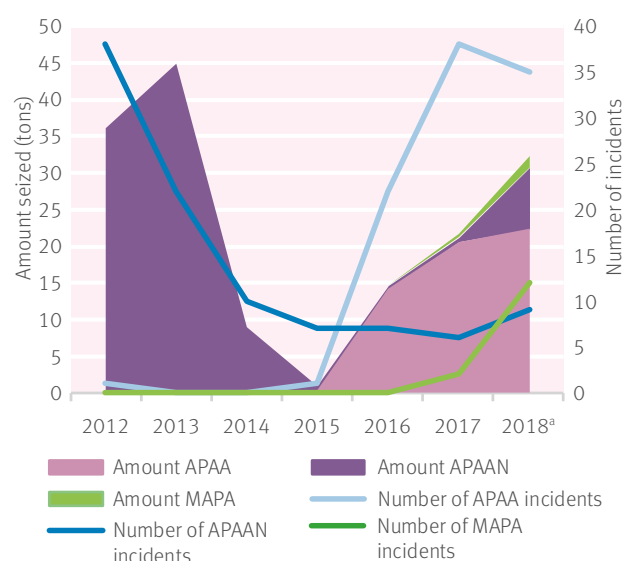
Methyl alpha-phenylacetoacetate

121. The emergence of APAA in 2015 was closely correlated with a decrease in the number of incidents involving APAAN (see figure VII below). In 2017, two additional developments occurred: a limited resurgence of APAAN and the emergence of MAPA as a substitute for APAA. MAPA is the methyl ester of *alpha*-phenylacetoacetic acid. Given the challenges associated with the proliferation of series of closely related chemicals (to which INCB has drawn attention in the past), the limited international special surveillance list was amended in 2013 to include the concept of extended definitions for such derivatives. MAPA is covered by that definition and **INCB encourages competent national authorities to make full use of the international special surveillance list and alert relevant sectors of industry to the possible misuse in illicit drug manufacture of chemicals on the list.**

122. Seizures of MAPA were first reported on form D in 2017, by the Netherlands (nearly 490 kg). In 2018, Belgium followed by communicating MAPA seizures through PICS of more than 550 kg. In all incidents in Belgium and the Netherlands for which the origin of the MAPA was provided, China was reported as the alleged origin; the destination was mostly the Netherlands, although Belgium, Bulgaria, Spain and the United Kingdom were mentioned as well. One consignment had transited through Turkey. The majority of shipments had been mislabelled and/or

³⁶Ibid., p. 52.

Figure VII. Incidents involving APAAN, APAA and MAPA communicated through the Precursors Incident Communication System, 2012–2018



^aFirst 10 months of 2018.

misdeclared. Individual seizures ranged in size from 1 kg to more than 500 kg.

123. Additional considerations related to the evolution in the occurrence of non-scheduled chemicals, including “designer” precursors, are discussed in chapter IV, together with possible ways to address the proliferation of those chemicals at the global level.

P-2-P methyl glycidic acid derivatives

124. Methyl glycidic acid derivatives are purpose-made chemicals that can be converted into P-2-P at an approximate ratio of 2 to 1. Such derivatives have been seized on a regular basis in Belgium and the Netherlands. To date, the only seizures that have occurred outside Europe were reported by Lebanon in 2016. In 2017, seizures in Belgium amounted to more than 4 tons of the methyl ester of P-2-P methyl glycidic acid; during the same year, the Netherlands seized 1,625 kg. Both Belgium and the Netherlands communicated those seizures through PICS in real time. Incidents in both countries continued to occur in 2018 and often involved seizures at illicit laboratories or warehouses. Those seizures also included APAA and other “designer” chemicals, suggesting that multiple drugs were being manufactured at the same site.

125. It is worth noting that P-2-P methyl glycidic acid derivatives appear to be encountered less frequently than 3,4-MDP-2-P methyl glycidic acid derivatives, whose use in the illicit manufacture of MDMA corresponds to that of

P-2-P methyl glycidic acid derivatives in the illicit manufacture of amphetamine (see paras. 146–149 below). This probably has to do with the availability of alternatives such as APAA, which may currently be even more easily accessible than P-2-P methyl glycidic acid derivatives.

Benzaldehyde, nitroethane and 1-phenyl-2-nitropropene

126. On form D for 2017, several countries reported seizures of benzaldehyde and nitroethane, and/or 1-phenyl-2-nitropropene, key chemicals used in the illicit manufacture of P-2-P and, subsequently, methamphetamine or amphetamine by means of the nitrostyrene method.

127. The United States reported the largest amount of benzaldehyde seized, nearly 18,500 litres. Ninety-five per cent of that volume was seized in a single incident. The initial reason for the seizure was the lack of trans-shipment documents en route to Haiti. Investigations then revealed that the shipment was to be redirected to a port in Mexico. At that port, an additional 2,000 litres were seized, in two incidents. Within Mexico, a total of about 2,200 litres was seized in two clandestine methamphetamine laboratories. Seizures of benzaldehyde in excess of 500 litres were also reported by Argentina. Reported seizures of nitroethane did not exceed 90 litres in any of these countries. In Germany and Poland, indications were found that the nitrostyrene method was being used in the illicit manufacture of amphetamine.

128. 1-Phenyl-2-nitropropene is the product of the chemical reaction between benzaldehyde and nitroethane. When it is seized in illicit laboratories, it may have been a starting material diverted to serve as such from a legitimate source, or it may be an in-process intermediate produced illicitly in the synthesis of P-2-P. In 2017, seizures of 1-phenyl-2-nitropropene were reported by Estonia, Mexico and Ukraine, and authorities of two of those three countries suggested it was an in-process intermediate.

129. In Mexico, the use of the nitrostyrene method for the illicit manufacture of methamphetamine appears to have increased gradually since it broke even with the traditional method (which starts from phenylacetic acid and its esters) in the second half of 2015 (see figure VIII). That conclusion is based on samples analysed as part of the forensic profiling programme of the Special Testing and Research Laboratory of the Drug Enforcement Administration of the United States. However, this increase appears to have been halted and even reverted in the second half of 2017, while a concomitant increase in the number of methamphetamine samples manufactured from or via phenylacetic acid

occurred simultaneously. In line with this, for the first time since 2011, Mexico reported on form D for 2017 significant seizures of almost 20 tons of phenylacetic acid (see para. 104 above). By contrast, there were no seizures of esters of phenylacetic acid in North America. Esters of phenylacetic acid had been the preferred starting materials for the illicit manufacture of methamphetamine in Mexico from approximately 2009 (see figure IX).

Figure VIII. Methods used in the illicit manufacture of methamphetamine, as determined by the forensic profiling of methamphetamine samples from the United States of America and Mexico submitted for analysis, 2015–2018

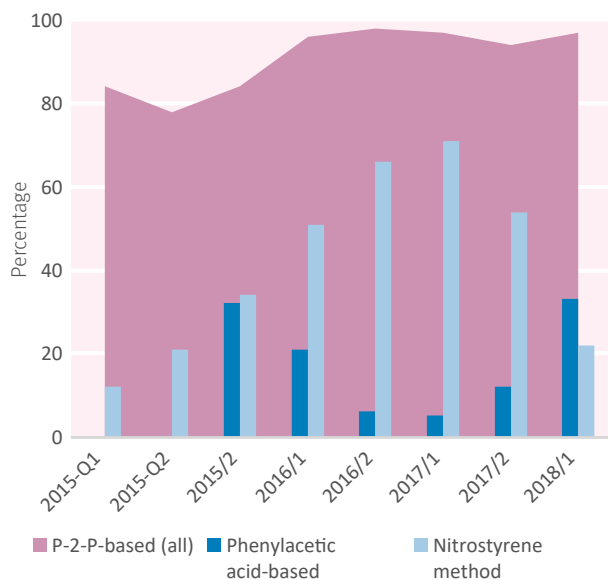
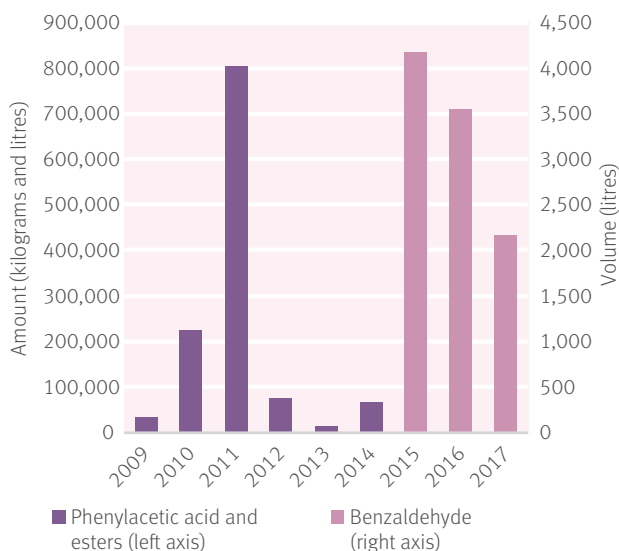


Figure IX. Seizures of phenylacetic acid and its esters, and of benzaldehyde, reported by Mexico on form D, 2009–2017



Other chemicals not under international control that were seized in relation to the clandestine manufacture of amphetamine or methamphetamine

130. Similar to previous years, other chemicals not under international control but frequently reported on form D for 2017 were those associated with the illicit manufacture of methamphetamine using ephedrines-based methods, such as the so-called Nagai method and modifications thereof. Those included iodine and red phosphorous, as well as their alternate chemicals, such as hydriodic acid and hypophosphorous acid. Countries that reported seizing one or more of those chemicals included Austria, Czechia, Malaysia, Mexico, the Netherlands, New Zealand, Poland, Portugal, Slovakia, Spain, Sweden and the United States. Seizures of hypophosphorous acid in clandestine methamphetamine laboratories in Mexico suggest that there might still be some limited ephedrines-based manufacture in that country.

131. Incidents involving these chemicals continued in 2018 and included a seizure of 7,000 litres of hypophosphorous acid in the Netherlands, an amount that indicates that there may be illicit manufacture of methamphetamine present in that country and that its scale may be substantial. Also, in May 2018, New Zealand seized 3,024 litres of hypophosphorous acid, the largest in police history. The seizure came after multiple years of investigations during which the amounts being imported and distributed were assessed. It is estimated that between 1.5 and 2.3 tons of methamphetamine could have been manufactured from this quantity of hypophosphorous acid.

132. Seizures of non-scheduled chemicals that can be used in the illicit manufacture of P-2-P via APAAN or phenylacetic acid were reported by Belgium, Brazil, Mexico and the Netherlands. Belgium seized 100 kg of benzyl cyanide originating in China and destined for the Netherlands. Mexico reported seizures of significant amounts of 2-phenylacetamide (6,475 kg), benzyl cyanide (5,450 litres) and its precursor, benzyl chloride (4,627 litres). Incidents continued to occur in 2018 and included a seizure of nearly 50,000 litres of benzyl chloride at the seaport of Manzanillo in Mexico. The consignment was seized after physical inspection of the cargo because the consignee did not have the required permits. The containers had earlier been trans-shipped via the United States and Panama.

133. Seizures of significant amounts of sodium cyanide, a chemical needed to convert benzyl chloride into benzyl cyanide, are regularly reported from the border area between Thailand and Myanmar, although the actual use

of the chemical in the illicit manufacture of methamphetamine in the area has not been established. Seizures of sodium cyanide have also been reported by the United States, although typically in connection with the illicit manufacture of phencyclidine.

134. Unlike several years ago (approximately 2010–2014), when seizures of esters of phenylacetic acid were regularly reported, in particular by countries in North and Central America, only one seizure of methyl phenylacetate was reported on form D for 2017, by the Netherlands, of 458 kg, seized from a mail cargo facility. The incident had previously been communicated through PICS.

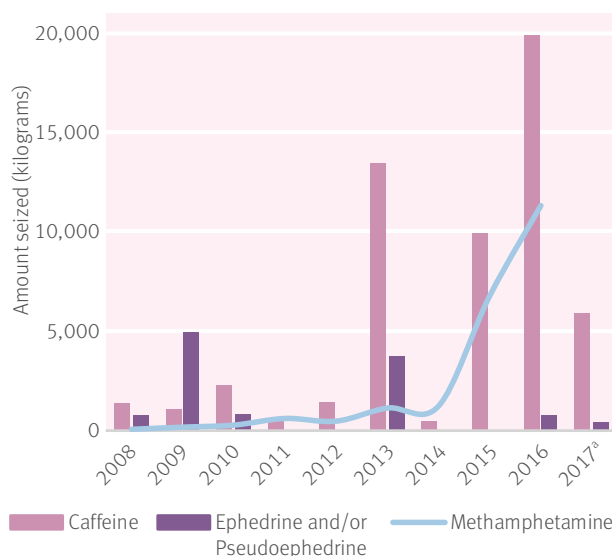
135. A number of other chemical reagents are required in the manufacture of various drugs. Seizures of those chemicals are therefore indicative of illicit drug manufacture and the chemicals are often diverted to the same clandestine laboratory locations as controlled precursors are. Mexico is the country that has most frequently reported seizures of tartaric acid, a chemical that is used to increase the potency of methamphetamine manufactured using P-2-P-based methods. Mexico started reporting seizures in 2009, when it prohibited imports of ephedrine, and P-2-P-based methods started dominating the illicit manufacture of methamphetamine. Annual seizures of tartaric acid have ranged from 2.8 tons (2014) to 60 tons (2011) and more recently have ranged from 5 to 6 tons. In 2017, the amount of tartaric acid seized in individual methamphetamine laboratory incidents ranged from less than 10 kg to 850 kg. As with other chemicals, determination of the source is complicated by the absence of labels on the containers seized in illicit laboratories. However, the more basic chemicals are assumed to be sourced domestically.

136. Seizures of adulterants are also important indicators of illicit drug manufacture. Caffeine, an adulterant known to be used in connection with the illicit manufacture of methamphetamine, has regularly been reported seized on form D, typically by countries in East and South-East Asia. Caffeine is a major ingredient in so-called “yaba” tablets encountered widely in that region. Caffeine accounts for 70 to 75 per cent of the weight of an average “yaba” tablet.

137. A number of countries reported seizures of caffeine on form D for 2017. Myanmar reported the largest seizures in recent years, with nearly 20 tons in 2016 and 6 tons in 2017. The authorities believe that the caffeine is entering Myanmar from Chiang Rai province in Thailand or along the Mekong river from the Lao People’s Democratic Republic. While seizures of ephedrines in Myanmar do not show any discernible trend, seizures of caffeine appear to correlate with seizures of methamphetamine. This shows that, to counter the illicit manufacture of

drugs, it may be useful to monitor ingredients and materials other than precursors, as provided for by article 13 of the 1988 Convention.

Figure X. Seizures of methamphetamine, methamphetamine precursors and caffeine in Myanmar, 2008–2017



^aMethamphetamine seizure data not available.

Source: Form D, the 2016 annual report on narcotics control of the Central Committee for Drug Abuse Control of Myanmar, and raw data underlying the *World Drug Report 2018* (<https://data.unodc.org/drugs/seizures>).

2. Substances used in the illicit manufacture of 3,4-methylenedioxyamphetamine and its analogues

138. In 2017, as before, there was no evidence that controlled precursors were being used in the illicit manufacture of MDMA and related substances to any significant extent. This applies to all four MDMA precursors under international control: the immediate precursor, 3,4-MDP-2-P, and its precursors piperonal, safrole and isosafrole. At the same time, a number of “designer” precursors, in particular derivatives of 3,4-MDP-2-P methyl glycidic acid, have been reported seized, in particular in Europe (see paras. 146–149 below).

(a) 3,4-Methylenedioxyphenyl-2-propanone and piperonal

Licit trade

139. Piperonal is the most widely traded of the four MDMA precursors, while international trade in 3,4-MDP-2-P is nearly non-existent. Between 1 November 2017 and

1 November 2018, 16 exporting countries and territories notified the authorities of 47 importing countries and territories of more than 750 proposed exports of piperonal amounting to more than 2,700 tons. There was only one pre-export notification for 3,4-MDP-2-P, which involved a significant amount and was objected to by the authorities of the importing country.

Trafficking

140. On form D for 2017, two countries, Bulgaria and the Netherlands, reported seizures of 3,4-MDP-2-P in amounts above 5,000 litres. INCB understands that these reports may in fact refer to the same consignment, which was subject to a controlled delivery between the two countries. That consignment initially originated in the Lao People's Democratic Republic. It transited Viet Nam by truck to the port of Haipong. From Haipong it went to Greece by sea and then arrived in Bulgaria. Investigations into this incident are still ongoing, both with regard to the actual origin of the chemical in South-East Asia, which may have been different from the origin of the consignment, as well as with regard to the consignee(s) in Europe.

141. In other countries, aggregate annual seizures of 3,4-MDP-2-P remained negligible. Seizures of piperonal were insignificant.

(b) Safrole, safrole-rich oils and isosafrole

Licit trade

142. Between 1 November 2017 and 1 November 2018, six exporting countries sent 33 pre-export notifications through the PEN Online system for safrole and safrole-rich oils to the authorities of 12 importing countries. Those notifications concerned a total volume of more than 1,200 litres, including 220 litres in the form of safrole-rich oils. There were no pre-export notifications for isosafrole.

Trafficking

143. The Netherlands was the only country that reported notable seizures of safrole and safrole-rich oils on form D for 2017. They amounted to almost 3,000 litres in five incidents, of which 2,875 litres were seized in a single incident. In the same incident, significant amounts of other chemicals were seized, including more than 40,000 litres of formamide, which is indicative of the Leuckart method. The incident involved containers and labels similar to those found in another seizure of safrole-rich oils that took place at an illicit laboratory in December 2016. Investigations are ongoing to establish the exact nature of the link between the two incidents, which occurred within 11 months of each other.

144. Seizures of safrole and safrole-rich oils continued to be communicated through PICS in the first 10 months of 2018. The communications included information about the first MDMA laboratory dismantled in the Philippines. No seizures of isosafrole were reported on form D for 2017, nor was any incident communicated through PICS.

145. The availability of non-scheduled substitutes for safrole and safrole-rich oils for use in the illicit manufacture of MDMA and related substances explains the absence of significant seizures of controlled precursors in Europe, but there is not enough information to determine whether the same applies for the rest of the world, in particular countries in East and South-East Asia. The region has long faced the illegal clearing of trees of the *Cinnamomum* genus, which are rich in safrole oils. The current situation in that region can only be assessed from anecdotal information, as information reported on form D has been incomplete (see table in chap. II, sect. C, above, and annex III). **INCB notes that there are difficulties in its communication with several countries, in particular in South-East Asia. It reminds all countries that investigations into seizures and the sharing of information about modi operandi with each other and INCB are critical elements of international precursor control, as they help to identify points of diversion and prevent future diversions.**

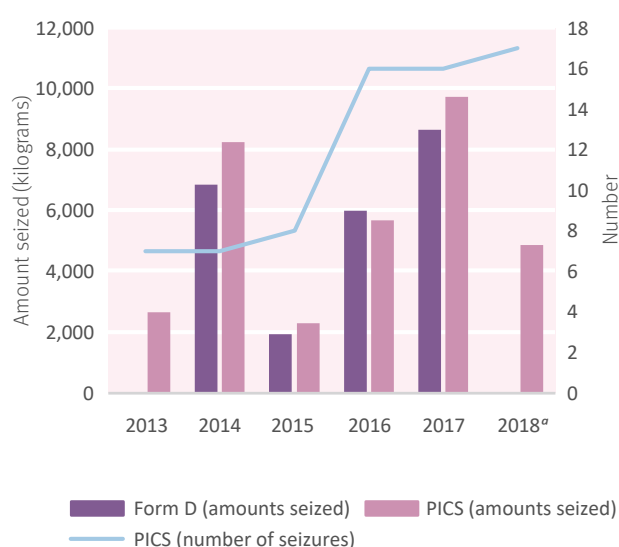
(c) Use of non-scheduled substances and other trends in the illicit manufacture of 3,4-methylenedioxymethamphetamine and its analogues

146. It has often been suggested that the availability of non-scheduled "designer" precursors that substitute for controlled MDMA precursors has contributed to the increase in potency, or strength, of MDMA tablets (commonly known as "ecstasy" tablets) currently seen on illicit markets. It has been suggested that these substitutes are not only cheaper than the safrole or safrole-rich oils previously trafficked for the same purpose, but, being solid, they are also easier to ship. This may have been, and may continue to be, one of the reasons why they have gone unnoticed by enforcement authorities in some regions.

147. From 2014 to 2017, between three and five Governments reported seizures of non-scheduled substitutes of 3,4-MDP-2-P on form D every year. Incidents have been communicated through PICS since 2013, and both the number of incidents and the amounts communicated were often larger than those reported on form D. In 2017, seizures of non-scheduled substitutes of 3,4-MDP-2-P continued to be made exclusively in countries in Europe. They mainly involved derivatives of 3,4-MDP-2-P

methyl glycidic acid, i.e., “designer” precursors that are not usually available off the shelf.³⁷ Individual incidents often involved several tons, for example in the Netherlands and Spain. Where border seizures were made and information was available, the alleged origin of the chemicals was China. Seizures of non-scheduled substitutes of 3,4-MDP-2-P continued to be made at a comparable rate in the first 10 months of 2018 (figure XI). INCB is aware that such seizures were also made in Canada in 2018.

Figure XI. Seizures of substitutes of 3,4-MDP-2-P communicated through the Precursors Incident Communication System and reported on form D, 2013–2018



^aFirst 10 months of 2018; no form D data available.

Box 2. National High Court judgment in Spain in 2017^a

In Spain, the National High Court sentenced two individuals to three years’ imprisonment and fines for crimes posing a threat to public health after they had been found guilty of importing 3,4-MDP-2-P methyl glycidate, a pre-precursor to MDMA, from China into Spain and then shipping it to the Netherlands. At the time of writing, an appeal was pending before the Supreme Court.

Since the relevant provision of the Penal Code made express reference only to substances listed in the 1988 Convention, the Court had to determine whether that provision was applicable to unlisted pre-precursors.

Nonetheless, the provision also made reference to manufacturing, transporting, distributing, trading in and possessing equipment and materials used to produce listed substances, thus also criminalizing preparatory acts.

The Court found that 3,4-MDP-2-P methyl glycidate, as a pre-precursor, was a material required to produce an illegal substance. On those grounds, the Court ruled that 3,4-MDP-2-P methyl glycidate was subject to the relevant provision relating to crimes posing a threat to public health.

^aNational High Court of Spain (*Audiencia Nacional*), criminal division, section 2, sentence 12/2017 of 12 June 2017.

³⁷In November 2018, INCB recommended the international scheduling of 3,4-MDP-2-P methyl glycidic acid and its methyl ester.

148. It is clear from information available to INCB that the proliferation of non-scheduled chemicals, especially “designer” chemicals and series of chemically related substances, is a challenge for Governments (see also chapter IV). The so-called “catch-all” clause in the European Union precursors regulation allows authorities to prohibit the entry of non-scheduled chemicals into the customs territory of the European Union or their departure from it where there is sufficient evidence that those substances are intended for the illicit manufacture of narcotic drugs or psychotropic substances. However, as the clause has yet to prove its effectiveness in practice, **INCB encourages the Governments of States members of the European Union and other countries to share successful national approaches to addressing the proliferation of non-scheduled chemicals and “designer” precursors, including those that have no recognized legitimate uses.**

149. In addition to 3,4-MDP-2-P methyl glycidic acid derivatives, helional is a notable substitute in the illicit manufacture of MDMA-type drugs. Helional was reported by the Netherlands on form D for 2017. This is the first such report in Europe, as all three previous seizures were reported by Canada, starting in 2014.

3. Other trends in the illicit manufacture of amphetamine-type stimulants

Methylamine

150. Seizures of methylamine in the form of both solutions and methylamine hydrochloride continued to be reported. Methylamine is a versatile chemical that is controlled in many countries, mainly owing to its use in the illicit manufacture of methamphetamine and MDMA. It is also required in certain manufacturing methods for ephedrine, and for a number of new psychoactive substances.

151. Mexico, Honduras, the Netherlands and the United States, in that order, reported the most significant seizures in 2017. In Honduras, about 5,000 kg (in 200 bags) were seized en route to Puerto Barrios, Guatemala. Information about the origin was not provided. In the United States, in a single incident, 1,000 kg of methylamine hydrochloride was seized in transit from China to Canada because the shipper had failed to file an advance notice of importation for trans-shipment as required under United States law. In addition, the importing company in Canada had previously been identified as a source supplying precursor chemicals to a clandestine laboratory, also in Canada.

152. Seizures in Mexico amounted to nearly 900 kg and more than 13,000 litres, and were effected in 12 clandestine methamphetamine laboratories. In the majority of cases, the labels on the containers had been removed, thus making it difficult to determine the origin. The Netherlands made seizures of solid methylamine hydrochloride that amounted to nearly 5 tons in nine incidents. No information on possible sources or points of diversion was provided.

153. Mexico also continued to report seizures of chemicals from which methylamine can be manufactured illicitly. In 2017, authorities seized more than 10,500 litres of formaldehyde and nearly 20 tons of ammonium chloride.³⁸ Both chemicals were seized in clandestine methamphetamine laboratories.

Hydrogen gas

154. Germany continued to report thefts of steel gas cylinders containing compressed hydrogen gas, which can be used as a reducing agent in the illicit manufacture of a number of synthetic drugs. The stolen hydrogen was presumed to have been used in the illicit manufacture of amphetamine. Seizures of hydrogen cylinders also continued to be reported by the Netherlands.

³⁸From 10,500 litres of formaldehyde, about 1,700 kg of methylamine hydrochloride can be produced.

Other substances not under international control

155. The Netherlands, Poland and Spain reported seizures of formamide, formic acid and/or ammonium formate on form D for 2017. These chemicals are associated with the so-called Leuckart method, which can be used to illicitly manufacture amphetamine and methamphetamine from P-2-P, or for MDMA and related substances, from 3,4-MDP-2-P.

156. Seizures continued to be made of “designer” precursors in the form of masked derivatives of amphetamine-type stimulants. Specifically, the Netherlands reported a seizure of 25 kg of *N-tert*-butoxycarbonyl-MDMA (*t*-BOC-MDMA), down from 123 kg in 2016.

B. Substances used in the illicit manufacture of cocaine

1. Potassium permanganate

Licit trade

157. Potassium permanganate is used as an oxidizing agent in illicit cocaine processing. At the same time, it is widely used in organic chemistry, as a disinfectant and for water purification, and hence is widely traded internationally. From 1 November 2017 to 1 November 2018, the authorities of 31 exporting countries sent more than 1,500 pre-export notifications for shipments of potassium permanganate to importing countries, a situation similar to the preceding reporting period. Those shipments were destined for 124 importing countries and territories and involved a total of more than 25,500 tons of potassium permanganate. The three coca-producing countries in South America, Bolivia (Plurinational State of), Colombia and Peru, continued to account for a very limited proportion of that trade (roughly 1.4 per cent). The imports by other countries in South America amounted to 1,300 tons (around 5 per cent of global trade). None of those countries exported or re-exported potassium permanganate in any significant amounts.

Trafficking

158. The situation with potassium permanganate and other cocaine precursors in South America remains unclear, especially with regard to its sources. The two main sources of the potassium permanganate used for illicit purposes appear to be diversion from licit domestic distribution channels and subsequent smuggling to illicit processing sites either within the same country or across subregional borders, and illicit manufacture. However, the

Board has received insufficient information to assess what the actual sources of potassium permanganate in illicit markets are. Furthermore, INCB is unaware of any back-tracking investigations into the origins of seized potassium permanganate.

159. In 2017, as in past years, a significant proportion of global seizures of potassium permanganate continued to be reported by coca-producing countries. On form D for 2017, the Plurinational State of Bolivia reported seizures of nearly 1,725 kg; an additional 676 kg were seized for administrative reasons. Colombia reported nearly 400 seizures amounting to almost 98 tons,³⁹ all of which had originated within the country. However, it remained unclear what proportion of the seized potassium permanganate had been illicitly manufactured.

160. Of the remaining countries in South America, only Argentina reported a notable seizure, of 2,650 kg of potassium permanganate. This was the largest amount ever reported by that country. However, no further details were provided, and the origin of the consignment was not known. The amount reported seized in the Bolivarian Republic of Venezuela more than tripled compared with 2016, to 660 kg. No information was available from Peru.

161. Given the recent increases reported in global cocaine manufacture, **INCB encourages Governments of countries concerned in the Americas to devise, individually or through the mechanisms of the Inter-American Drug Abuse Control Commission, appropriate strategies to fill gaps in current knowledge about trafficking trends and modi operandi used by traffickers to obtain potassium permanganate. In addition, INCB again calls on those Governments to review their domestic control mechanisms, in particular the requirements to declare the end use of potassium permanganate, and any thresholds that may be exploited by traffickers. The INCB Precursors Task Force stands ready to support any activities in this area.**

2. Use of non-scheduled substances and other trends in the illicit manufacture of cocaine

162. In addition to potassium permanganate, most countries in Central and South America have a variety of other chemicals under national control that are known to

³⁹According to the Colombian authorities, this amount included administrative seizures following which the potassium permanganate may have been returned to the owner. On form D, the authorities also clarified that the information provided was based on field testing and measurement only.

have been used in the illicit manufacture of cocaine. Consequently, many of those countries report seizures of those chemicals on form D, such as common acids and bases, oxidizing agents, solvents used for the extraction of cocaine base from coca leaves and for the conversion of cocaine base into cocaine hydrochloride, and precursors of and substitutes for potassium permanganate. In most cases where such information was provided, the chemicals were reported to have come from domestic sources.

Precursors of and substitutes for potassium permanganate

163. In 2017, Colombia seized nearly 1.9 tons of potassium manganate, an immediate precursor of potassium permanganate. Its reported origin was Colombia. However, given the sequence of manufacture, the seized potassium manganate itself may also have been illicitly manufactured from manganese dioxide. No seizures of manganese dioxide were reported in 2017.

164. The Plurinational State of Bolivia reported seizures of 560 litres of nitric acid, down from 845 litres in 2016. A portion of those seizures was made in illicit cocaine laboratories, where nitric acid is allegedly used as a substitute oxidizing agent in the first stages of the cocaine manufacturing process. Another portion was seized for various administrative reasons, such as transportation without authorization.

165. On form D for 2017, only Argentina reported seizures of sodium hypochlorite, another substitute for potassium permanganate in the purification of coca paste. Seizures amounted to 1,440 litres, about the same as in 2016. The Plurinational State of Bolivia, which had previously seized sodium hypochlorite in amounts between 10,000 and 30,000 litres on a regular basis, did not report any seizures in 2017.

Other substances not under international control, and trends in the illicit manufacture of cocaine

166. As to other cocaine precursors not under international control, fewer countries than in previous years reported seizures on form D for 2017, with rare exceptions. The seizures that were reported were for fewer substances and smaller amounts. This could be a reporting issue, although shifts in law enforcement attention may have contributed.

167. With regard to chemicals used in the extraction of cocaine base from coca leaves, Colombia reported seizures in 2017 of nearly 82,000 litres of ammonia. The Plurinational State of Bolivia seized more than 1.6 tons of urea, although it did so in part for administrative reasons.

A similar amount was seized in clandestine laboratories in the Bolivarian Republic of Venezuela.

168. Seizures of other chemicals indicate that the illicit processing of cocaine is becoming more sophisticated and efficient. Sodium metabisulfite is a reducing agent used to standardize the oxidation level of cocaine base sourced from various extraction laboratories prior to further processing. It has regularly been reported on form D since 2008. In 2017, seizures were reported by Colombia (47 tons), the Plurinational State of Bolivia (7.5 tons, of which more than 75 per cent was seized in illicit cocaine laboratories), and the Bolivarian Republic of Venezuela (1.7 tons, seized in illicit laboratories).

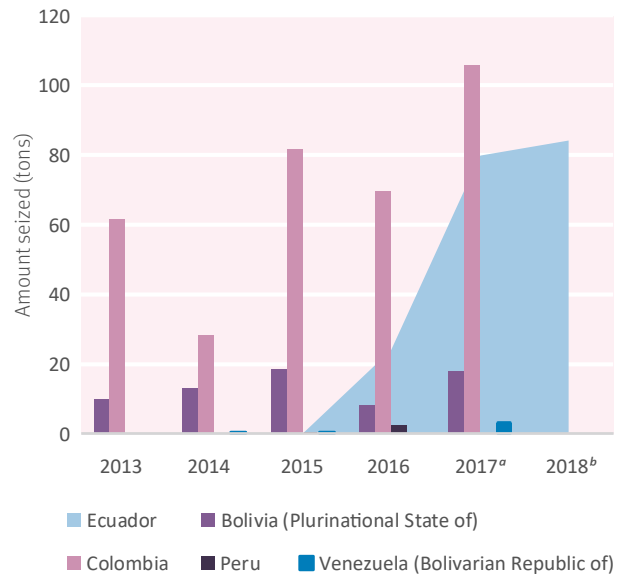
169. Seizures of calcium chloride, a drying agent for solvents, also continued to be reported on form D for 2017 (see figure XII). The Plurinational State of Bolivia reported seizures of more than 18 tons of calcium chloride. About half of those were made in raids of illicit cocaine laboratories, while the other half were made for administrative reasons, such as failure to obtain authorizations or transportation documents. In Colombia, seizures of calcium chloride amounted to more than 105 tons, up from 70 tons in 2016.

170. While both the Plurinational State of Bolivia and Colombia have regularly reported significant, multi-ton seizures since 2013, Ecuador appears to emerge as the third country affected by the large-scale smuggling of calcium chloride for use in illicit cocaine laboratories. Reported seizures in that country increased from less than 100 kg in 2015, to 24 tons in 2016 and 80 tons in 2017. Information provided by the Government of Ecuador suggests that seizures in the first 10 months of 2018 already exceeded 80 tons. Most seizures were made on highways. The calcium chloride originated in Peru and was destined for Colombia for use in the illicit manufacture of cocaine. This contrasts with the information received from other countries, which usually did not specify the origin of the calcium chloride they had seized. Where they did, the origin was recorded as being domestic. Backtracking investigations into the seizures made in Ecuador appear to be difficult to conduct because calcium chloride is not controlled in Peru and, consequently, law enforcement authorities have taken no further action.

171. The situation with regard to seizures of solvents and acids required for cocaine processing remained largely unchanged. Significant seizures of solvents, whether included in Table II of the 1988 Convention or not, continued to be reported by countries in South America. Most seized solvents not included in Table II were acetate solvents used in the final crystallization step,

when cocaine base is converted into cocaine hydrochloride (see figure XIII). Solvents and acids were typically obtained from domestic sources.

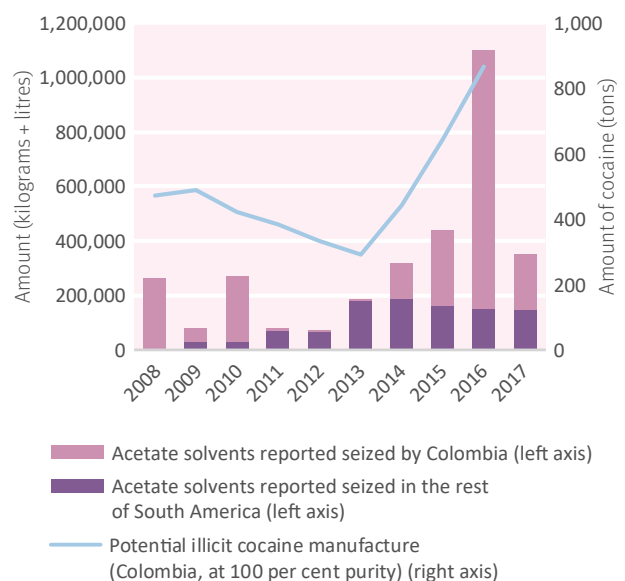
Figure XII. Seizures of calcium chloride in South America reported by Governments on form D, 2013–2017, and by the Government of Ecuador, 2018



^aFor 2017, no data were available for Peru.

^bFirst 10 months of 2018.

Figure XIII. Acetate solvents reported seized by countries in South America on form D, 2008–2017, and potential manufacture of cocaine in Colombia, 2008–2016⁴⁰



⁴⁰ *World Drug Report 2018: Global Overview of Drug Demand and Supply—Latest Trends, Cross-Cutting Issues* (United Nations publication, Sales No. E.18.XI.9 (Booklet 2)), p. 53.

172. In terms of geographic spread, there are indications that coca paste (or cocaine base) is increasingly being trafficked and converted into cocaine hydrochloride outside Colombia, in particular in countries in Central and South America. This may in part be brought about by organized criminal networks' gaining greater control over the manufacturing process from start to end and using increasingly sophisticated methods to illicitly manufacture cocaine. For the same reasons there could be changes in the *modi operandi* for the supply of potassium permanganate and other required chemicals.

C. Substances used in the illicit manufacture of heroin

1. Acetic anhydride

173. Acetic anhydride is a key precursor of heroin and a frequently and widely traded chemical that is included in Table I of the 1988 Convention. Acetic anhydride is required not only in the illicit manufacture of heroin, but also in certain P-2-P-based methods used in the illicit manufacture of amphetamine and methamphetamine (see annex VIII).

174. The Board has noted a sharp increase in the demand for acetic anhydride for illicit purposes that started early in 2016, in particular in the European Union. The increase manifested in three ways. Firstly, legitimate chemical trading and distribution companies received an unprecedented number of queries from dubious physical and legal persons about the supply of acetic anhydride. Secondly, through the PEN Online system, importing countries objected to a number of shipments of acetic anhydride purportedly destined for unauthorized companies in their territories. Thirdly, an increasing number of seizures of acetic anhydride have been communicated through PICS.

175. The global upsurge in the number of attempts to divert acetic anhydride continued throughout 2016 and culminated around mid-2017. Since then, attempts by traffickers to source the substance from domestic and international distribution channels have gradually decreased in number, in particular in the European Union, although they did not stop completely. However, suspicious requests for supplies of acetic anhydride continued to be posted on certain online trading platforms. One reason for the decrease in the number of diversion attempts could be that traffickers have succeeded in diverting and stockpiling sufficient amounts for further trafficking to heroin manufacturing regions. That hypothesis appears to be supported by the fact that seizures of acetic anhydride of suspected

European origin continued to be made in Europe and West Asia in 2017 and 2018. In addition to countries in Europe, Japan emerged as a potential new target of acetic anhydride traffickers in 2017.

Licit trade

176. From 1 November 2017 to 1 November 2018, authorities of 23 exporting countries and territories used the PEN Online system to submit more than 1,900 pre-export notifications regarding shipments of acetic anhydride. The shipments were destined for 84 importing countries and territories and involved a total of 611 million litres of acetic anhydride.⁴¹ About 15 per cent were objected to by the authorities of the importing countries, mostly for administrative reasons, the same number as in the previous reporting period (1 November 2016–1 November 2017). However, contrary to the previous reporting period, the number of shipments objected to through the PEN Online system because of suspected diversion attempts has sharply decreased, indicating a likely return by traffickers to their past *modus operandi*, i.e., diversion from domestic distribution channels.

177. In 2017, notable incidents in licit trade monitored through the PEN Online system included a stopped shipment of 900,000 litres of acetic anhydride from Switzerland to Poland. They also included proposed exports of sizeable amounts of acetic anhydride from the United States to the United Arab Emirates. As the receiving party was not an authorized importer, the authorities of the United Arab Emirates objected to the proposed shipments. **The Board would like to remind Governments of the importance of ensuring that shipments in international legitimate trade that have been stopped or objected to receive the same attention and are investigated in the same manner as seizures, with a view to obtaining actionable intelligence to prevent future diversion elsewhere.**

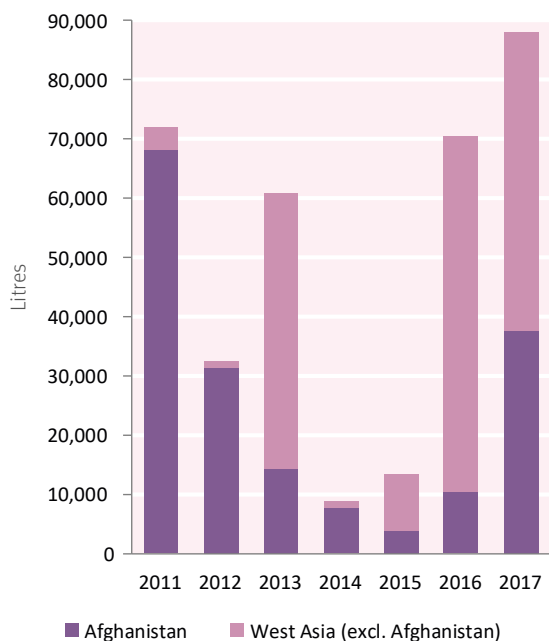
Trafficking

178. According to information provided by Governments on form D for 2017, 20 countries reported seizures of acetic anhydride, amounting to almost 127,000 litres. The largest amount was reported by Afghanistan (37,700 litres), followed by Turkey (23,200 litres) and the Islamic Republic of Iran (20,300 litres). The countries reporting seizures of more than 5,000 litres were Bulgaria (10,600 litres), Mexico (8,600 litres), Japan (7,600 litres), the Netherlands (7,000 litres) and Pakistan (6,900 litres).

⁴¹This does not include trade among the States members of the European Union.

179. Following a sharp decrease in the amounts of acetic anhydride seized in Afghanistan between 2011 (68,000 litres) and 2015 (3,800 litres), the amounts seized have increased again, tripling in two consecutive years to 10,400 litres in 2016 and 37,700 litres in 2017 (see figure XIV). According to the authorities of Afghanistan, all acetic anhydride seized in 2017, in 13 incidents, had been trafficked through the Islamic Republic of Iran. Preliminary data for 2018, communicated through PICS, suggest that the amount seized in Afghanistan decreased again, although seizures of acetic anhydride with Afghanistan as their suspected destination were also reported elsewhere. **INCB wishes to commend the authorities of Afghanistan for their active sharing of information with counterparts abroad, which has resulted in seizures of acetic anhydride and prosecutions of traffickers elsewhere.**

Figure XIV. Seizures of acetic anhydride reported by Governments of countries in West Asia on form D, 2011–2017



180. In Pakistan, seizures of acetic anhydride decreased from 40,000 litres in 2016 to 6,900 litres in 2017; information on the suspected origin was not provided. Seizures communicated through PICS suggest a significant increase in the amount of acetic anhydride seized in 2018; the largest of the seized shipments, amounting to 15.5 tons, originated in Poland.

181. Authorities in the Islamic Republic of Iran seized 20,293 litres of acetic anhydride in 2017 (3 seizures). This represented a minor increase from the 18,520 litres seized

in 2016. The suspected origin or points of departure were China, Taiwan Province of China and Germany.

182. On form D for 2017, the Government of Japan reported a single seizure of 7,647 litres of acetic anhydride that had originated within the country. The only other acetic anhydride seizures reported by Japan date back to 2009, when 8,424 litres were seized in four incidents. At the time, at least one of the trafficking attempts had been facilitated by a national of a West Asian country living in Japan. The shipment in question had been destined for the United Arab Emirates.

183. From 2008 to 2017, the amounts of acetic anhydride seized in Turkey ranged from less than 200 litres in 2011 to more than 14,600 litres in 2013. In 2017, seizures in Turkey increased to 23,238 litres (23 seizures), presumably the result of large-scale diversion in countries in Europe, and subsequent trafficking through Turkey to Afghanistan. To the extent that such information was available, the suspected countries of origin were Belgium, Czechia, Germany, Greece, Iran (Islamic Republic of), the Netherlands and Romania. In 2018, Turkey continued to make seizures of acetic anhydride suspected to have originated in countries in Europe.

184. In China, in the past decade, seizures of acetic anhydride significantly fluctuated, reaching their highest level in 2013 (94,900 litres), and the lowest in 2009 (926 litres). No form D data were available for 2017.

185. In 2016, Taiwan Province of China appeared as a suspected source of acetic anhydride seized in Afghanistan and the Islamic Republic of Iran. INCB is aware of possible links between seizures in the latter two countries, even though the extent of the backtracking investigations was limited. Considering the investigative value of establishing such links, **INCB wishes to encourage the authorities concerned, including the authorities in countries where seizures are made, to further strengthen their cooperation, including by exchanging information in a timely manner, with a view to identifying the criminal organizations involved and preventing future trafficking.**

186. Historically, seizures of acetic anhydride in India have been relatively limited. In 2017, not even 25 litres of acetic anhydride were reported seized in 2 incidents. One of the seizures was linked with the dismantling of a small clandestine heroin laboratory in which a small amount of acetyl chloride was also seized. At the same time, INCB is aware that a number of suspicious requests for supplies of acetic anhydride have been posted on Indian online trading platforms. The authorities of India are currently

Box 3. Internet-facilitated trade in precursors

In its 2017 report on precursors,⁴² INCB voiced its concern about the possible misuse by traffickers of online trading platforms to search for potential suppliers of acetic anhydride. Since then, INCB, in cooperation with several countries and regional intelligence centres, has gathered further evidence showing that its concern was justified. The same evidence shows that online trading platforms can be good sources of intelligence.

Overall, in the period 2016–2017, there were more than 100 suspicious postings asking for at least 700 tons of acetic anhydride. The suspected buyers were purportedly located in Afghanistan, Iran (Islamic Republic of), Iraq, Pakistan and the United Arab Emirates, countries that have only limited legitimate requirements for the substance or none at all. Suspicious requests for supplies were also found in postings suspected to have originated in European countries including Germany, the Netherlands, and Poland, i.e., alleged source countries of acetic anhydride seized in Europe and West Asia.

In one case, a person suspected of having previously organized trafficking in acetic anhydride and whose whereabouts had been unknown to law enforcement agencies, was later found to have posted a request for the supply of acetic anhydride on an online trading platform.

In this and similar incidents, INCB has facilitated case cooperation between the countries concerned. This has helped to raise awareness among regulatory and law enforcement authorities of both the challenges and the opportunities presented by suspicious requests for precursors posted on the Internet. INCB is also aware that some countries in which trading platforms are located are taking steps to confront the issue in cooperation with the private sector.

INCB appreciates the efforts Governments are making in cooperation with industry and encourages all parties concerned to cooperate and exchange best practices to ensure that action by one online trading platform, or by one country, does not result in a shift elsewhere, nor in a loss of the Internet as a source of valuable actionable intelligence.

⁴²E/INCB/2017/4, chapter IV.

looking into this development. INCB understands that a seizure of almost 10,000 litres of acetic anhydride in October 2018 may have been linked with those efforts.

187. In 2017, Myanmar reported one seizure of 1,318 litres of acetic anhydride whose suspected country of origin was China. It was the only acetic anhydride seizure of notable size reported by Myanmar since 2009. However, the reported amount, although larger than in previous years, was still small when compared with the size of the country's potential illicit opium production, which was estimated at 550 tons in 2017.⁴² Converting the potential illicit opium production of Myanmar into heroin would require between 55,000 and 140,000 litres of acetic anhydride.

188. In Mexico, seizures of acetic anhydride increased from 2,900 litres in 2016 to 8,600 litres in 2017. As in the past, acetic anhydride was reported seized in connection with the illicit manufacture of both methamphetamine and heroin. In 2017, eight illicit heroin laboratories were dismantled in Mexico, six in the north-eastern states of Sinaloa and Sonora and two in the state of Guerrero, in the central part of Mexico.

189. In the period 2016–2018, traffickers seeking new suppliers of acetic anhydride targeted several countries in the European Union, including Belgium, Czechia, Germany, the Netherlands and Poland. These countries identified, investigated and/or prevented traffickers' attempts to source acetic anhydride from their legitimate distribution channels. For example, in 2017, Belgium prevented the delivery of 3,000 litres of acetic anhydride to a company in Suriname that had previously appeared in investigations related to ergot alkaloids in the Netherlands. Belgium also reported a seizure of 1,836 litres of acetic anhydride destined for the Islamic Republic of Iran. In

⁴²World Drug Report 2018: Global Overview of Drug Demand and Supply (Booklet 2), pp. 28 and 44. The estimates cover only the states of Shan and Kachir.

Box 4. Perceived deficiencies in precursor control that may have facilitated the large-scale diversion of acetic anhydride in the period 2016–2017

Precursor legislation in most countries requires operators intending to trade in chemicals to register with their competent national authorities. As part of the process, before the registration is granted, the legislation usually requires the applicant's bona fides and/or legitimate needs to be verified. If there are reasonable grounds to believe that the applicant fails to fulfil the criteria, registration can and should be refused. While the criteria may be more or less complex to assess, practical experience has shown that the absence of a criminal record and of previous infringements of precursor legislation should not be considered as sufficient indication of the applicant's integrity.

Nonetheless, recently registered operators appeared to have played a central role in recent diversion cases in Europe, as illustrated by the results of investigations into several seizures of acetic anhydride. INCB understands that the authorities of some countries might face difficulties in refusing questionable registration requests, even against the background of well-known and more intense efforts by traffickers to source acetic anhydride during the period 2016–2017. Reasons include the absence of a criminal record and an inability on the part of competent national authorities to prove to other relevant Government agencies that there are reasonable grounds to doubt the suitability and reliability of the operators. In one particular country, the number of applicants registering as traders in acetic anhydride doubled from 2016 to 2017. That country appeared as a suspected source of acetic anhydride found in Europe and West Asia, including Afghanistan.

INCB is aware of cases in which companies, shortly after registering as precursor operators, applied for authorizations to export acetic anhydride to countries that have limited use for the substance. The names of some of those registered companies or their clients also appeared on jerrycans of acetic anhydride seized elsewhere.

Despite their association with shipments seized and/or objected to by authorities in importing countries, those companies kept their registration as precursor operators and could not be properly investigated and/or prosecuted because authorities could not prove that they had knowingly traded in acetic anhydride destined for the illicit manufacture of drugs. Consequently, although seizures and objections did prevent individual consignments from reaching illicit channels, the companies were able to continue their questionable activities and purchase additional quantities of acetic anhydride elsewhere.

In addition to refusing or revoking registrations and to bringing criminal charges (with the associated difficulty of proving intent), competent national authorities can impose administrative penalties on registered precursor operators that do not fully comply with precursor laws and regulations. The severity of those penalties (or lack thereof) may be one of the reasons why diversion attempts are less frequent in some countries and more frequent in others. For example, in a country that was the suspected source of acetic anhydride, the maximum penalty for infringing precursor legislation was less than \$250. Considering that the price on the illicit market for a litre of acetic anhydride in Afghanistan ranged from \$250 to \$1,200 in 2017, that penalty was hardly dissuasive.

INCB wishes to encourage Governments to consider the above scenarios and address existing weaknesses in their precursor legislation or its implementation to help to improve the identification, prevention and prosecution of precursor-related crimes.

Germany, authorities, in cooperation with the private sector, foiled more than 50 diversion attempts for a total of 220,000 litres of acetic anhydride destined for dubious potential buyers in Europe and other regions. Individual purchase requests ranged from 100 to 20,000 litres and were purportedly required for the production of cleaning

products, the treatment of wood or leather and for use in other products. Similar attempts had been reported in 2016 for amounts totalling 53,000 litres. Unlike the previous year, no diversion attempt of acetic anhydride was successful in 2017, according to the authorities. However, since 2016, Germany was reported by some countries in

West Asia as a source country or a country of departure of acetic anhydride seized on their territories.

190. The Netherlands rarely used to report seizures of acetic anhydride. In 2017, however, it reported eight seizures totalling almost 7,000 litres. Some of those seizures were reportedly linked with the illicit manufacture of heroin that appears to have emerged in the country.⁴³ Although the actual magnitude of illicit operations in the Netherlands is not known, seizures made in Bulgaria in 2017 of morphine that was apparently destined for the Netherlands and/or Poland provides further evidence that the illicit manufacture of heroin may now be located closer to consumer markets. The availability and lower cost of acetic anhydride in Europe might also be contributing factors.

191. Since 2017, several countries have reported incidents in which Poland was a suspected source country. Seizures of acetic anhydride linked to Poland were made in Afghanistan, Bulgaria, Iran (Islamic Republic of), the Netherlands, Pakistan and Turkey. Poland itself seized at

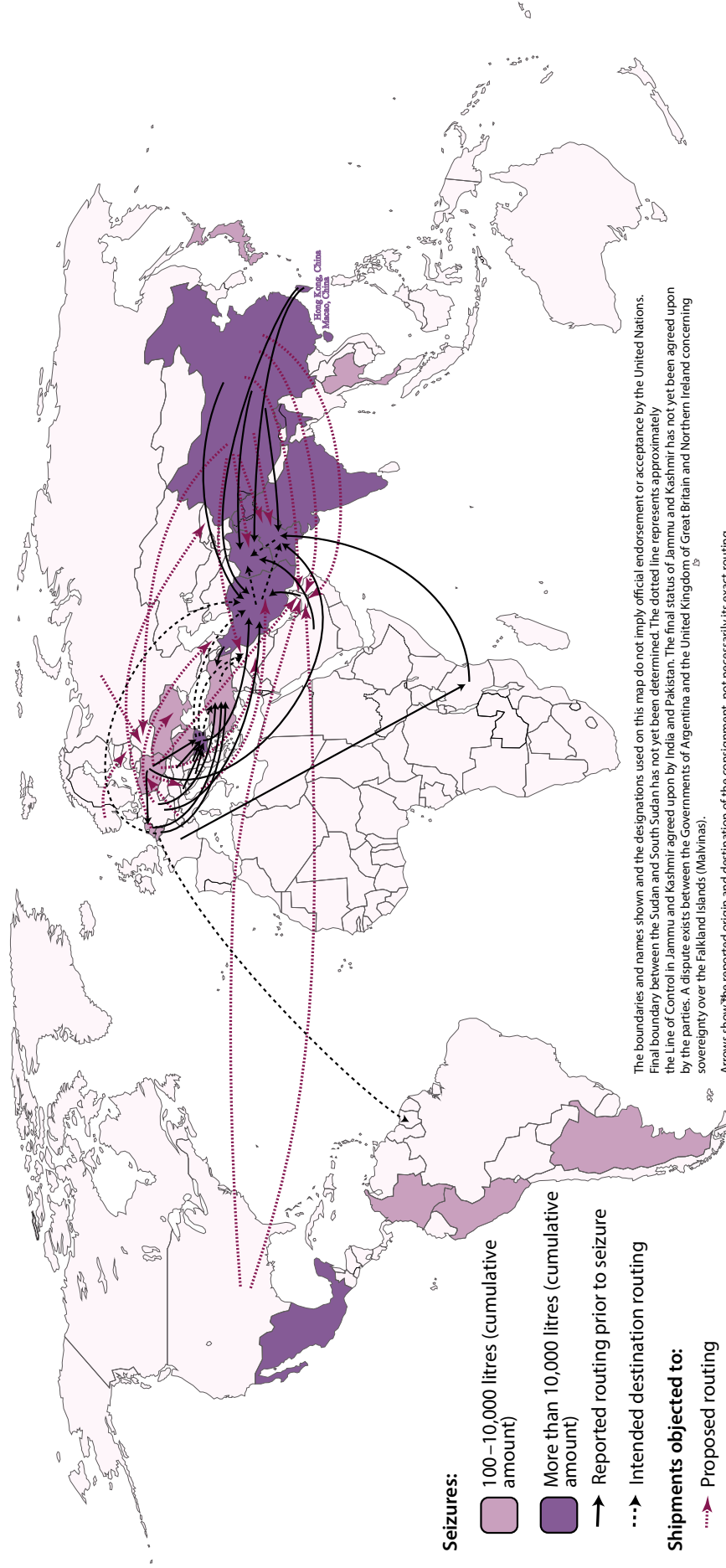
least 8,300 litres of acetic anhydride in its territory in 2017 and 2018. Through the PEN Online system, the authorities of Iraq, Ukraine and the United Arab Emirates objected to proposed exports of sizeable amounts of acetic anhydride from Poland. Through the PEN Online system, INCB is also aware that considerable amounts of acetic anhydride were destined for import into Poland. Although at least one shipment from Switzerland did not materialize (see para. 177 above), there are indications that the importing company in Poland eventually purchased the acetic anhydride from other legitimate sources in the internal market of the European Union.

192. Since 2016, suspected countries and territories of origin or departure for acetic anhydride have included, in Europe: Belgium, Bosnia and Herzegovina, Bulgaria, Czechia, France, Germany, Hungary, the Netherlands, Poland, Serbia and Slovenia. Outside Europe they have included China, Taiwan Province of China, Iran (Islamic Republic of), Japan and the United Arab Emirates (see map 2).

⁴³In the past, heroin laboratories have also been reported dismantled in other European countries, in particular in Spain late in 2013 and early in 2014.

Map 2. Seizures and suspected illicit activities involving acetic anhydride, based on government information provided on form D, through PICS and the PEN Online system, and under Project Cohesion, 2016–2018

As at 1 November 2018



2. Use of non-scheduled substances and other trends in the illicit manufacture of heroin

193. As in previous years, Afghanistan indicated a number of chemicals on form D that are not scheduled internationally, but that are under national control. Among those was ammonium chloride, of which 1.6 tons were encountered at illicit laboratories in five incidents. Both the number of ammonium chloride incidents and the amounts seized fluctuated significantly from one year to another, probably because of large individual seizures. For example, the amount of ammonium chloride reported seized in 2017 was a mere 3.5 per cent of that in 2016 (45 tons).

194. By contrast, seizures of ammonium chloride in Mexico, the only country other than Afghanistan that regularly reports seizing large amounts of ammonium chloride on form D, amounted to nearly 20 tons. This was the second increase since 2016, when Mexico reported the largest amount ever seized up to that point (almost 18 tons). The seizures occurred at illicit laboratories in Mexico where heroin and methamphetamine were being manufactured (see para. 153 above). Neither Afghanistan nor Mexico had information about the origin of the ammonium chloride.

D. Substances used in the illicit manufacture of other narcotic drugs and psychotropic substances

1. Ergot alkaloids and lysergic acid

195. Ergot alkaloids (ergometrine and ergotamine, and their salts) and lysergic acid are the three chemicals in Table I of the 1988 Convention that can be used in the illicit manufacture of LSD. International trade in ergot alkaloids, which are used in the treatment of migraines and as an oxytocic in obstetrics, is limited, as is trade in lysergic acid.

196. Authorities in Italy sought the cooperation of INCB in connection with suspicious exports of ergometrine to Kyrgyzstan. They subsequently stopped the export of 20 kg. In the course of 2017, information that companies in Kyrgyzstan may have been targeted for the diversion of ergot alkaloids had already come to the attention of INCB in connection with suspicious orders placed with companies in the Netherlands. On form D for 2017, authorities in the Netherlands reported stopping the export of 5 kg of ergotamine. However, they did not provide the country of destination. INCB has not been made aware of any investigations into either of those two incidents.

197. Despite attempts to divert ergot alkaloids, very little evidence was reported of any illicit LSD manufacture in 2017, as in past years. Australia reported seizures of nearly 450 grams of ergotamine; about half had originated in Thailand. In addition, the authorities seized almost 3.9 kg of lysergic acid, of which most (in terms of both the amount seized and number of incidents) had originated in European countries, specifically the Netherlands, Poland, Ukraine and the United Kingdom. Seizures in India amounted to almost 350 grams. First-time seizures of small amounts of lysergic acid were also reported by Belarus (0.02 litres) and Georgia (0.03 litres). The United States reported the dismantling of an illicit LSD laboratory.

2. N-Acetylanthranilic acid and anthranilic acid

198. N-Acetylanthranilic acid and anthranilic acid can be used for the illicit manufacture of methaqualone, a sedative-hypnotic that is also known under its former brand names “quaalude” and “mandrax”. While there is some international trade in anthranilic acid, trade in N-acetylanthranilic acid continued to be limited to small amounts that were typically intended for analytical and research purposes.

199. Reported seizures of methaqualone and cases of its illicit manufacture are rare and limited to a few countries. No seizures of methaqualone precursors were reported on form D for 2017. An incident involving less than 1 kg of N-acetylanthranilic acid, seized together with about 18 kg of ephedrine at an air cargo complex at the international airport of Cochin, India, was communicated through PICS. The suspected destination was Malaysia. India was also the country with the largest suspected clandestine methaqualone manufacturing operation uncovered in recent years. In the incident, which occurred in November 2016, almost 23.5 tons of loose methaqualone tablets were seized. The tablets had been manufactured in a factory at the Gudli industrial area near Udaipur.⁴⁴ Despite the significance of the seizure, INCB was unable to obtain information on the sources, the point of diversion or the modus operandi the traffickers had used to obtain the required precursors. Therefore, **INCB reiterates its request to Governments to make every effort to confirm and provide details of seizures when so requested by the Board. Only by sharing such information can weaknesses in control systems be identified and successfully addressed.**

⁴⁴India, Ministry of Home Affairs, Narcotics Control Bureau, *Annual Report 2016* (New Delhi, n.d.), p. 27.

3. Precursors of fentanyl, fentanyl analogues and other synthetic opioids

200. The international scheduling of NPP and ANPP entered into force on 18 October 2017. As at 1 November 2018, six pre-export notifications had been issued for ANPP and seven for NPP. The amounts involved suggested limited research and analytical uses, except in the case of two larger shipments of about 50 kg of ANPP and 60 kg of NPP, respectively.

201. While the so-called opioid crisis lasts, especially in North America, the number of seizures of the required precursors continues to be comparatively low. The illicit manufacture reported is often the final retail processing of smuggled fentanyl and related substances in the regions and countries of final consumption.

202. No seizures of ANPP were reported on form D for 2017. Estonia and the United States reported seizures of NPP; both countries had reported NPP seizures in the preceding year. The United States reported a seizure of 50 kg in May 2017 in what is believed to be the largest seizure of a fentanyl precursor in its north-eastern New England region in recent times. The criminal group associated with it is believed to have illicitly manufactured fentanyl pills marked as 80 mg “OxyContin” in the past. The seizure not only provides evidence that illicitly manufactured fentanyl is being shipped internationally, through postal or courier services; it also provides evidence that the illicit manufacture of fentanyl has moved closer to the areas of consumption. In Estonia, nearly 4.5 kg were seized in two incidents. No further information was provided. INCB is also aware of the dismantling of a mobile fentanyl laboratory in Estonia in 2017, and the seizure of 6 kg of fentanyl and NPP at a storage site associated with the laboratory.

203. Through PICS, INCB is aware of additional incidents involving NPP and ANPP in 2018. One of these was a suspicious enquiry made in France by a purported buyer in the Islamic Republic of Iran for 3 kg of NPP. Eventually, the transaction, which would have involved the sourcing of the NPP in Belgium, did not proceed. In July 2018, after several months of investigations, Royal Canadian Mounted Police dismantled a suspected synthetic opioid laboratory and seized bulk chemicals in Port Coquitlam. At the time of finalization of the present report, INCB had been unable to obtain further details of the incident, in particular on the precursors found and their sources. In India, in September 2018, an illicit laboratory was dismantled where fentanyl was suspected to have been manufactured.

204. There have been reports of trafficking incidents involving analogues of NPP and ANPP, such as methylated

or fluorinated ANPP. There have also been indications of trafficking in potential substitutes for NPP and ANPP. As with the precursors for amphetamine-type stimulants, those substitutes include chemical intermediates in the manufacture of fentanyl and fentanyl analogues (see also chapter IV).

E. Substances not in Table I or Table II of the 1988 Convention that are used in the illicit manufacture of other narcotic drugs and psychotropic substances or substances of abuse not under international control

1. Precursors of *gamma*-hydroxybutyric acid

205. Seizures of GBL continued to be reported on form D for 2017, mostly by countries in Europe. Amounts ranged from 1 litre reported by Hungary to more than 40,000 litres reported by Estonia. In addition to those seizures, Germany reported attempts to purchase GBL intended, allegedly, for different target countries in Europe. The authorities had been alerted by the chemical operators concerned. The GBL had allegedly been intended for the production of cleaning products. Compared to 2016, both the number and volumes involved in individual GBL purchase attempts decreased in 2017.

206. Outside Europe, Australia reported seizures amounting to nearly 555 kg in 164 incidents. China, including Hong Kong, China, was cited as major country of origin, both by number of seizures and by amount seized, followed by Italy (by amount seized) and Lithuania (by number of seizures). Japan reported a small seizure of GBL at an illicit GHB laboratory; the GBL had been diverted from domestic sources. Another country outside Europe that reported seizures of GBL was the United States.

207. Seizures of 1,4-butanediol, a precursor of GBL and a pre-precursor of GHB, have rarely been reported on form D. In 2017, amounts of 200 ml or less were reported by Austria and Finland.

2. Precursors of ketamine

208. In its 2018 report on drug control,⁴⁵ China reported significant seizures of the two major ketamine precursors, namely “hydroxylimine” (more than 10 tons) and

⁴⁵ *Annual Report on Drug Control in China 2018*, p. 24.

o-chlorophenyl cyclopentyl ketone (nearly 5 tons). The two substances are intermediates in the manufacture of ketamine. They are not regularly traded legitimately, nor are they typically available off the shelf. As such, they are “designer” precursors of ketamine, similar to APAAN, APAA and the P-2-P methyl glycidic acid derivatives in the context of the manufacture of amphetamine and methamphetamine, and to a number of fentanyl intermediates. The manufacture of the two ketamine intermediates starts from 2-chlorobenzonitrile, a chemical of which 200 litres were reported seized in the Netherlands in 2017.

209. In June 2018, in India, the Directorate of Revenue Intelligence dismantled an international criminal organization involved in the sourcing of raw materials and the illicit manufacture and supply of ketamine. Four manufacturing facilities were dismantled in Goa, Vadodara and Raigad. In addition, a total of 2,000 kg of unspecified raw materials for the manufacture of ketamine were seized, from which, allegedly, about 250 kg of ketamine could have been manufactured.

3. Precursors of new psychoactive substances, including substances recently scheduled under the Single Convention on Narcotic Drugs of 1961 or the Convention on Psychotropic Substances of 1971

210. Once again, few seizures of precursors to new psychoactive substances were reported on form D for 2017, suggesting a limited ability to forensically identify non-scheduled chemicals, limited law enforcement focus and/or criminal groups continuing, as before, to traffic end products (i.e. new psychoactive substances) more frequently than the corresponding chemicals. The low number of seizures reported could also be the result of a reporting issue, especially since precursors to new psychoactive substances are, by definition, precursors to end products not listed under the 1961 Convention or the 1971 Convention. Despite these constraints, some countries report seizures of precursors to new psychoactive substances that included, in 2017, 4-chloropropiophenone, a precursor of 4-chloromethcathinone (4-CMC), of which about 110 kg were reported seized in the Netherlands.

211. The Netherlands, on form D for 2017, also reconfirmed the seizure at a warehouse of 1,200 kg of 2-bromo-4'-methylpropiophenone, a mephedrone precursor. The incident had earlier been communicated through PICS in real time. France, another country that had reported seizures of 2-bromo-4'-methylpropiophenone in 2016, again

reported such seizures in 2017. While other “designer” precursors seized in France were destined for other European countries, 2-bromo-4'-methylpropiophenone had France itself as the final destination. As in the past, the alleged origin was Hong Kong, China.

212. Belgium reported a seizure of 1 kg of 2,5-dimethoxybenzaldehyde while it was in transit from China to the Netherlands. 2,5-Dimethoxybenzaldehyde can be used as a precursor for 2,5-dimethoxyamphetamine (DMA), bromamfetamine (DOB) and the 2C-series of controlled psychotropic substances, as well as for new psychoactive substances.

213. China uncovered seven cases of manufacture and supply of various new psychoactive substances in which more than 2.2 tons of unspecified precursors were seized and four clandestine laboratories dismantled.⁴⁶ INCB is also aware of clandestine laboratories having been dismantled in the Russian Federation in 2017 that had been manufacturing *alpha*-pyrrolidinopentiophenone (*alpha*-PVP) from valerophenone and pyrrolidine. Other substances manufactured clandestinely in the country included MDMB-CHMINACA, mephedrone and methadone. Some of the laboratories dismantled in the Russian Federation had considerable capacity. Another country in which clandestine methadone laboratories are known to have been dismantled is Latvia.

IV. Options to address the proliferation of non-scheduled “designer” precursors at the international level

214. Non-scheduled chemicals, alternates, substitute chemicals and pre-precursors are terms often used interchangeably to describe a development that increasingly poses a challenge to one of the pillars of international drug supply control, namely prevention of the diversion of chemicals as stipulated in article 12 of the 1988 Convention.

⁴⁶Ibid., p. 29.

215. To address the challenges, it is necessary to understand the nature of “designer” precursors and the limitations of the existing legal framework with its focus on monitoring legitimate trade in a set of priority precursors listed in the two tables of the 1988 Convention.

216. The present thematic chapter builds on the Board’s observations over the years⁴⁷ and is aimed at providing input for a strategic discussion about precursor control in the twenty-first century.

The issue

217. The issue of non-scheduled chemicals is not new.⁴⁸ However, it has made a quantum leap in the past 8 to 10 years. The increases in the sophistication, diversification and scale of illicit drug manufacturing operations have far exceeded anything anyone envisioned at the time the 1988 Convention was drafted. This is especially true for the manufacture of synthetic drugs.

218. As a result, there now is virtually no limit to the range of chemicals and manufacturing methods that may be employed in illicit drug manufacture, including those that were previously considered unusable in illicit settings. Broadly speaking, the chemicals used are obtained from two supply sources, each with its own implications for the controls that can be applied:

(a) Chemicals available off the shelf and regularly traded for legitimate purposes, such as benzaldehyde, methylamine, and esters of phenylacetic acid (see paras. 127, 134 and 150 above);

(b) “Designer” precursors, which are purpose-made, close chemical relatives of controlled precursors and can easily be converted into a controlled precursor; they usually have no legitimate use and are therefore not traded widely and regularly (see box 5). Some of the commonly encountered “designer” precursors are the derivatives of P-2-P and 3,4-MDP-2-P methyl glycidic acid (see paras. 124 and 147 above).

219. While chemicals in the first category are, in principle, suitable for the monitoring system laid down in

⁴⁷INCB has repeatedly highlighted the issue, most comprehensively in the thematic chapter in its 2014 report on precursors, entitled “Making precursor control fit for 2019 and beyond (a contribution to the special session of the General Assembly in 2016)” (E/INCB/2014/4, paras. 24–27, 30–35, 208 and 209).

⁴⁸See, for example, the twentieth special session of the General Assembly, devoted to countering the world drug problem together, held in 1998, and the resulting resolution S-20/4 B, as well as the Political Declaration and Plan of Action on International Cooperation towards an Integrated and Balanced Strategy to Counter the World Drug Problem of 2009.

article 12 of the 1988 Convention, it is clear that the number of non-scheduled substances that could be used to replace the controlled precursors is almost infinite and poses a challenge to the international precursor control system for two reasons in particular:

(a) A system of assessments of individual substances and substance-by-substance scheduling will almost certainly be reactive and lag behind the speed of innovation of traffickers;

(b) Monitoring of international legitimate trade is at the core of the international precursor control regime. However, many of the chemicals that have recently emerged were designed specifically to circumvent controls. They have no legitimate uses beyond limited research and analysis, and there is no regular trade in them (i.e., they are not available off the shelf, although they may be manufactured on demand, including for legitimate industrial use).

220. Governments face significant difficulties in preventing non-scheduled chemicals from reaching clandestine laboratories. Some of those are legal in nature, others may stand in the way of cooperation. Therefore there is a need to provide Governments worldwide with a common framework and legal basis to address those challenges jointly.

Limited international special surveillance list

221. In 1998, pursuant to resolution 1996/29 of the Economic and Social Council, INCB established the limited international special surveillance list of non-scheduled substances to meet the need for flexible, complementary approaches.⁴⁹ The list, together with the recommended actions associated with it, enables Governments, in cooperation with the industries concerned, to establish uniform procedures and a common approach to preventing the diversion of non-scheduled chemicals. However, use of the list and cooperation with industry are voluntary.

222. The list currently contains 53 individual substances. In 2013, in response to the proliferation of “designer” precursors, INCB expanded the list in a generic manner. This meant that, instead of merely listing individual substances, the Board introduced extended definitions that capture common derivatives and other substances with chemical structures related to substances listed in Table I or Table II

⁴⁹The Board circulates the limited international special surveillance list of non-scheduled substances to competent national authorities once a year. The latest version is available from the Board’s secure web page. The list is also available on request.

Box 5. Types of “designer” precursors

The chemical concepts that traffickers have employed in recent years to circumvent controls include:

- Series of related substances, such as esters and other simple derivatives from which a controlled precursor can often be recovered by a single hydrolysis step;
- Stable chemical intermediates, i.e., chemicals that are generated during the synthesis process for a controlled drug or precursor but are normally not isolated, and hence not traded, but immediately consumed in the next reaction step. APAAN and APAA are examples of such intermediates in the manufacture of P-2-P, amphetamine and methamphetamine. Purpose-made chemical intermediates have also been encountered as substitute precursors of fentanyl (see para. 204 above) and ketamine (see para. 208 above);
- Masked derivatives of controlled precursors (see paras. 124 and 147 above), i.e., chemicals that are not under international control but can easily be converted into the corresponding controlled precursor; the concept of masked precursors is based on what is known in organic synthesis as protection group chemistry;
- Masked derivatives of controlled drugs (see para. 156 above), i.e., substances that are not under international control but can easily be converted into the corresponding drug; their manufacture first requires the manufacture of the drug end product, which is subsequently converted into the non-scheduled masked derivative to disguise its identity and minimize the risks during smuggling.

of the 1988 Convention and that can be converted into a controlled precursor by readily applicable means.

223. The limited international special surveillance list and similar national and regional monitoring lists provide, in principle, the flexibility necessary to proactively address series of chemically related substances and “designer” precursors. However, the use of those lists is not legally binding and depends on both the level and the reach of voluntary cooperation between authorities and industries.

The 1988 Convention

224. The only way to subject a chemical to a global, legally-binding framework is by including it in one of the tables of the 1988 Convention. However, the scheduling process applies to individual substances only. Generic extensions are limited to salts⁵⁰ and optical

isomers.⁵¹ The tables of the 1988 Convention, unlike the schedules of the 1961 Convention and the national precursor legislation of many countries, do not extend controls to derivatives such as esters.

225. However, the 1988 Convention also provides guidance for developing national legislation that addresses non-scheduled chemicals and “designer” precursors. INCB has, in the past, pointed out the applicable provisions of the Convention, most importantly article 13 (materials and equipment). Other applicable provisions are set out in article 12, paragraph 8 (monitoring of national manufacture and distribution) and article 24 (stricter measures) (see box 6). Ways to address non-scheduled chemicals at the national level have also been set out in various resolutions of the Commission on Narcotic Drugs, most recently and comprehensively in its resolutions 56/13 and 60/5.

⁵⁰Each table of the 1988 Convention is accompanied by the phrase “the salts of the substances listed in this Table whenever the existence of such salts is possible”. (For Table II, the salts of hydrochloric acid and sulphuric acid are specifically excluded.)

⁵¹Although not explicitly stated in the 1988 Convention, it is understood that the names of each of those substances, as listed in the tables of the Convention, covers all (optical) isomeric forms of the substance (see the Commentary on the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, p. 251, footnote 543). This is also reflected in the scheduling decisions of the Commission on Narcotic Drugs, which refer to the substance and its optical isomers, where applicable.

Box 6. Guidance provided for by the 1988 Convention*Article 13 of the 1988 Convention*

Article 13 of the 1988 Convention requires the parties to take such measures as they deem appropriate to prevent trade in and the diversion of materials and equipment for the illicit production or manufacture of narcotic drugs and psychotropic substances and to cooperate to this end. While this is not mentioned specifically, article 13 could be interpreted quite broadly to cover non-scheduled chemicals and emerging precursors (see also paragraphs 13.1 and 13.4 of the Commentary on the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988). In its resolution 56/13, the Commission on Narcotic Drugs recalled article 13 as a basis for national responses to illicit drug manufacture involving non-scheduled substances.

Read together with article 3, paragraph 1, subparagraph (a), clause (iv), of the 1988 Convention, article 13 makes it mandatory for parties to establish as criminal offences the manufacture, transport or distribution of [...] materials and equipment when they are to be used for illicit purposes.^a These provisions relate not only to materials and equipment used for illicit laboratories within a party's territory, but also to materials and equipment that are smuggled out of or exported from the party's territory to other countries and used in illicit laboratories in those countries (see also paragraph 13.3 of the Commentary).

Article 12, paragraph 8, of the 1988 Convention

Article 12, paragraph 8, requires the parties to take the measures they deem appropriate to monitor the manufacture and distribution of substances in Table I and Table II. This provision could also serve as a basis for taking measures against non-scheduled chemicals and emerging precursors, namely those that are starting materials and/or intermediates in the legitimate manufacture of substances in Table I and Table II of the 1988 Convention. National legislation adopted pursuant to this provision may include regulatory controls and/or criminal sanctions for the intentional commission of offences set out in article 3 of the 1988 Convention.

Article 24 of the 1988 Convention

Article 24 of the 1988 Convention provides a general basis for parties to put in place stricter measures of control than those mentioned in the Convention.

^aThese provisions are extended to the possession of materials or equipment (subparagraph (c), clause (ii) of article 3, paragraph 1). Article 3, paragraph 1, subparagraph (a), clause (v), and subparagraph (c), clause (iv), further extend the provisions for criminalization to the organization, management or financing of any of these offences, and to participation in, association or conspiracy to commit, attempts to commit, and facilitating the commission of any of the offences established in accordance with article 3.

The need for a common legal basis for interdiction and international cooperation

226. INCB considers that there is a need for a broader policy discussion about the options available to address the proliferation of series of non-scheduled chemicals and “designer” precursors at the international level. Such a policy discussion should complement and expand proven concepts in precursor control that have yielded results in the past and will continue to do so in most cases involving internationally controlled precursors.

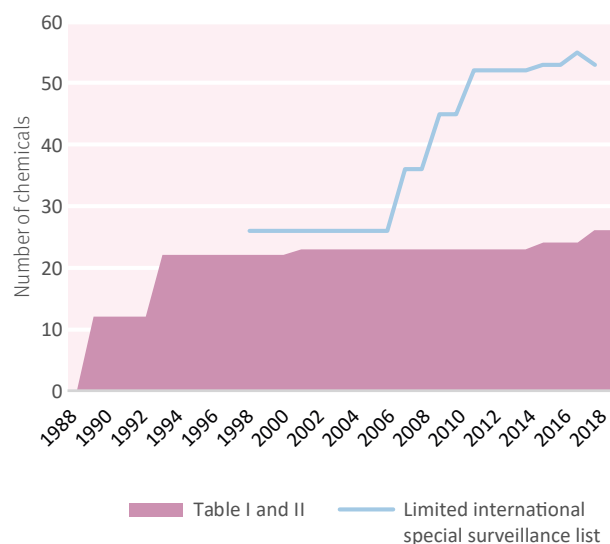
227. The need for that discussion has become particularly evident during the recent assessment of chemicals for possible inclusion in the tables of the 1988 Convention. Two of the chemicals assessed, APAA and 3,4-MDP-2-P methyl glycidate (the methyl ester of 3,4-MDP-2-P methyl glycidic acid), can be considered “designer” precursors. APAA is a close chemical relative of APAAN and started to emerge after APAAN was placed under control in 2014. A substitute for APAA is already available in illicit markets. 3,4-MDP-2-P methyl glycidate is one of a series of derivatives of 3,4-MDP-2-P methyl glycidic acid, and INCB has

formally issued a supplementary notification to capture at least one other known chemical relative that has been seized with equal frequency.

228. Controlled precursors can be replaced by an almost infinite number of substitutes (see figure XV), including many that have no legitimate uses and are designed purely to circumvent controls, much in the same way as designer drugs and new psychoactive substances are. It is neither feasible nor desirable to include such an ever-growing number of chemicals in the tables of the 1988 Convention, especially if those chemicals do not lend themselves to monitoring in legitimate trade flows.

229. Efforts could rather be focused on establishing a common legal basis that would enable authorities worldwide to disrupt the supply of such chemicals to illicit drug manufacturers without creating any unnecessary regulatory burden. To that end, Member States could identify ways and means to introduce more proactive elements in the tables of the 1988 Convention to address series of chemical relatives and support the prosecution of criminal cases. It should also be possible to establish a separate category of precursor chemicals that do not have any currently recognized legitimate uses. For that category, the provisions regarding enforcement measures, such as the requirement to provide for seizures (article 12, subparagraph 9 (b), of the 1988 Convention) could be separated from the regulatory requirement to monitor licit trade.

Figure XV. Numbers of chemicals in Table I and Table II of the 1988 Convention and on the limited international special surveillance list of INCB, 1988–2018



230. INCB encourages Governments to consider all available options and to work with the Board to make the framework for international precursor control more responsive to current challenges.

Glossary

In the present report, the following terms and definitions have been used:

“designer” precursor:	A close chemical relative of a controlled precursor that is purpose-made to circumvent controls and usually does not have any recognized legitimate use
diversion:	Transfer of substances from licit to illicit channels
immediate precursor:	Precursor that is generally only one reaction step away from the end product
industrial-scale laboratory:	Laboratory manufacturing synthetic drugs in which oversized equipment and/or glassware that is either custom-made or purchased from industrial processing sources and/or that uses serial reactions is used and in which significant amounts of drugs are produced in very short periods of time, the amount being limited only by the need for access to precursors and other essential chemicals in adequate quantities and for the logistics and workers to handle large amounts of drugs and chemicals
pharmaceutical preparation:	Preparation for therapeutic (human or veterinary) use in its finished dosage form that contains precursors present in such a way that they can be used or recovered by readily applicable means; may be presented in their retail packaging or in bulk
seizure:	Prohibiting the transfer, conversion, disposition or movement of property or assuming custody or control of property on the basis of an order issued by a court or a competent authority; may be temporary or permanent (i.e., confiscation); different national legal systems may use different terms
stopped shipment:	Shipment permanently withheld because reasonable grounds exist to believe that it may constitute an attempted diversion, as a result of administrative problems or because of other grounds for concern or suspicion
suspended shipment:	Shipment temporarily withheld because of administrative inconsistencies or other grounds for concern or suspicion, for which clarification of the veracity of the order and resolution of technical issues are required before the shipment may be released
suspicious order (or suspicious transaction):	Order (or transaction) of questionable, dishonest or unusual character or condition, for which there is reason to believe that a chemical that is being ordered, imported or exported or is transiting a country or territory is destined for the illicit manufacture of narcotic drugs or psychotropic substances

Annex I

Parties and non-parties to the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, by region, as at 1 November 2018

Note: The date on which the instrument of ratification or accession was deposited is indicated in parentheses.

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
AFRICA	Algeria (9 May 1995)	Eritrea (30 January 2002)	Equatorial Guinea
	Angola (26 October 2005)	Ethiopia (11 October 1994)	Somalia
	Benin (23 May 1997)	Gabon (10 July 2006)	South Sudan
	Botswana (13 August 1996)	Gambia (23 April 1996)	
	Burkina Faso (2 June 1992)	Ghana (10 April 1990)	
	Burundi (18 February 1993)	Guinea (27 December 1990)	
	Cabo Verde (8 May 1995)	Guinea-Bissau (27 October 1995)	
	Cameroon (28 October 1991)	Kenya (19 October 1992)	
	Central African Republic (15 October 2001)	Lesotho (28 March 1995)	
	Chad (9 June 1995)	Liberia (16 September 2005)	
	Comoros (1 March 2000)	Libya (22 July 1996)	
	Congo (3 March 2004)	Madagascar (12 March 1991)	
	Côte d'Ivoire (25 November 1991)	Malawi (12 October 1995)	
	Democratic Republic of the Congo (28 October 2005)	Mali (31 October 1995)	
	Djibouti (22 February 2001)	Mauritania (1 July 1993)	
	Egypt (15 March 1991)	Mauritius (6 March 2001)	
	Eswatini ^a (8 October 1995)	Morocco (28 October 1992)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Mozambique (8 June 1998)	South Africa (14 December 1998)	
	Namibia (6 March 2009)	Sudan (19 November 1993)	
	Niger (10 November 1992)	Togo (1 August 1990)	
	Nigeria (1 November 1989)	Tunisia (20 September 1990)	
	Rwanda (13 May 2002)	Uganda (20 August 1990)	
	Sao Tome and Principe (20 June 1996)	United Republic of Tanzania (17 April 1996)	
	Senegal (27 November 1989)	Zambia (28 May 1993)	
	Seychelles (27 February 1992)	Zimbabwe (30 July 1993)	
	Sierra Leone (6 June 1994)		
Regional total 54	51		3
AMERICAS	Antigua and Barbuda (5 April 1993)	Dominica (30 June 1993)	
	Argentina (10 June 1993)	Dominican Republic (21 September 1993)	
	Bahamas (30 January 1989)	Ecuador (23 March 1990)	
	Barbados (15 October 1992)	El Salvador (21 May 1993)	
	Belize (24 July 1996)	Grenada (10 December 1990)	
	Bolivia (Plurinational State of) (20 August 1990)	Guatemala (28 February 1991)	
	Brazil (17 July 1991)	Guyana (19 March 1993)	
	Canada (5 July 1990)	Haiti (18 September 1995)	
	Chile (13 March 1990)	Honduras (11 December 1991)	
	Colombia (10 June 1994)	Jamaica (29 December 1995)	
	Costa Rica (8 February 1991)	Mexico (11 April 1990)	
	Cuba (12 June 1996)	Nicaragua (4 May 1990)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Panama (13 January 1994)	Suriname (28 October 1992)	
	Paraguay (23 August 1990)	Trinidad and Tobago (17 February 1995)	
	Peru (16 January 1992)	United States of America (20 February 1990)	
	Saint Kitts and Nevis (19 April 1995)	Uruguay (10 March 1995)	
	Saint Lucia (21 August 1995)	Venezuela (Bolivarian Republic of) (16 July 1991)	
	Saint Vincent and the Grenadines (17 May 1994)		
Regional total 35	35		0
ASIA	Afghanistan (14 February 1992)	Israel (20 March 2002)	
	Armenia (13 September 1993)	Japan (12 June 1992)	
	Azerbaijan (22 September 1993)	Jordan (16 April 1990)	
	Bahrain (7 February 1990)	Kazakhstan (29 April 1997)	
	Bangladesh (11 October 1990)	Kuwait (3 November 2000)	
	Bhutan (27 August 1990)	Kyrgyzstan (7 October 1994)	
	Brunei Darussalam (12 November 1993)	Lao People's Democratic Republic (1 October 2004)	
	Cambodia (2 April 2005)	Lebanon (11 March 1996)	
	China (25 October 1989)	Malaysia (11 May 1993)	
	Democratic People's Republic of Korea (19 March 2007)	Maldives (7 September 2000)	
	Georgia (8 January 1998)	Mongolia (25 June 2003)	
	India (27 March 1990)	Myanmar (11 June 1991)	
	Indonesia (23 February 1999)	Nepal (24 July 1991)	
	Iran (Islamic Republic of) (7 December 1992)	Oman (15 March 1991)	
	Iraq (22 July 1998)	Pakistan (25 October 1991)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Philippines (7 June 1996)	Singapore (23 October 1997)	
	Qatar (4 May 1990)	Sri Lanka (6 June 1991)	
	Republic of Korea (28 December 1998)	State of Palestine (29 December 2017)	
	Saudi Arabia (9 January 1992)	Syrian Arab Republic (3 September 1991)	
	Tajikistan (6 May 1996)	United Arab Emirates (12 April 1990)	
	Thailand (3 May 2002)	Uzbekistan (24 August 1995)	
	Timor-Leste (3 June 2014)	Viet Nam (4 November 1997)	
	Turkey (2 April 1996)	Yemen (25 March 1996)	
	Turkmenistan (21 February 1996)		
Regional total 47	47		0
EUROPE	Albania (27 July 2001)	France ^b (31 December 1990)	
	Andorra (23 July 1999)	Germany ^b (30 November 1993)	
	Austria ^b (11 July 1997)	Greece ^b (28 January 1992)	
	Belarus (15 October 1990)	Holy See (25 January 2012)	
	Belgium ^b (25 October 1995)	Hungary ^b (15 November 1996)	
	Bosnia and Herzegovina (1 September 1993)	Iceland (2 September 1997)	
	Bulgaria ^b (24 September 1992)	Ireland ^b (3 September 1996)	
	Croatia ^b (26 July 1993)	Italy ^b (31 December 1990)	
	Cyprus ^b (25 May 1990)	Latvia ^b (25 February 1994)	
	Czechia ^{b,c} (30 December 1993)	Liechtenstein (9 March 2007)	
	Denmark ^b (19 December 1991)	Lithuania ^b (8 June 1998)	
	Estonia ^b (12 July 2000)	Luxembourg ^b (29 April 1992)	
	Finland ^b (15 February 1994)	Malta ^b (28 February 1996)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Monaco (23 April 1991)	Serbia (3 January 1991)	
	Montenegro (3 June 2006)	Slovakia ^b (28 May 1993)	
	Netherlands ^b (8 September 1993)	Slovenia ^b (6 July 1992)	
	Norway (14 November 1994)	Spain ^b (13 August 1990)	
	Poland ^b (26 May 1994)	Sweden ^b (22 July 1991)	
	Portugal ^b (3 December 1991)	Switzerland (14 September 2005)	
	Republic of Moldova (15 February 1995)	The former Yugoslav Republic of Macedonia (13 October 1993)	
	Romania ^b (21 January 1993)	United Kingdom of Great Britain and Northern Ireland ^b (28 June 1991)	
	Russian Federation (17 December 1990)	Ukraine (28 August 1991)	
	San Marino (10 October 2000)	European Union ^d (31 December 1990)	
Regional total 46	46		0
OCEANIA	Australia (16 November 1992)	New Zealand (16 December 1998)	Kiribati
	Cook Islands (22 February 2005)	Niue (16 July 2012)	Palau
	Fiji (25 March 1993)	Samoa (19 August 2005)	Papua New Guinea
	Marshall Islands (5 November 2010)	Tonga (29 April 1996)	Solomon Islands
	Micronesia (Federated States of) (6 July 2004)	Vanuatu (26 January 2006)	Tuvalu
	Nauru (12 July 2012)		
Regional total 16	11		5
World total 198	190		8

^aSince 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.

^bState member of the European Union.

^cSince 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

^dExtent of competence: article 12.

Annex II

Submission of information by Governments pursuant to article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (form D) for the period 2013–2017

Notes: The names of non-metropolitan territories and special administrative regions are in italics.
A blank signifies that form D was not received.
“X” signifies that a completed form D (or equivalent report) was submitted (including forms in which all fields contained “nil”, “0”, “none”, etc).
Entries for parties to the 1988 Convention (and for the years that they have been parties) are shaded.

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Afghanistan	X	X	X	X	X
Albania	X	X	X	X	X
Algeria	X	X	X	X	X
Andorra	X	X	X	X	X
Angola				X	X
<i>Anguilla^a</i>	X				
Antigua and Barbuda					
Argentina	X	X	X	X	X
Armenia	X	X	X	X	X
<i>Aruba^a</i>					
<i>Ascension</i>					
Australia	X	X	X	X	X
Austria ^b	X	X	X	X	X
Azerbaijan	X	X	X	X	X
Bahamas					
Bahrain		X	X	X	X
Bangladesh	X	X	X		X
Barbados	X				
Belarus	X	X	X	X	X
Belgium ^b	X	X	X	X	X
Belize	X				X
Benin	X	X	X	X	X
<i>Bermuda^a</i>					
Bhutan		X	X	X	X
Bolivia (Plurinational State of)	X	X	X	X	X
Bosnia and Herzegovina	X	X	X	X	X
Botswana					X
Brazil	X	X	X	X	X

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
<i>British Virgin Islands^a</i>					
Brunei Darussalam	X	X	X	X	X
Bulgaria ^b	X	X	X	X	X
Burkina Faso					
Burundi			X		
Cabo Verde ^c		X	X	X	X
Cambodia	X	X			
Cameroon	X	X			
Canada	X	X	X	X	X
<i>Cayman Islands^a</i>	X	X			
Central African Republic					
Chad	X		X		
Chile	X	X	X	X	X
China	X	X	X	X	
<i>China, Hong Kong</i>	X			X	
<i>China, Macao</i>	X	X	X		
<i>Christmas Island^{a,d}</i>	X	X	X	X	X
<i>Cocos (Keeling) Islands^{a,d}</i>	X	X	X	X	X
Colombia	X	X	X	X	X
Comoros					
Congo					
Cook Islands					
Costa Rica	X	X	X	X	X
Côte d'Ivoire	X	X		X	
Croatia ^b	X	X	X	X	X
Cuba					
<i>Curaçao</i>	X	X	X	X	X
Cyprus ^b	X	X	X	X	X
Czechia ^{b,e}	X	X	X	X	X
Democratic People's Republic of Korea	X		X	X	X
Democratic Republic of the Congo	X	X	X	X	X
Denmark ^b	X	X	X	X	X
Djibouti					
Dominica				X	
Dominican Republic	X	X	X		X
Ecuador	X	X	X	X	X
Egypt	X	X	X	X	X
El Salvador	X	X	X	X	X
Equatorial Guinea					
Eritrea					
Estonia ^b	X	X	X	X	X
Eswatini ^f					
Ethiopia	X		X		
<i>Falkland Islands (Malvinas)</i>	X	X	X	X	

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Fiji				X	
Finland ^b	X	X	X	X	X
France ^b	X	X	X	X	X
<i>French Polynesia^a</i>			X		
Gabon					
Gambia	X			X	
Georgia	X	X	X	X	X
Germany ^b	X	X	X	X	X
Ghana	X	X	X	X	X
<i>Gibraltar</i>					
Greece ^b	X	X	X	X	X
Grenada					
Guatemala	X	X	X	X	X
Guinea					
Guinea-Bissau					
Guyana		X	X	X	
Haiti	X	X	X		
Holy See ^a					
Honduras	X		X	X	X
Hungary ^b	X	X	X	X	X
Iceland	X	X	X	X	X
India	X	X	X	X	X
Indonesia	X	X	X	X	X
Iran (Islamic Republic of)	X	X	X	X	X
Iraq				X	
Ireland ^b	X	X	X	X	X
Israel	X	X	X	X	X
Italy ^b	X	X	X	X	X
Jamaica	X	X	X	X	X
Japan	X	X	X	X	X
Jordan	X	X	X	X	X
Kazakhstan	X		X	X	X
Kenya			X	X	X
Kiribati					
Kuwait	X		X		
Kyrgyzstan	X	X	X	X	
Lao People's Democratic Republic	X	X	X	X	X
Latvia ^b	X	X	X	X	X
Lebanon	X	X	X	X	X
Lesotho					
Liberia					
Libya					
Liechtenstein ^b					
Lithuania ^b	X	X	X	X	X

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Luxembourg ^b	X	X	X	X	X
Madagascar	X	X	X	X	
Malawi					
Malaysia	X	X	X	X	X
Maldives	X			X	X
Mali	X		X	X	
Malta ^b	X	X	X	X	X
Marshall Islands					
Mauritania			X		
Mauritius					
Mexico	X	X	X	X	X
Micronesia (Federated States of)	X				
Monaco				X	X
Mongolia			X	X	X
Montenegro	X	X	X	X	X
<i>Montserrat^a</i>	X	X	X	X	X
Morocco	X	X	X	X	X
Mozambique		X		X	
Myanmar	X	X	X	X	X
Namibia		X		X	
Nauru					
Nepal	X	X			X
Netherlands ^b	X	X	X	X	X
<i>New Caledonia^a</i>	X	X	X	X	
New Zealand	X		X	X	X
Nicaragua	X	X	X	X	X
Niger					
Nigeria	X		X	X	X
Niue					
<i>Norfolk Island^d</i>	X	X	X	X	X
Norway	X	X	X		X
Oman		X	X	X	X
Pakistan	X	X	X	X	X
Palau	X				
Panama	X	X	X	X	X
Papua New Guinea					
Paraguay	X			X	X
Peru	X	X	X	X	
Philippines	X	X	X	X	X
Poland ^b	X	X	X	X	X
Portugal ^b	X	X	X	X	X
Qatar	X				X
Republic of Korea	X	X	X	X	X
Republic of Moldova	X	X	X	X	X

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Romania ^b	X	X	X	X	X
Russian Federation	X	X	X	X	X
Rwanda			X		
<i>Saint Helena</i>					
Saint Kitts and Nevis					
Saint Lucia	X	X	X	X	X
Saint Vincent and the Grenadines	X	X	X	X	
Samoa					
San Marino ^g					
Sao Tome and Principe					
Saudi Arabia	X	X	X	X	X
Senegal	X	X	X	X	
Serbia	X			X	X
Seychelles				X	
Sierra Leone					
Singapore	X	X	X	X	X
<i>Sint Maarten</i>					
Slovakia ^b	X	X	X	X	X
Slovenia ^b	X	X	X	X	X
Solomon Islands					
Somalia					
South Africa	X		X	X	X
South Sudan					
Spain ^b	X	X	X	X	X
Sri Lanka	X	X	X	X	X
Sudan		X	X	X	X
Suriname					
Sweden ^b	X	X	X	X	X
Switzerland	X	X	X	X	X
Syrian Arab Republic	X	X	X	X	X
Tajikistan	X		X	X	X
Thailand	X	X	X	X	X
The former Yugoslav Republic of Macedonia					
Timor-Leste					
Togo					
Tonga					
Trinidad and Tobago	X	X	X	X	X
<i>Tristan da Cunha</i>					
Tunisia	X	X	X	X	X
Turkey	X	X	X	X	X
Turkmenistan	X	X	X	X	
<i>Turks and Caicos Islands^a</i>					
Tuvalu					
Uganda	X	X	X		

<i>Country or territory</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>
Ukraine	X		X	X	X
United Arab Emirates	X	X	X	X	X
United Kingdom of Great Britain and Northern Ireland ^b	X	X	X	X	X
United Republic of Tanzania	X	X	X	X	X
United States of America	X	X	X	X	X
Uruguay	X	X	X	X	X
Uzbekistan	X	X	X	X	X
Vanuatu					
Venezuela (Bolivarian Republic of)	X	X	X	X	X
Viet Nam	X	X	X		
<i>Wallis and Futuna Islands^a</i>					
Yemen					
Zambia		X			
Zimbabwe	X	X	X	X	X
Total number of Governments that submitted form D	141	127	137	137	124
Total number of Governments requested to provide information	213	213	213	213	213

^aTerritorial application of the 1988 Convention has been confirmed by the authorities concerned.

^bState member of the European Union.

^cSince 25 October 2013, "Cabo Verde" has replaced "Cape Verde" as the short name used in the United Nations.

^dInformation was provided by Australia.

^eSince 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

^fSince 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.

^gThe Holy See and San Marino did not furnish form D separately as their data are included in the report of Italy.

^hLiechtenstein did not furnish form D separately as its data are included in the report of Switzerland.

Annex III

Seizures of substances in Table I and Table II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, as reported to the International Narcotics Control Board, 2013–2017

1. Tables A and B below show information on seizures of the substances included in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, furnished to the International Narcotics Control Board by Governments in accordance with article 12, paragraph 12, of the Convention.
2. The tables include data on domestic seizures and on seizures effected at points of entry or exit. They do not include reported seizures of substances where it is known that the substances were not intended for the illicit manufacture of drugs (for example, seizures effected on administrative grounds or seizures of ephedrine/pseudoephedrine preparations to be used as stimulants). Stopped shipments are also not included. The information may include data submitted by Governments through means other than form D; in such cases, the sources are duly noted.

Units of measure and conversion factors

3. Units of measure are indicated for every substance. As fractions of full units are not listed in the tables, figures are rounded as necessary.
4. For a variety of reasons, individual quantities of some substances seized are reported to the Board using different units; for instance, one country may report seizures of acetic anhydride in litres, another in kilograms.
5. To enable a proper comparison of collected information, it is important that all data be collated in a standard format. To simplify the necessary standardization process, figures are given in grams or kilograms where the substance is a solid and in litres where the substance (or its most common form) is a liquid.
6. Seizures of solids reported to the Board in litres have not been converted into kilograms and are not included in the tables, as the actual quantity of substance in solution is not known.
7. For seizures of liquids, quantities reported in kilograms have been converted into litres using the following factors:

<i>Substance</i>	<i>Conversion factor (kilograms to litres)^a</i>
Acetic anhydride	0.926
Acetone	1.269
Ethyl ether	1.408
Hydrochloric acid (39.1% solution)	0.833
Isosafrole	0.892
3,4-Methylenedioxyphenyl-2-propanone	0.833
Methyl ethyl ketone	1.242
1-Phenyl-2-propanone	0.985
Piperidine	1.160
Safrole	0.912
Sulphuric acid (concentrated solution)	0.543
Toluene	1.155

^aDerived from density (*The Merck Index* (Rahway, New Jersey, Merck, 1989)).

8. As an example, in order to convert 1,000 kilograms of methyl ethyl ketone into litres, multiply by 1.242, i.e. $1,000 \times 1.242 = 1,242$ litres.
9. For the conversion of gallons to litres, it has been assumed that in Colombia the United States gallon is used, with 3.785 litres to the gallon, and in Myanmar the imperial gallon is used, with 4.546 litres to the gallon.
10. If reported quantities have been converted, the converted figures are listed in the tables in italics.
11. The names of territories appear in italics.
12. A dash (–) signifies that the report did not include data on seizures of the particular substance in the reporting year.
13. A slashed degree symbol (ø) signifies less than the smallest unit of measurement shown for that substance (for example, less than 1 kilogram).
14. Discrepancies may exist between the regional total seizure figures and the world total figures because the actual quantities seized were rounded to whole numbers.

Table A. Seizures of substances in Table I of the 1988 Convention as reported to the International Narcotics Control Board, 2013–2017

Country or territory	Year	Substances																			
		Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetone nitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^c (kilograms)	Safrole (litres)
AFRICA																					
Benin	2016	-	-	-	-	295	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2017	-	-	-	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Chad	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Côte d'Ivoire	2013	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kenya	2015	-	-	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mali	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2015	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Namibia	2014	-	-	-	21	-	-	-	2 100	-	-	-	-	-	-	-	-	-	-	-	
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 100	
Nigeria	2015	-	-	-	785	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2016	-	-	-	444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sudan	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
United Republic of Tanzania	2014	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2017	15	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	
Zambia	2014	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	
Zimbabwe	2013	-	-	-	-	113	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2014	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Regional total	2013	0	0	0	0	114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2014	0	0	0	95	0	0	0	2 100	0	0	0	0	0	0	0	0	0	0	0	
	2015	0	0	0	816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2016	0	0	0	444	295	0	0	0	0	0	0	0	0	0	0	0	0	0	2 100	
	2017	15	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetone (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
AMERICAS																					
CENTRAL AMERICA AND THE CARIBBEAN																					
Belize	2013	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
El Salvador	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Honduras	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Panama	2013	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-
Regional total	2013	660	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	1	0	0
	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NORTH AMERICA																					
Canada	2013	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
	2014	0	-	-	65	-	-	-	-	14	-	-	-	-	-	-	-	0	0	-	2
	2015	0	-	-	0	^a	-	0	-	0	-	-	-	-	-	0	-	-	-	^a	0
	2016	-	-	-	639	^a	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
Mexico	2013	7 597	-	-	-	-	-	-	-	-	-	-	-	3 324	-	2 796	-	-	7 197	-	-
	2014	13 368	-	-	-	-	-	-	-	-	-	-	-	1 315	-	5 892	-	-	-	-	-
	2015	3 356	-	-	-	-	-	-	-	-	-	-	-	550	-	16 537	-	-	-	-	-
	2016	2 900	-	-	-	-	-	-	-	-	-	-	-	59	-	7 033	-	-	-	-	-
	2017	8 601	-	-	-	-	-	-	-	-	-	-	-	19 435	-	2 455	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^d (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetoneitrile (APAAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
United States of America	2013	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	1 029	-	10
	2014	0	-	-	0	0	-	-	-	-	-	-	-	-	-	0	-	-	19	1	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-
	2016	0	-	-	27	-	-	-	1	3 880	0	0	-	0	-	1 288	0	0	127	-	3
	2017	-	-	-	6	-	-	-	-	-	-	1	50	4	-	-	-	-	195	-	32
Regional total	2013	7 601	0	0	16	0	0	0	0	0	0	0	0	3 324	0	2 796	0	0	8 228	0	10
	2014	13 368	0	0	65	0	0	0	0	14	0	0	0	1 315	0	5 893	0	1	19	1	2
	2015	3 356	0	0	1	0	0	0	0	0	0	0	0	550	0	16 537	0	0	210	0	0
	2016	2 900	0	0	665	0	0	0	1	3 880	0	0	0	59	0	7 034	288	1	132	0	3
	2017	8 601	0	0	6	0	0	0	0	0	0	1	50	19 439	0	2 455	0	0	195	0	32
SOUTH AMERICA																					
Argentina	2013	-	-	-	-	1 ^a	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	2014	33	-	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	1 044	-	-	47	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-	-
	2016	-	-	-	250	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
	2017	276	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	2 650	-	-	-
Bolivia (Plurinational State of)	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 058	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 492	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	862	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 001	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 401	-	-	-
Brazil	2013	249	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14 621	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
	2016	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	8	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-

<i>Country or territory</i>	<i>Year</i>	<i>Acetic anhydride (litres)</i>	<i>N-Acetylanthranilic acid (kilograms)</i>	<i>4-Anilino-N-phenethylpiperidine (ANPP)^e (kilograms)</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations^a (kilograms)</i>	<i>Ergometrine (grams)</i>	<i>Ergotamine (grams)</i>	<i>Isosafrole (litres)</i>	<i>Lysergic acid (grams)</i>	<i>3,4-Methylenedioxyphenyl-2-propanone (litres)</i>	<i>Norephedrine (Phenylpropanolamine) (kilograms)</i>	<i>N-Phenethyl-4-piperidone (NPP)^e (kilograms)</i>	<i>Phenylacetic acid (kilograms)</i>	<i>alpha-Phenylacetacetoneitrile (APAAN)^b (kilograms)</i>	<i>1-Phenyl-2-propanone (litres)</i>	<i>Piperonal (kilograms)</i>	<i>Potassium permanganate (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations^a (kilograms)</i>	<i>Safrole (litres)</i>
Chile	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Colombia	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21 873	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166 291	-	-	-
	2015	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57 639	-	-	-
	2016	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	582 540	-	-	-
	2017	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	97 889	-	-	-
Ecuador	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-
Paraguay	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 705	-	-	-
Peru	2013	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 787	-	-
	2014	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 735	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	-	-
	2016	2 889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	248	-	-
Venezuela (Bolivarian Republic of)	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 120	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 554	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-
Regional total	2013	250	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	46 046	0	0	0
	2014	48	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	171 649	0	0	0
	2015	1 052	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	60 166	0	0	0
	2016	2 901	0	0	250	0	0	0	0	0	1	0	0	0	0	0	0	585 003	0	0	0
	2017	370	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	103 635	0	0	0

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^c (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetone (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
ASIA																					
EAST AND SOUTH-EAST ASIA																					
China ^c	2013	94 948	-	-	11 103	5 718	-	449	-	-	18	-	-	6 552	-	5 434	-	3 521	908	-	-
	2014	22 635	-	-	31 576	3 222	-	-	-	-	33	0	-	49 651	-	3 241	-	2 120	-	-	-
	2015	11 070	0	-	23 480	221	-	-	-	-	0	6	-	3	-	5 407	-	31 550	13	-	-
	2016	56 177	-	-	1 409	3 367	-	-	-	-	376	-	-	-	-	11 639	-	45	-	-	0
China, Hong Kong	2013	-	-	-	41	-	-	-	-	-	-	-	-	-	-	-	-	-	34	27 ^a	-
	2016	-	-	-	43	^a	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
China, Macao	2014	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	0	^a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2013	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	257
	2014	-	-	-	0	^a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	^a	-
	2016	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
Japan	2013	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	2017	-	7 647	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Lao People's Democratic Republic	2013	-	-	-	-	3 ^a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysia	2013	-	-	-	66	90	-	-	-	-	-	-	-	-	-	-	-	-	-	63	-
	2014	-	-	-	-	33	-	-	-	-	-	-	-	-	-	-	-	1	287	112	-
	2015	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-
	2016	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	262	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetone nitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^c (kilograms)	Safrole (litres)
Myanmar	2013	-	-	-	-	133	-	-	-	-	-	-	-	95	-	-	-	-	-	3 581	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4 800	-	-	-	-	-
	2015	60	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	16	-	-	534	-	-	-	-	-	-	-	-	-	-	-	-	-	181	-	-
	2017	1 318	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	421	-	-
Philippines	2013	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	609	-	-
	2014	-	-	-	510	-	-	-	-	-	-	0	-	-	-	-	0	-	-	-	-
	2015	-	-	-	50	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-
	2016	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-
Thailand	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	2016	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	3 829	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 153	-
Viet Nam	2013	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	47	-
	2014	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-
Regional total	2013	94 948	0	0	11 211	5 950	0	449	0	0	18	0	0	6 647	0	5 434	0	3 521	1 551	3 718	257
	2014	22 635	0	0	32 095	3 255	0	0	0	0	33	0	0	49 651	0	8 041	0	2 121	309	118	0
	2015	11 130	0	0	23 604	221	0	0	0	0	0	6	0	3	0	5 407	0	31 550	77	3	0
	2016	56 193	0	0	2 056	3 469	0	0	0	0	376	0	0	0	0	11 639	0	45	181	3 829	0
	2017	1 318	7 647	0	264	0	0	0	0	0	0	0	0	0	0	0	1	0	644	1 153	0

Country or territory	Year	Acetic anhydride (litres)	N-Acetylthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^d (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetone (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
SOUTH ASIA																					
India	2013	242	-	-	707	-	-	-	-	-	-	-	-	-	-	-	-	-	5 098	- ^a	-
	2014	100	-	-	654	-	-	-	-	-	-	-	-	-	-	78	-	-	-	676	-
	2015	4	-	-	97	- ^a	-	-	-	472	43	-	-	-	-	-	-	-	730	- ^a	-
	2016	2 464	-	-	-	21 179	-	-	-	13	-	-	-	-	-	-	-	-	-	155	-
	2017	25	-	-	-	1 120	-	-	-	349	-	-	-	-	-	-	-	-	-	1 869	-
Regional total	2013	242	0	0	707	0	0	0	0	0	0	0	0	0	0	0	0	0	5 098	0	0
	2014	100	0	0	654	0	0	0	0	0	0	0	0	0	0	78	0	0	0	676	0
	2015	4	0	0	97	0	0	0	0	472	43	0	0	0	0	0	0	0	730	0	0
	2016	2 464	0	0	0	21 179	0	0	0	13	0	0	0	0	0	0	0	0	0	155	0
	2017	25	0	0	0	1 120	0	0	0	349	0	0	0	0	0	0	0	0	0	1 869	0
WEST ASIA																					
Afghanistan	2013	14 212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	7 751	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	3 761	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	10 439	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-
	2017	37 715	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Armenia	2013	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
Georgia	2016	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2017	-	-	-	0	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-
Iran (Islamic Republic of)	2013	16 501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	18 520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	22 627	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Country or territory	Year	Substances																		
		Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetoneitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)
Jordan	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	3 260	-	-	-	-	-
Kazakhstan	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13 401	-	-	-
Lebanon	2013	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-	a	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	16 082	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pakistan	2013	15 480	-	-	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	185	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	5 319	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	40 000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	3 918	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Qatar	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 600	-	-	-
Turkey	2013	14 672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	854	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	4 402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	1 588	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	23 238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32 684	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
	2017	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Regional total	2013	60 866	0	0	54	0	0	0	0	0	0	0	0	0	0	0	1 760	0	0	0
	2014	8 790	0	0	68	0	0	0	0	0	0	0	0	0	0	0	52	0	0	0
	2015	13 481	0	0	0	0	0	0	0	0	0	0	16 082	0	0	0	46 085	0	0	0
	2016	70 547	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	16	0	0
	2017	87 518	0	0	0	0	0	0	0	0	0	0	0	0	3 260	0	4	0	0	0

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Amilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^d (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
EUROPE																					
STATES NOT MEMBERS OF THE EUROPEAN UNION																					
Belarus	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2016	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2017	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-
Iceland	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Republic of Moldova	2013	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	a	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	0	0	a	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	6
Norway	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Russian Federation	2013	8	-	-	2	-	-	-	-	83	-	-	-	-	-	30	-	-	-	-	-
	2014	17	-	-	-	0	-	-	-	-	-	-	-	-	-	0	-	-	-	0	-
	2015	47	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2016	6	-	-	3	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-
	2017	19	-	-	-	3	-	-	-	-	-	-	-	-	-	1	-	-	0	-	-

Country or territory	Year																				
		Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetoneitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^o (kilograms)	Safrole (litres)
Switzerland	2014	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ukraine	2013	1 664	-	-	-	51	-	-	-	-	0	-	-	-	-	-	225	-	2 991	-	
	2015	57	-	-	-	0	-	-	-	-	0	-	25	-	0	10	0	47	0	-	
	2016	97	-	-	-	253	-	-	-	0	-	-	-	-	430	-	14	0	2	-	
	2017	310	-	-	5	0	-	-	-	-	-	-	-	-	1	-	12	0	6	-	
Regional total	2013	1 673	0	0	2	52	0	0	0	83	0	0	0	0	30	0	225	0	2 992	0	
	2014	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	2015	104	0	0	0	1	0	0	0	0	0	0	25	0	0	0	10	0	47	0	
	2016	103	0	0	3	253	0	0	0	0	0	0	0	0	440	0	14	0	3	0	
	2017	328	0	0	5	3	0	0	0	0	0	0	0	0	2	0	12	0	6	6	

STATES MEMBERS OF THE EUROPEAN UNION

Austria	2013	2	-	-	-	-	-	-	-	104	-	-	-	-	-	-	1	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
	2015	2 037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
Belgium	2013	-	-	-	0	-	-	-	-	2 781	-	-	-	-	15	-	-	-	-	-
	2014	-	-	-	2	-	-	-	-	5	-	-	-	122	25	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	637	435	-	-	-	-	1
	2016	-	-	-	3	-	-	-	-	-	-	-	-	4	1	-	-	-	-	-
	2017	1 836	-	-	4	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylthranilic acid (kilograms)	4-Amilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^d (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetone (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
Bulgaria	2013	-	-	-	-	-	-	-	-	-	-	-	-	97	-	-	-	-	-	108	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	1 980	-	-	-	-	841	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	32	66	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2017	10 623	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Croatia	2013	-	-	-	-	0	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	2014	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
Czechia ^d	2013	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	64	25	-
	2014	-	-	-	14	2	-	-	-	-	-	-	-	-	-	-	-	-	12	351	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	-
	2016	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	20	26	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	28	-
Estonia	2013	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	2014	0	-	-	-	0	-	-	-	-	-	-	-	100	5	-	-	-	-	-	-
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	2017	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
Finland	2013	-	-	-	-	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	2	-	-	-	-	-	-	-	-	-	0	0	-	-	0	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	0	-	0	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	2013	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	2014	-	-	-	15	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2016	-	-	-	11	0	-	-	-	500	888	-	-	-	-	-	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetone (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
Germany	2013	-	-	-	0	^a	-	-	-	-	-	-	-	-	-	0	-	1	-	^a	-
	2014	-	-	-	0	0	-	-	-	-	-	-	-	-	5 105	2	-	0	-	-	-
	2015	1	-	-	4	-	-	-	-	-	-	-	-	-	38	2	0	0	0	^a	-
	2016	-	-	-	15	-	-	200	-	-	-	-	-	-	200	-	-	-	-	-	-
	2017	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Greece	2013	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-
	2014	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-
	2016	-	-	-	-	^a	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-
	2017	-	-	-	0	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	7	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latvia	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
Lithuania	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	13
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	690	-	-	-	-	-
	2015	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	-	-	-	-	-
Netherlands	2013	-	-	-	-	-	-	-	10	-	112	-	-	-	-	-	-	80	-	-	13 825
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	3 090	428	5	-	-	2	-
	2015	-	-	-	-	-	-	-	-	-	507	-	-	258	710	525	45	26	-	-	2
	2016	75	-	-	-	-	-	-	-	-	148	-	-	-	393	22	1	-	-	-	61
	2017	6 953	-	-	3	-	-	-	-	-	5 397	-	-	-	59	981	10	-	8	-	2 970

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^d (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetoacetonitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
Poland	2013	0	0	-	10	-	-	-	-	-	-	-	-	-	-	1	-	5	0	-	-
	2014	4	-	-	0	-	-	-	-	-	-	-	-	-	611	1 472	-	-	0	-	-
	2015	-	-	-	1	-	-	-	-	-	-	-	-	-	31	6 920	-	-	-	35	-
	2016	-	-	-	-	26	-	-	-	-	-	-	-	-	-	107	-	-	-	-	2
	2017	1 001	-	-	-	-	-	-	-	-	-	-	-	-	5 000	112	-	-	-	-	-
Portugal	2013	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	a	-
	2017	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Romania	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
	2014	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-
Slovakia	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	a	-
	2014	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	0	-	11	-
	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	1 000	0	-	-
	2016	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-
	2017	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
Slovenia	2013	-	-	-	0	-	-	-	-	912	-	-	-	-	-	-	-	0	-	-	-
Spain	2013	9 497	-	-	-	-	-	0	-	-	-	-	-	-	-	-	1 400	5 926	-	-	-
	2014	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	1	-	-	2	-	-	-	-	-	-	-	-	2	122	-	-	-	-	-	-
	2016	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-
	2017	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	27	5	-	-	-
Sweden	2013	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2014	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2015	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	-	-	-	-	a	-	-	-	-	-	-	-	-	-	7	-	-	-	0	-
	2017	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	-	0	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetacetoneitrile (APAAN) ^b (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)	
United Kingdom of Great Britain and Northern Ireland	2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	a	-	
	2016	-	-	-	29	a	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	9	21	-	-	-	594	-	-	-	-	-	-
	Regional total	2013	11 171	1	0	15	653	0	1	10	83	3 910	0	0	97	0	61	1 405	6 240	64	3 125	13 840
	2014	131	0	0	31	7	0	0	0	0	5	0	0	100	11 062	2 640	5	1	13	1 206	0	
	2015	2 144	0	0	7	3	0	0	0	0	507	0	0	286	1 537	7 896	45	1 036	32	225	3	
	2016	178	0	0	67	283	0	200	0	500	1 056	0	0	0	597	579	1	22	21	31	65	
	2017	20 741	0	0	30	11	0	0	0	0	5 406	21	0	0	5 066	1 727	37	18	13	34	2 975	
OCEANIA																						
Australia	2013	-	-	-	1 253	-	-	207	-	523	-	1	-	0	-	1	0	-	629	-	11	
	2014	-	-	-	457	-	-	57	0	0	20	0	-	0	-	0	0	-	11	-	184	
	2015	-	-	-	457	-	-	281	-	0	139	12	-	1	-	-	0	-	72	-	73	
	2016	0	-	-	1 123	-	-	290	-	804	0	-	-	-	-	-	-	-	-	1 046	-	0
	2017	-	-	-	5 925	-	-	450	-	3 878	4	250	-	225	-	-	10	-	-	142	-	-
New Zealand	2013	0	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	691 ^a	-	
	2015	3	-	-	952	-	-	-	-	-	-	-	-	-	-	-	-	0	61	-	-	
	2016	0	-	-	1 228	-	-	-	-	-	-	-	-	-	-	-	-	0	-	9	-	
	2017	-	-	-	562	0	-	-	-	-	-	-	-	-	-	-	-	-	25	0	-	
Regional total	2013	0	0	0	1 253	3	0	207	0	523	0	1	0	0	0	1	0	0	629	691	11	
	2014	0	0	0	457	0	0	57	0	0	20	0	0	0	0	1	0	0	11	0	184	
	2015	3	0	0	1 409	0	0	281	0	0	139	12	0	1	0	0	1	0	133	0	73	
	2016	1	0	0	2 352	0	0	290	0	804	0	0	0	0	0	0	0	0	1 046	9	0	
	2017	0	0	0	6 487	0	0	450	0	3 878	4	250	0	225	0	0	10	0	167	0	0	

Country or territory	Year	Seizures of precursors (kilograms)																			
		Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^e (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^a (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^e (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetone (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^a (kilograms)	Safrole (litres)
World total	2013	175 739	1	0	13 256	6 721	0	657	10	606	3 927	23	0	10 068	8 292	1 405	57 567	15 571	7 534	14 117	
	2014	45 071	0	0	33 491	3 261	0	57	2 100	14	58	0	0	51 066	11 062	16 653	5	173 824	351	2 002	185
	2015	31 169	0	0	25 982	224	0	281	0	472	689	18	0	16 922	1 537	29 840	46	138 837	1 182	228	77
	2016	135 184	0	0	5 834	25 227	0	490	1	5 198	1 434	0	0	59	597	19 252	289	585 072	1 395	4 024	2 169
	2017	118 588	7 647	0	6 938	1 131	0	450	0	4 227	5 425	272	50	19 664	5 066	7 442	48	102 997	1 019	3 057	3 007

^aSeizures of ephedrine and pseudoephedrine reported to the Board in consumption units (such as tablets and doses) have not been converted into kilograms, as the actual quantity of ephedrine and pseudoephedrine is not known. The countries and territories listed in the table below have reported seizures of preparations containing ephedrine and/or pseudoephedrine quantified in terms of consumption units.

Country	Year	Ephedrine preparations (units)	Pseudoephedrine preparations (units)
Argentina	2013	34	–
Canada	2015	30 433	907
	2016	9 757 657	45
China, Hong Kong	2013	–	656 271
Germany	2013	4 034	78
	2015	–	1 779
Hungary	2016	21	–
India	2013	–	31 419 376
	2015	550	3 342 792
Indonesia	2014	17	–
	2015	–	60
Lao People's Democratic Republic	2013	21 800	–
Lebanon	2014	47	7 662

<i>Country</i>	<i>Year</i>	<i>Ephedrine preparations (units)</i>	<i>Pseudoephedrine preparations (units)</i>
New Zealand	2013	6 956	5 073
Portugal	2016	–	2
Republic of Moldova	2014	–	60
	2015	–	60
	2016	–	60
	2017	–	60
Slovakia	2013	–	16 128
Sweden	2016	6 363	–
Switzerland	2014	185	–
Thailand	2013	–	302 630
United Kingdom	2013	–	1 000
	2016	2 350	–

^bIncluded in Table I of the 1988 Convention, effective 6 October 2014.

^cFor statistical purposes, the data for China do not include those for Hong Kong, China, or Macao, China.

^dSince 17 May 2016, “Czechia” has replaced “Czech Republic” as the short name used in the United Nations.

^eIncluded in Table I of the 1988 Convention, effective 18 October 2017.

Table B. Seizures of substances in Table II of the 1988 Convention as reported to the International Narcotics Control Board, 2013–2017

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthraniic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
AFRICA									
Namibia	2016	-	-	-	-	-	-	-	47 355
Nigeria	2015	-	-	-	-	-	-	-	0
	2016	979	-	-	3	-	-	-	785
United Republic of Tanzania	2017	25	-	173	293	20	-	730	30
Regional total	2013	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2016	979	0	0	3	0	0	0	48 140
	2017	25	0	173	293	20	0	730	30
AMERICAS									
CENTRAL AMERICA AND THE CARIBBEAN									
Guatemala	2017	4	-	-	-	-	-	-	-
Honduras	2016	22	-	-	8	-	-	1	-
Regional total	2013	0	0	0	0	0	0	0	0
	2014	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0
	2016	22	0	0	8	0	0	1	0
	2017	4	0	0	0	0	0	0	0
NORTH AMERICA									
Canada	2013	569	-	-	48	-	-	2	981
	2014	940	-	-	219	-	-	153	645
	2015	0	0	-	0	0	-	0	-
	2016	215	-	-	317	-	-	41	246

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Mexico	2013	6 901	-	28 001	14 207	94	-	439	12 333
	2014	2 402	-	0	8 446	281	-	1 406	4 324
	2015	8 117	-	-	188 256	184	-	4 508	26 643
	2016	21 035	-	-	26 573	89	-	2 502	48 172
	2017	25 426	-	404	81 408	40	-	2 290	93 139
United States of America	2013	2 457	-	18	1 681	11	57	1 930	102
	2014	4 477	-	277	1 326	11	57	1	72
	2015	3 810	-	168	1 325	18	-	1 244	41
	2016	121 580	-	833	105 991	3	0	-	-
	2017	636	-	224	335	4	121	271	56
Regional total	2013	9 926	0	28 019	15 936	104	57	2 371	13 415
	2014	7 819	0	278	9 991	292	57	1 560	5 041
	2015	11 927	0	168	189 581	202	0	5 752	26 684
	2016	142 830	0	833	132 881	92	0	2 543	48 418
	2017	26 062	0	628	81 743	44	121	2 561	93 195

SOUTH AMERICA

Argentina	2013	2 768	-	104	165	3	-	202	-
	2014	67	-	77	24 677	-	-	50	-
	2015	8 001	-	72	54 250	12	-	4 145	71 478
	2016	20 599	-	10	11 989	4 680	-	1 431	400
	2017	19 834	-	4	231	1 330	-	4 028	1 403
Bolivia (Plurinational State of)	2013	99 315	-	-	24 839	57	-	67 929	140
	2014	18 830	-	1 112	5 700	-	-	56 283	126
	2015	45 869	-	12 309	5 722	-	-	51 837	160
	2016	32 937	-	14 570	25 832	245	-	47 795	-
	2017	-	-	-	18 126	-	-	40 817	-
Brazil	2013	2 491	-	58	5 948	-	-	698	-
	2014	154	-	-	15 319	-	-	399	-
	2015	1 081	-	313	374 679	-	-	317 998	-
	2016	421	-	1	1 210	-	-	2 529	3 011
	2017	201	-	1	107	-	-	3	200

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Chile	2013	2	-	-	144	-	-	63 610	-
	2014	25	-	4	226	-	-	233	-
	2015	0	-	-	142	14	-	196	0
	2016	2	-	-	95	-	-	73	-
	2017	1	-	-	1 278	-	-	234	-
Colombia	2013	482 063	-	2 286	144 686	3 406	-	1 060 578	765
	2014	456 643	-	2 117	75 058	6 155	-	276 004	191 390
	2015	613 920	-	11 697	211 090	172	-	282 853	56 221
	2016	946 102	-	927	208 676	22 807	-	504 970	379 495
	2017	1 091 434	-	27	98 380	16 956	-	411 933	106 710
Ecuador	2013	-	-	-	104	1 420	-	1 625	-
	2014	-	-	-	154	-	-	708	-
	2015	-	-	-	11	-	-	2 642	-
	2016	-	-	-	40 927	-	-	4 831	-
	2017	-	-	-	-	24	-	1 400	-
Paraguay	2013	-	-	-	2 019	-	-	6 960	-
Peru	2013	86 313	-	128	73 200	157	-	87 675	-
	2014	83 006	-	4	58 907	1 225	-	87 305	3 128
	2015	55 229	-	-	9 904	-	-	16 576	-
	2016	114 318	-	-	49 203	976	-	68 354	1 795
Uruguay	2016	2	-	-	-	-	-	-	-
Venezuela (Bolivarian Republic of)	2014	27 598	-	-	1 061	99	-	831	301
	2015	203 824	-	-	19 318	-	-	10 411	10 666
	2016	2 018	-	-	2 948	75	-	18 726	1 982
	2017	28 400	-	-	21 108	249	-	15 331	25
Regional total	2013	672 952	0	2 577	251 104	5 043	0	1 289 277	905
	2014	586 323	0	3 313	181 101	7 479	0	421 813	194 946
	2015	927 924	0	24 391	675 116	198	0	686 659	138 525
	2016	1 116 399	0	15 509	340 881	28 783	0	648 708	386 683
	2017	1 147 538	0	31	139 230	18 559	0	473 745	108 338

Country or territory	Year	Acetone (litres)	Anthranilic acid (kilograms)	Ethyl ether (litres)	Hydrochloric acid (litres)	Methyl ethyl ketone (litres)	Piperidine (litres)	Sulphuric acid (litres)	Toluene (litres)
ASIA									
EAST AND SOUTH-EAST ASIA									
China ^a	2013	351 870	490 302	12 204	1 627 816	1 906	2	1 297 043	221 026
	2014	139 171	816	7 918	1 659 718	640	-	679 966	290 917
	2015	9 768	9 575	909	565 575	727	-	177 115	91 804
	2016	32 658	2	1 412	483 284	-	-	75 212	188 454
<i>China, Hong Kong</i>	2016	3	-	-	-	-	-	-	-
Indonesia	2013	0	-	-	-	-	-	-	-
	2014	0	-	-	2 376	-	-	1 015	506
	2015	20	-	-	29	-	-	63	19
	2016	11	-	-	30	-	-	14	6
	2017	5	-	-	0	-	-	0	0
Malaysia	2013	85	-	9	219	-	-	-	25
	2014	139	-	13	779	-	-	-	153
	2015	194	-	3	283	-	-	-	513
	2016	-	-	3	74	-	-	-	875
	2017	173	-	5	215	-	-	-	-
Myanmar	2013	-	-	600	145	-	-	924	-
	2014	193 922	-	-	1 687 325	-	-	6 716 899	2 452 409
	2016	1 238	-	250	3 495	-	-	28 476	-
	2017	-	-	-	106 720	-	-	11 035	-
Philippines	2013	-	-	-	-	-	-	10	-
	2014	0	-	-	0	-	-	-	640
	2015	217	-	-	283	-	-	5	1 293
	2016	221	-	-	200	-	-	2	55
	2017	-	-	-	46	0	-	23	514
Singapore	2014	20	-	-	-	-	-	-	-
	2016	0	-	-	-	2	-	-	-
Thailand	2013	-	-	-	450	-	-	-	-

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Regional total	2013	351 956	490 302	12 813	1 628 630	1 906	2	1 297 977	221 051
	2014	333 253	816	7 931	3 350 198	640	0	7 397 880	2 744 624
	2015	10 199	9 575	911	566 170	727	0	177 183	93 629
	2016	34 131	2	1 665	487 083	2	0	103 705	189 390
	2017	177	0	5	106 981	0	0	11 058	514
SOUTH ASIA									
India	2014	-	-	-	-	110 364	-	-	-
	2015	-	-	-	-	32	-	-	-
Regional total	2013	0	0	0	0	0	0	0	0
	2014	0	0	0	0	110 364	0	0	0
	2015	0	0	0	0	32	0	0	0
	2016	0	0	0	0	0	0	0	0
	2017	0	0	0	0	0	0	0	0
WEST ASIA									
Afghanistan	2013	174	-	-	4 705	-	-	-	-
	2014	-	-	-	5 317	-	-	19 075	25
	2015	-	-	-	-	-	-	15 900	363
	2016	502	-	-	269	-	-	48	450
	2017	-	-	-	2 260	-	-	-	-
Armenia	2013	-	-	0	0	-	-	-	-
	2014	-	-	0	0	-	-	-	-
	2015	0	-	-	0	-	-	0	0
	2016	0	-	-	0	-	-	-	-
	2017	-	-	-	0	-	-	0	-
Jordan	2016	-	-	7 500	-	-	-	30	-
Kazakhstan	2016	-	-	-	1	-	-	6	-
	2017	0	-	-	1	-	-	4	-

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Kyrgyzstan	2013	-	-	-	-	-	-	4 386	-
	2014	-	-	-	535	-	-	12 756	-
	2015	-	-	-	404	-	-	8 144	-
	2016	-	-	-	11	-	-	1 926	-
Lebanon	2014	32	-	43	10	-	-	-	-
	2016	-	-	240	1	-	-	-	-
	2017	-	-	10	-	-	-	-	-
Pakistan	2013	-	-	-	925	-	-	326	-
	2014	-	-	-	9 996	-	-	27 367	-
	2015	-	-	-	30	-	-	-	-
	2016	-	-	-	-	-	-	2 835	-
	2017	715	-	-	4 130	130	-	50 595	580
Qatar	2013	565	-	-	407 363	-	0	443 814	597
Tajikistan	2016	-	-	-	-	-	-	20 064	-
	2017	-	-	-	-	-	-	300	-
Uzbekistan	2014	-	-	-	-	-	-	1 610	-
	2015	10 500	-	-	-	-	-	7 800	-
	2016	2	-	-	-	-	-	-	-
	2017	23	-	-	-	-	-	-	-
Regional total	2013	739	0	0	412 993	0	0	448 526	597
	2014	32	0	43	15 859	0	0	60 809	25
	2015	10 500	0	0	435	0	0	31 844	363
	2016	504	0	240	282	0	0	24 879	450
	2017	999	0	10	6 391	130	0	50 898	580

EUROPE

STATES NOT MEMBERS OF THE EUROPEAN UNION

Belarus	2013	-	-	-	-	-	-	10 751	-
	2014	94	-	-	-	-	-	-	-
	2015	2 931	-	-	16 329	-	-	-	1 104
	2016	-	-	-	-	-	-	2 180	-
	2017	-	-	-	-	-	23 824	-	-

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Republic of Moldova	2015	-	-	-	2	-	-	0	-
	2017	-	-	-	0	-	-	-	-
Norway	2013	0	-	-	0	-	-	-	-
	2015	-	-	-	-	-	-	-	0
Russian Federation	2013	-	-	-	5	-	-	15	-
	2014	-	-	-	1	-	-	7	-
	2015	-	-	-	1	-	-	14	-
	2017	17	-	-	143	-	-	4	-
Ukraine	2013	1 163	-	-	3 053	-	-	631	602
	2015	4 275	-	-	182	-	-	35	24 180
	2016	113	-	-	142	-	-	10	12 097
	2017	92	-	-	354	-	-	1 220	24
Regional total	2013	1 163	0	0	3 058	0	0	11 397	602
	2014	94	0	0	1	0	0	7	0
	2015	7 206	0	0	16 514	0	0	49	25 284
	2016	113	0	0	142	0	0	2 189	12 097
	2017	109	0	0	497	23 824	0	1 224	24

STATES MEMBERS OF THE EUROPEAN UNION

Austria	2013	3	-	0	9	-	-	-	6
	2014	0	-	-	18	-	-	121	73
	2015	7	-	-	9	-	-	5	4
	2016	1	-	-	1	-	-	0	4
	2017	1	-	-	12	-	-	0	4
Bulgaria	2013	-	-	-	9	-	-	2	12
Cyprus	2014	-	-	-	0	-	-	-	-
Czechia ^b	2014	1 380	-	-	822	-	-	-	1 571
	2016	-	-	-	5	-	-	222	9
	2017	159	-	-	346	-	-	-	3 943

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Estonia	2013	-	-	-	1	-	-	0	-
	2015	-	-	-	0	-	-	0	-
	2016	0	-	-	0	-	-	1	-
	2017	3	-	-	0	-	-	-	-
Germany	2013	12	-	0	15	0	-	48	20
	2014	10	-	-	6	-	-	27	17
	2015	18	-	-	6	-	-	32	2
	2016	20	-	-	11	-	-	4	-
Hungary	2013	75	-	2	-	-	-	0	-
	2014	12	-	-	0	-	-	0	-
	2015	26	-	-	-	-	-	-	23
	2016	2	-	-	-	-	-	-	-
	2017	17	-	1	-	-	-	3	1
Italy	2017	-	-	-	-	-	-	-	110
Lithuania	2015	-	-	2	-	-	-	-	-
Netherlands	2013	-	-	-	19 988	-	-	8 165	1
	2014	8 510	-	-	13 825	-	-	6 555	-
	2015	20 887	-	812	20 266	409	-	28 265	465
	2016	28 074	-	145	40 935	-	-	8 748	1 098
	2017	9 272	-	140	29 013	2 858	-	4 433	25
Poland	2013	-	-	-	40	-	-	1 436	-
	2014	130	-	-	8	-	-	11	196
	2015	-	-	-	121	-	-	57	7
	2016	8	-	-	104	-	-	440	23
	2017	315	-	-	157	-	-	57	147
Portugal	2013	3	-	-	2	-	-	1	-
	2015	64	-	5	9	-	-	-	-
	2016	-	-	-	0	-	-	-	-
	2017	3	-	-	1	-	-	-	-
Romania	2016	4	-	-	-	-	-	-	-
	2017	0	-	-	-	-	-	-	-

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Slovakia	2013	-	-	-	8	-	-	-	6
	2014	0	-	1	10	-	-	3	18
	2015	-	-	-	1	-	-	-	43
	2016	-	-	-	4	-	-	-	83
	2017	-	-	-	61	-	-	-	19
Spain	2013	1 190	-	297	490	2 197	-	1 086 979	11 511 987
	2014	85	-	20	159	1	-	1	2
	2015	941	-	78	4 412	1 061	-	444	1
	2016	1 610	-	133	1 077	101	-	569	-
	2017	49	-	54	28	1 585	0	124	466
Sweden	2016	10	-	-	-	-	-	-	-
United Kingdom of Great Britain and Northern Ireland	2013	-	-	-	-	-	-	20	-
	2016	-	0	-	-	-	-	-	-
	2017	-	-	42	-	3	-	-	-
Regional total	2013	2 447	0	299	23 621	2 197	0	1 108 049	11 512 633
	2014	10 221	0	21	14 851	1	0	6 724	1 878
	2015	29 148	0	897	41 338	1 470	0	28 851	25 829
	2016	29 842	0	278	42 280	101	0	12 174	13 314
	2017	9 929	0	237	30 116	28 270	0	5 841	4 739
OCEANIA									
Australia	2015	-	2	-	-	-	-	-	-
	2016	-	1	-	-	-	0	-	-
	2017	-	-	-	-	-	0	-	-
New Zealand	2013	108	-	-	263	13	-	74	835
	2015	45	-	-	313	-	-	46	140
	2016	71	-	-	167	-	-	6	77
	2017	117	-	-	118	-	-	32	27

<i>Country or territory</i>	<i>Year</i>	<i>Acetone (litres)</i>	<i>Anthranilic acid (kilograms)</i>	<i>Ethyl ether (litres)</i>	<i>Hydrochloric acid (litres)</i>	<i>Methyl ethyl ketone (litres)</i>	<i>Piperidine (litres)</i>	<i>Sulphuric acid (litres)</i>	<i>Toluene (litres)</i>
Regional total	2013	108	0	0	263	13	0	74	835
	2014	0	0	0	0	0	0	0	0
	2015	45	2	0	313	0	0	46	140
	2016	71	1	0	167	0	0	6	77
	2017	117	0	0	118	0	0	32	27
World total	2013	1 038 128	490 302	43 708	2 332 546	9 264	59	4 146 274	11 749 436
	2014	937 648	816	11 585	3 572 000	118 776	57	7 888 787	2 946 513
	2015	989 743	9 577	26 368	1 472 951	2 628	0	930 335	285 170
	2016	1 324 777	3	18 525	1 003 584	28 978	0	792 015	686 472
	2017	1 184 851	1	1 084	364 871	47 023	121	544 866	207 423

^aFor statistical purposes, the data for China do not include those for Hong Kong, China, and Macao, China.

^bSince 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

Country or territory	2013		2014		2015		2016		2017	
	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements
Iran (Islamic Republic of)	X	X	X	X	X	X	X		X	
Iraq							X	X		
Ireland ^a	X	X	X	X	X	X	X	X	X	X
Israel	X	X	X	X	X	X	X	X	X	X
Italy ^a	X	X	X	X	X	X	X	X	X	X
Jamaica	X	X	X	X	X	X	X	X	X	X
Japan	X	X	X	X	X	X	X	X	X	X
Jordan	X	X	X	X	X	X	X	X	X	X
Kazakhstan	X	X			X	X	X	X	X	X
Kenya					X	X	X	X	X	X
Kiribati										
Kuwait	X	X			X					
Kyrgyzstan	X	X	X	X	X	X	X	X		
Lao People's Democratic Republic	X	X	X		X		X		X	X
Latvia ^a	X	X	X	X	X	X	X	X	X	X
Lebanon	X	X	X	X	X	X	X	X	X	X
Lesotho				X						
Liberia										
Libya										
Liechtenstein ^f										
Lithuania ^a	X	X	X	X	X	X	X	X	X	X
Luxembourg ^a										
Madagascar	X	X	X	X	X	X	X	X		
Malawi				X						
Malaysia	X	X	X	X	X	X	X	X	X	X
Maldives	X	X					X	X	X	X
Mali	X	X								
Malta ^a	X	X	X	X	X	X	X	X	X	X
Marshall Islands										
Mauritania										
Mauritius										
Mexico	X	X	X	X	X	X	X	X	X	X
Micronesia (Federated States of)	X	X								
Monaco							X	X	X	X
Mongolia	X				X	X	X		X	X
Montenegro	X	X	X	X	X	X	X	X	X	X
Montserrat	X	X	X	X	X	X	X	X		X
Morocco	X	X	X	X	X	X	X	X	X	X
Mozambique			X				X	X		

Country or territory	2013		2014		2015		2016		2017	
	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements
Myanmar	X	X	X	X	X	X	X	X	X	X
Namibia										
Nauru										
Nepal	X	X	X	X					X	
Netherlands ^a	X	X	X	X	X	X	X	X	X	X
<i>New Caledonia</i>										
New Zealand	X	X			X	X	X		X	X
Nicaragua	X	X	X	X	X	X	X	X	X	X
Niger										
Nigeria	X	X			X	X	X	X	X	
Niue										
<i>Norfolk Island</i>					X	X				
Norway	X	X	X	X	X	X			X	X
Oman			X	X	X	X	X	X	X	X
Pakistan	X	X	X	X	X	X	X	X	X	X
Palau										
Panama	X	X	X	X	X	X	X	X	X	X
Papua New Guinea										
Paraguay							X	X		
Peru	X	X	X	X	X	X	X	X		
Philippines	X	X	X	X	X	X	X	X	X	X
Poland ^a	X	X	X	X	X	X	X	X	X	X
Portugal ^a	X	X	X	X	X	X	X	X	X	X
Qatar	X	X							X	X
Republic of Korea	X	X	X	X	X	X	X	X	X	X
Republic of Moldova	X	X	X	X	X	X	X	X	X	X
Romania ^a	X	X	X	X	X	X	X	X	X	X
Russian Federation	X	X	X	X	X	X	X	X	X	X
Rwanda					X	X				
<i>Saint Helena</i>										
Saint Kitts and Nevis										
Saint Lucia	X	X	X	X	X	X	X	X	X	X
Saint Vincent and the Grenadines	X	X	X	X	X	X	X	X		
Samoa										
San Marino ^e										
Sao Tome and Principe										
Saudi Arabia	X	X	X	X	X	X	X	X	X	
Senegal	X	X	X	X	X	X		X		
Serbia	X	X					X	X	X	X

Country or territory	2013		2014		2015		2016		2017	
	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements	Trade	Uses and/or requirements
United States of America	X	X	X	X	X	X	X	X	X	
Uruguay	X	X	X	X	X	X	X	X	X	X
Uzbekistan	X	X	X	X	X	X	X	X	X	X
Vanuatu										
Venezuela (Bolivarian Republic of)	X	X	X	X	X	X	X	X	X	X
Viet Nam	X	X	X	X	X	X				
Wallis and Futuna Islands										
Yemen										
Zambia			X	X						
Zimbabwe	X	X	X	X	X	X	X	X	X	X
Total number of Governments that submitted form D	129	128	118	116	128	124	112	110	116	111
Total number of Governments requested to provide information	213	213	213	213	213	213	213	213	213	213

^aState member of the European Union.

^bSince 25 October 2013, "Cabo Verde" has replaced "Cape Verde" as the short name used in the United Nations.

^cSince 17 May 2016, "Czechia" has replaced "Czech Republic" as the short name used in the United Nations.

^dSince 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.

^eThe Government of Italy includes on form D licit trade data for the Holy See and San Marino.

^fThe Government of Switzerland includes on form D licit trade data for Liechtenstein.

Annex V

Annual legitimate requirements for ephedrine, pseudoephedrine, 3,4-methylenedioxyphenyl-2-propanone and 1-phenyl-2-propanone; substances frequently used in the manufacture of amphetamine-type stimulants

1. In its resolution 49/3, entitled “Strengthening systems for the control of precursor chemicals used in the manufacture of synthetic drugs”, the Commission on Narcotic Drugs:

(a) Requested Member States to provide to the International Narcotics Control Board annual estimates of their legitimate requirements for 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P), pseudoephedrine, ephedrine and 1-phenyl-2-propanone (P-2-P) and, to the extent possible, estimated requirements for imports of preparations containing those substances that could be easily used or recovered by readily applicable means;

(b) Requested the Board to provide those estimates to Member States in such a manner as to ensure that such information was used only for drug control purposes;

(c) Invited Member States to report to the Board on the feasibility and usefulness of preparing, reporting and using estimates of legitimate requirements for the precursor chemicals and preparations referred to above in preventing diversion.

2. Pursuant to that resolution, the Board formally invited Governments to prepare estimates of their legitimate requirements for those substances. Those estimates, as reported by Governments, were published for the first time in March 2007.

3. The table below reflects the latest data reported by Governments on those four precursor chemicals (and their preparations, as relevant). It is expected that those data will provide the competent authorities of exporting countries with at least an indication of the legitimate requirements of importing countries, thus preventing diversion attempts. Governments are invited to review their requirements as published, amend them as necessary and inform the Board of any required change. The data are current as at 1 November 2018; for updates, see the Board’s website.

Annual legitimate requirements as reported by Governments for imports of ephedrine, pseudoephedrine, 3,4-methylenedioxyphenyl-2-propanone, 1-phenyl-2-propanone and their preparations, as at 1 November 2018

Notes: The names of territories, departments and special administrative regions are in italics.

A blank field signifies that no requirement was indicated or that data were not submitted for the substance in question.

A zero (0) signifies that the country or territory currently has no licit requirement for the substance.

The letter "P" signifies that importation of the substance is prohibited.

Reported quantities of less than 1 kg have been rounded up and are reflected as 1 kg.

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Afghanistan	0	40	0	2 000	0	0
Albania	45	0	5	0	0	0
Algeria	20		17 000		0	1
Argentina	45	0	25 098	175	0	0
Armenia	0	0	0	0	0	0
<i>Ascension</i>	0	0	0	0	0	0
Australia	5	8	4 800	1 680	0	1
Austria	130	1	1	1	1	1
Azerbaijan	20		10		0	0
Bahrain	1	10	1	850	0	0
Bangladesh	200		0		0	0
Barbados	200		200	58	0 ^c	
Belarus	0	25	20	20	0	0
Belgium	600	100	9 000	8 000	0	5
Belize			P	P	0 ^c	
Benin	2	3	8	22	0 ^c	
Bhutan	0	0	0	0	0	0
Bolivia (Plurinational State of)	25	1	600	755	0	0
Bosnia and Herzegovina	1	2	1 802	1 526	0	0
Botswana	300				0 ^c	
Brazil	1 200 ^d	0	33 000 ^c	0	0	0

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Brunei Darussalam	0	1	0	16	0	0
Bulgaria	1 098	296	20	0	0	0
Burundi		5		15	0 ^c	
Cabo Verde	0	1	0	0	0	0
Cambodia	200	50	300	900	0 ^c	
Cameroon	25			1	0 ^c	
Canada	7 000	10	30 000	25 000	1	1
Chile	30	0	5 500	560	0	0
China	24 000		86 000		0 ^c	
<i>China, Hong Kong</i>	2 500	0	10 149	0	0	0
<i>China, Macao</i>	1	10	1	159	0	0
<i>Christmas Island</i>	0	0	0	1	0	0
<i>Cocos (Keeling) Islands</i>	0	0	0	0	0	0
Colombia	0 ^e	0 ^d	3 300 ^e	P	0	0
Cook Islands	0	0	0	1	0	0
Costa Rica	0	0	869	109	0	0
Côte d'Ivoire	30	1	0	400	0	0
Croatia	50	1	5	1	1	1
Cuba	200			6	0 ^c	
<i>Curaçao</i>	0		0		0	0
Cyprus	10	10	600	300	0	0
Czechia	264	5	525	385	0	0
Democratic People's Republic of Korea	50	1 200			2	
Democratic Republic of the Congo	275	8	720	487	0 ^c	
Denmark					0	400
Dominican Republic	75	6	315	350	0	0
Ecuador	10	6	900	1 500	0	0
Egypt	4 500	0	63 000	2 500	0	0
El Salvador	P 6 ^f	P 6 ^f	P	P	0	0
Eritrea	0	0	0	0	0	0
Estonia	3	5	1	500	0	0
Ethiopia	1 000			100	0 ^c	
<i>Falkland Islands (Malvinas)</i>	0	1	0	1	0 ^c	0
<i>Faroe Islands</i>	0	0	0	0	0	0
Fiji		1			0 ^c	

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Finland	4	50	0	450	0	1
France	1	10	32 000	500	0	0
Gambia	0	0	0	0	0	0
Georgia	1	1	1	1	1	1
Germany	400		5 000		1	7
Ghana	4 500	300	3 000	200	0	0
Greece	100	0	500	0	0	0
<i>Greenland</i>	0	0	0	0	0	0
Guatemala	0		P	P	0	0
Guinea	36				0 ^c	
Guinea-Bissau	0	0	0	0	0	0
Guyana	120	50	120	30	0	0
Haiti	200	1	350	11	0	0
Honduras	P	P 1 050 ^g	P	P	0	0
Hungary	900	0	31	0	1	1 800
Iceland	0	0	0	0	0	0
India	702 507	112 729	269 350	193 801	0	0
Indonesia	13 000	1	52 000	6 200	0	0
Iran (Islamic Republic of)	2	1	17 000	1	1	1
Iraq	3 000	100	14 000	10 000	0	P ^h
Ireland	150	4	1	1 164	0	0
Israel	248	6 075	20 582	164	0 ^c	
Italy	100	100	10 000	30 000	0	0
Jamaica	70	150	550	300	0	0
Japan	5 000		12 000		0 ^c	
Jordan	130		38 000		0	P
Kazakhstan	0	1	0	1	1	1
Kenya	1 500	2 000	1 500	2 000	0	0
Kyrgyzstan	0	0	0	100 000	0	0
Lao People's Democratic Republic	0	0	1 000	130	0	0
Latvia	10	4	50	200	0	0
Lebanon	60	3	550	900	0	0
Lithuania	1	1	1	700	1	1
Luxembourg	1	0	0	0	0	0
Madagascar	0	153	0	174	0	0
Malawi	1 000				0 ^c	

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Malaysia	44	5	3 660	3 017	0	0
Maldives	0	1	0	0	0	0
Mali	P	P	P	P	P	P
Malta	0	220	0	220	0	0
Mauritius	0	0	0	0	0	0
Mexico	P 150 ^f	P ^f	P	P	0	1
Monaco	0	0	0	0	0	0
Mongolia	0	0	0	0	0	0
Montenegro	0	2	0	205	0	0
<i>Montserrat</i>	0	0	0	1	0	0
Morocco	41	16	2 971	0	0	0
Mozambique	3				0 ^c	
Myanmar	15	11	0	0	0	0
Namibia	0	0	0	0	0	0
Nepal		1	5 000		0 ^c	
Netherlands	300	50	650	0	0	1
New Zealand	1	0	1 000		0	3
Nicaragua	P ⁱ	P ⁱ	P	P	0	0
Nigeria	9 650	500	5 823	15 000	0	0
<i>Norfolk Island</i>	0	0	0	0	0	0
Norway	10	0	1	1	1	1
Oman	1	1	228	443	0 ^c	
Pakistan	12 000		48 000	500	0 ^c	
Panama	0	5	200	200	0	
Papua New Guinea	1		200		0	0
Paraguay	0	0	2 500	0	0	0
Peru	45	0	2 524	1 078	0	0
Philippines	46	0	149	0	0	0
Poland	310	100	7 500	3 000	3	4
Portugal	8	0	665	0	0	0
Qatar	0	0	0	80	0	0
Republic of Korea	28 897		27 554		1	1
Republic of Moldova	0	8	0	600	0	0
Romania	225		2 295		0	1
Russian Federation	1 500				0 ^c	
Rwanda		10		10	2	2
<i>Saint Helena</i>	0	1	0	1	0	0

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Saint Lucia	0	6	0	15	0	0
Saint Vincent and the Grenadines	0		0		0	0
Sao Tome and Principe	0	0	0	0	0	0
Saudi Arabia	1	0	12 000	0	0	0
Senegal	123	1	0	510	0	0
Serbia	2	1	205	351	0	1
Seychelles		1		1	0 ^c	
Singapore	7 000	45	25 000	2 800	1	1
Slovakia	20	6	1	1	0	0
Slovenia	374		250		0	0
Solomon Islands	0	1	0	1	0	0
South Africa	1 071	2 630	3 001	887 112	0	0
Spain	227		8 284		0	13 790
Sri Lanka	0	0	0	0	0	0
Sudan	0	50	1 500	3 000	0	
Sweden	190	160	1	1	1	11
Switzerland	2 000		85 000		50	5
Syrian Arab Republic	1 000		50 000		0 ^c	
Tajikistan	38				0 ^c	
Thailand	15	0	2 601	0	0	1
Trinidad and Tobago					0 ^c	0
<i>Tristan da Cunha</i>	0	0	0	0	0	0
Tunisia	1	15	3 000	1	0	30
Turkey	250	0	55 000	7 000	0	0
Turkmenistan	0	0	0	0	0	0
Uganda	150	35	3 000	200	0	0
Ukraine	0	56	23	0	0	0
United Arab Emirates	0	0	1 533	3 894	0	0
United Kingdom of Great Britain and Northern Ireland	64 448	1 011	25 460	1 683	8	1
United Republic of Tanzania	100	1 500	2 000	200	0 ^c	
United States of America	4 860		186 000		0 ^c	47 183

<i>Country or territory</i>	<i>Ephedrine (kilograms)</i>	<i>Ephedrine preparations (kilograms)</i>	<i>Pseudoephedrine (kilograms)</i>	<i>Pseudoephedrine preparations (kilograms)</i>	<i>3,4-MDP-2-P^a (litres)</i>	<i>P-2-P^b (litres)</i>
Uruguay	15	0	0	0	0	0
Uzbekistan	0	0	0		0	0
Venezuela (Bolivarian Republic of)	60	500	2 075	500	0	0
Yemen	75	75	3 000	2 000	0 ^c	
Zambia	50	25	50	100	0 ^c	
Zimbabwe	25	1	400	50	0	0

^a3,4-Methylenedioxyphenyl-2-propanone.

^b1-Phenyl-2-propanone.

^cThe Board is currently unaware of any legitimate need for the importation of this substance into the country.

^dIncluding the licit requirements for pharmaceutical preparations containing the substance.

^eThe required amount of ephedrine is to be used for the manufacture of injectable ephedrine sulphate solution. The required amount of pseudoephedrine is to be used exclusively for the manufacture of medicines for export.

^fImports of the substance and preparations containing the substance are prohibited, with the exception of the imports of injectable ephedrine preparations and ephedrine as a prime raw material for the manufacture of such ephedrine preparations. Pre-export notification is required for each individual import.

^gIn the form of injectable ephedrine sulfate solution.

^hIncludes products containing P-2-P.

ⁱImports of the substance and preparations containing the substance are prohibited, with the exception of the imports of injectable ephedrine preparations and ephedrine as a prime raw material for the manufacture of such ephedrine preparations. Such export requires an import permit.

Annex VI

Governments that have requested pre-export notifications pursuant to article 12, subparagraph 10 (a), of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

1. Governments of all exporting countries and territories are reminded that it is an obligation to provide pre-export notifications to Governments that have requested them pursuant to article 12, subparagraph 10 (a), of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, which provides that:

“upon request to the Secretary-General by the interested Party, each Party from whose territory a substance in Table I is to be exported shall ensure that, prior to such export, the following information is supplied by its competent authorities to the competent authorities of the importing country:

- “(i) Name and address of the exporter and importer and, when available, the consignee;
- “(ii) Name of the substance in Table I;
- “(iii) Quantity of the substance to be exported;
- “(iv) Expected point of entry and expected date of dispatch;
- “(v) Any other information which is mutually agreed upon by the Parties.”

2. Governments that have requested pre-export notifications are listed in the table below in alphabetical order, followed by the substance (or substances) for which pre-export notifications were requested, and the date of notification of the request transmitted by the Secretary-General to Governments.

3. The information is current as at 1 November 2018.

Note: The names of territories are in italics.

<i>Notifying Government</i>	<i>Substances for which pre-export notifications have been requested</i>	<i>Date of communication to Governments by the Secretary-General</i>
Afghanistan ^a	All substances included in Tables I and II	13 July 2010
Algeria ^a	All substances included in Tables I and II	10 October 2013
Antigua and Barbuda ^a	All substances included in Tables I and II	05 May 2000
Argentina	All substances included in Table I	19 November 1999
Armenia ^a	All substances included in Tables I and II ^{d,e}	04 July 2013
Australia ^a	All substances included in Tables I and II	12 February 2010
Austria	All substances included in Table I	19 May 2000 ^f
Azerbaijan ^a	All substances included in Tables I and II	21 January 2011
Bangladesh ^a	All substances included in Tables I and II	12 May 2015
Barbados ^a	All substances included in Tables I and II ^{d,e}	24 October 2013
Belarus ^b	Acetic anhydride, ephedrine, potassium permanganate and pseudoephedrine	12 October 2000
Belgium	All substances included in Table I	19 May 2000
Benin ^a	All substances included in Tables I and II	04 February 2000

<i>Notifying Government</i>	<i>Substances for which pre-export notifications have been requested</i>	<i>Date of communication to Governments by the Secretary-General</i>
Bhutan ^a	All substances included in Tables I and II	06 July 2018
Bolivia (Plurinational State of) ^a	Acetic anhydride, acetone, ethyl ether, hydrochloric acid, potassium permanganate and sulphuric acid	12 November 2001
Brazil ^a	All substances included in Tables I and II	15 October 1999 and 15 December 1999
Bulgaria	All substances included in Table I	19 May 2000 ^f
Canada ^a	All substances included in Tables I and II	31 October 2005
Cayman Islands ^a	All substances included in Tables I and II	07 September 1998
Chile ^a	All substances included in Tables I and II	19 October 2012
China	Acetic anhydride	20 October 2000
<i>China, Hong Kong^a</i>	All substances included in Tables I and II	28 December 2012
<i>China, Macao^a</i>	All substances included in Tables I and II	28 December 2012
Colombia ^a	All substances included in Tables I and II	14 October 1998
Costa Rica ^a	All substances included in Tables I and II	27 September 1999
Côte d'Ivoire	All substances included in Tables I and II	26 June 2013
Croatia	All substances included in Table I	19 May 2000 ^f
Cyprus	All substances included in Table I	19 May 2000 ^f
Czechia	All substances included in Table I	19 May 2000 ^f
Denmark	All substances included in Table I	19 May 2000 ^f
Dominican Republic ^a	All substances included in Tables I and II	11 September 2002
Ecuador ^a	All substances included in Tables I and II	01 August 1996
Egypt ^a	All substances included in Table I and acetone	03 December 2004
El Salvador ^a	All substances included in Tables I and II	29 July 2010
Estonia	All substances included in Table I	19 May 2000
Ethiopia ^a	All substances included in Tables I and II	17 December 1999
European Union (on behalf of all its States members) ^c	All substances included in Table I	19 May 2000 ^f
Finland	All substances included in Table I	19 May 2000 ^f
France	All substances included in Table I	19 May 2000 ^f
Georgia ^a	All substances included in Tables I and II	07 September 2016
Germany	All substances included in Table I	19 May 2000 ^f
Ghana ^a	All substances included in Tables I and II	26 February 2010
Greece	All substances included in Table I	19 May 2000 ^f
Haiti ^a	All substances included in Tables I and II	20 June 2002
Hungary	All substances included in Table I	19 May 2000 ^f
India ^a	All substances included in Tables I and II	23 March 2000
Indonesia ^a	Acetic anhydride, <i>N</i> -acetylanthranilic acid, anthranilic acid, ephedrine, ergometrine, ergot-amine, isosafrole, 3,4-methylenedioxyphenyl-2-propanone, phenylacetic acid, 1-phenyl-2-propanone, piperonal, pseudoephedrine and safrole	18 February 2000
Iraq ^a	All substances included in Tables I and II ^{d,e}	31 July 2013
Ireland	All substances included in Table I	19 May 2000 ^f
Italy	All substances included in Table I	19 May 2000 ^f
Jamaica	All substances included in Table I ^{d,e}	04 July 2013
Japan	All substances included in Table I	17 December 1999

<i>Notifying Government</i>	<i>Substances for which pre-export notifications have been requested</i>	<i>Date of communication to Governments by the Secretary-General</i>
Jordan ^a	All substances included in Tables I and II	15 December 1999
Kazakhstan ^a	All substances included in Tables I and II	15 August 2003
Kenya ^a	All substances included in Tables I and II ^{d,e}	10 October 2013
Kyrgyzstan ^a	All substances included in Tables I and II ^{d,e}	21 October 2013
Latvia	All substances included in Table I	19 May 2000 ^f
Lebanon ^a	All substances included in Tables I and II	14 June 2002
Lithuania	All substances included in Table I	19 May 2000 ^f
Luxembourg	All substances included in Table I	19 May 2000 ^f
Libya ^a	All substances included in Tables I and II ^{d,e}	21 August 2013
Madagascar ^a	All substances included in Tables I and II	31 March 2003
Malaysia ^a	All substances included in Table I ^d , anthranilic acid, ethyl ether, piperidine	21 August 1998
Maldives ^a	All substances included in Tables I and II	06 April 2005
Malta	All substances included in Table I	19 May 2000 ^f
Mexico ^a	All substances included in Tables I and II	06 April 2005
Micronesia (Federated States of) ^a	All substances included in Tables I and II ^{d,e}	11 February 2014
Myanmar ^a	All substances included in Tables I and II	04 November 2016
Netherlands	All substances included in Table I	19 May 2000 ^f
New Zealand ^a	All substances included in Tables I and II ^{d,e}	03 April 2014
Nicaragua ^a	All substances included in Tables I and II	08 January 2014
Nigeria ^a	All substances included in Tables I and II	28 February 2000
Norway ^a	All substances included in Table I ^e , anthranilic acid, ethyl ether, piperidine	17 December 2013
Oman ^a	All substances included in Tables I and II	16 April 2007
Pakistan ^a	All substances included in Tables I and II	12 November 2001 and 06 March 2013
Panama	Ephedrine, ergometrine, ergotamine, norephedrine, pseudoephedrine	14 August 2013
Paraguay ^a	All substances included in Tables I and II	03 February 2000
Peru ^a	Acetic anhydride, acetone, ephedrine, ergometrine, ergotamine, ethyl ether, hydrochloric acid, lysergic acid, methyl ethyl ketone, norephedrine, potassium permanganate, pseudoephedrine, sulphuric acid and toluene	27 September 1999
Philippines ^a	All substances included in Tables I and II	16 April 1999
Poland	All substances included in Table I	19 May 2000 ^f
Portugal	All substances included in Table I	19 May 2000 ^f
Qatar ^a	All substances included in Tables I and II ^{d,e}	16 July 2013
Republic of Korea ^a	All substances included in Table I and acetone	03 June 2008
Republic of Moldova ^a	All substances included in Tables I and II ^{d,e}	29 December 1998 and 08 November 2013
Romania	All substances included in Table I	19 May 2000 ^f
Russian Federation ^a	Acetic anhydride, ephedrine, ergometrine, ergotamine, 3,4-methylenedioxyphenyl-2-propanone, norephedrine, phenylacetic acid, 1-phenyl-2-propanone, potassium permanganate, pseudoephedrine and all substances included in Table II	21 February 2000

<i>Notifying Government</i>	<i>Substances for which pre-export notifications have been requested</i>	<i>Date of communication to Governments by the Secretary-General</i>
Saint Vincent and the Grenadines ^a	All substances included in Tables I and II ^{de}	16 July 2013
Saudi Arabia ^a	All substances included in Tables I and II	18 October 1998
Sierra Leone ^a	All substances included in Tables I and II ^{de}	05 July 2013
Singapore	All substances included in Table I	05 May 2000
Slovakia	All substances included in Table I	19 May 2000 ^f
Slovenia	All substances included in Table I	19 May 2000 ^f
South Africa ^a	All substances included in Table I, and anthranilic acid	11 August 1999
Spain	All substances included in Table I	19 May 2000 ^f
Sri Lanka	All substances included in Table I	19 November 1999
Sudan ^a	All substances included in Tables I and II	06 May 2015
Syrian Arab Republic ^a	All substances included in Tables I and II	24 October 2013
Sweden	All substances included in Table I	19 May 2000 ^f
Switzerland	All substances included in Table I	25 March 2013
Tajikistan ^a	All substances included in Tables I and II	07 February 2000
Thailand ^a	All substances included in Table I (except potassium permanganate), and anthranilic acid ^d	18 October 2010
Togo ^a	All substances included in Tables I and II	06 August 2013
Tonga ^a	All substances included in Tables I and II ^{de}	04 July 2013
Trinidad and Tobago ^a	All substances included in Tables I and II ^{de}	15 August 2013
Turkey ^a	All substances included in Tables I and II	02 November 1995
Uganda ^a	All substances included in Tables I and II ^{de}	06 May 2014
United Arab Emirates ^a	All substances included in Tables I ^d and II	26 September 1995
United Kingdom of Great Britain and Northern Ireland	All substances included in Table I	19 May 2000 ^f
United Republic of Tanzania ^a	All substances included in Tables I and II	10 December 2002
United States of America	Acetic anhydride, ephedrine and pseudoephedrine	2 June 1995 and 19 January 2001
Uruguay ^a	All substances included in Tables I and II	30 December 2015
Venezuela (Bolivarian Republic of) ^a	All substances included in Tables I and II	27 March 2000
Yemen ^a	All substances included in Tables I and II	06 May 2014
Zimbabwe ^a	All substances included in Tables I and II ^{de}	04 July 2013

^aThe Secretary-General has informed all Governments of the request of the notifying Government to receive a pre-export notification for some or all substances listed in Table II of the 1988 Convention as well.

^bGovernment requested to receive pre-export notifications for pharmaceutical preparations containing ephedrine and pseudoephedrine as well.

^cGovernments requested to receive pre-export notifications for safrole-rich oils as well.

^dOn 19 May 2000 the Secretary-General communicated to Governments the request by the European Commission on behalf of the States members of the European Union to receive pre-export notifications for the indicated substances.

^eNot yet notified by the Secretary-General as in a subsequent communication the Government of Belarus requested the Secretary-General to suspend such notification until a national mechanism to receive and process pre-export notifications is established.

^fAustria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom of Great Britain and Northern Ireland.

Annex VII

Substances in Table I and Table II of the 1988 Convention

<i>Table I</i>	<i>Table II</i>
Acetic anhydride	Acetone
<i>N</i> -Acetylanthranilic acid	Anthranilic acid
4-Anilino- <i>N</i> -phenethylpiperidine (ANPP) ^a	Ethyl ether
Ephedrine	Hydrochloric acid ^b
Ergometrine	Methyl ethyl ketone
Ergotamine	Piperidine
Isosafrole	Sulphuric acid ^b
Lysergic acid	Toluene
3,4-Methylenedioxyphenyl-2-propanone	
Norephedrine	
<i>N</i> -Phenethyl-4-piperidone (NPP) ^a	
Phenylacetic acid	
<i>alpha</i> -Phenylacetoacetonitrile (APAAN)	
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.

^aIncluded in Table I, effective 18 October 2017.

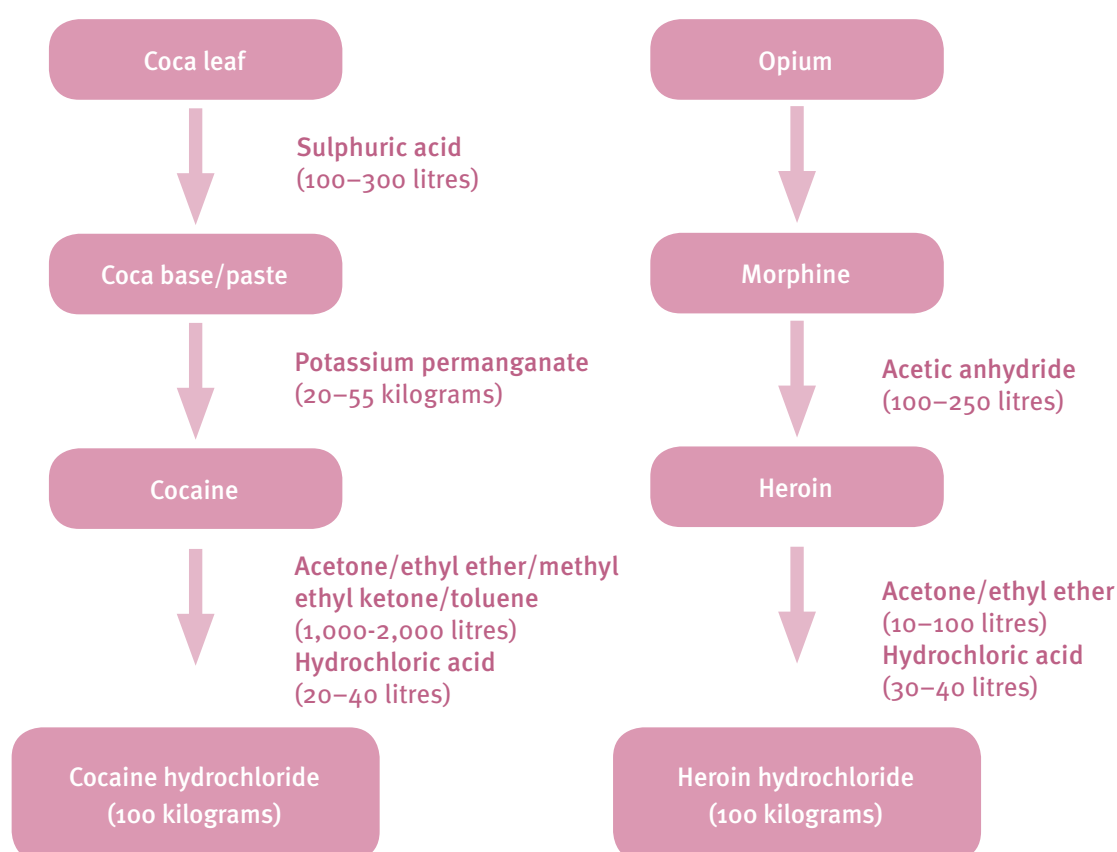
^bThe salts of hydrochloric acid and sulphuric acid are specifically excluded from Table II.

Annex VIII

Use of scheduled substances in the illicit manufacture of narcotic drugs and psychotropic substances

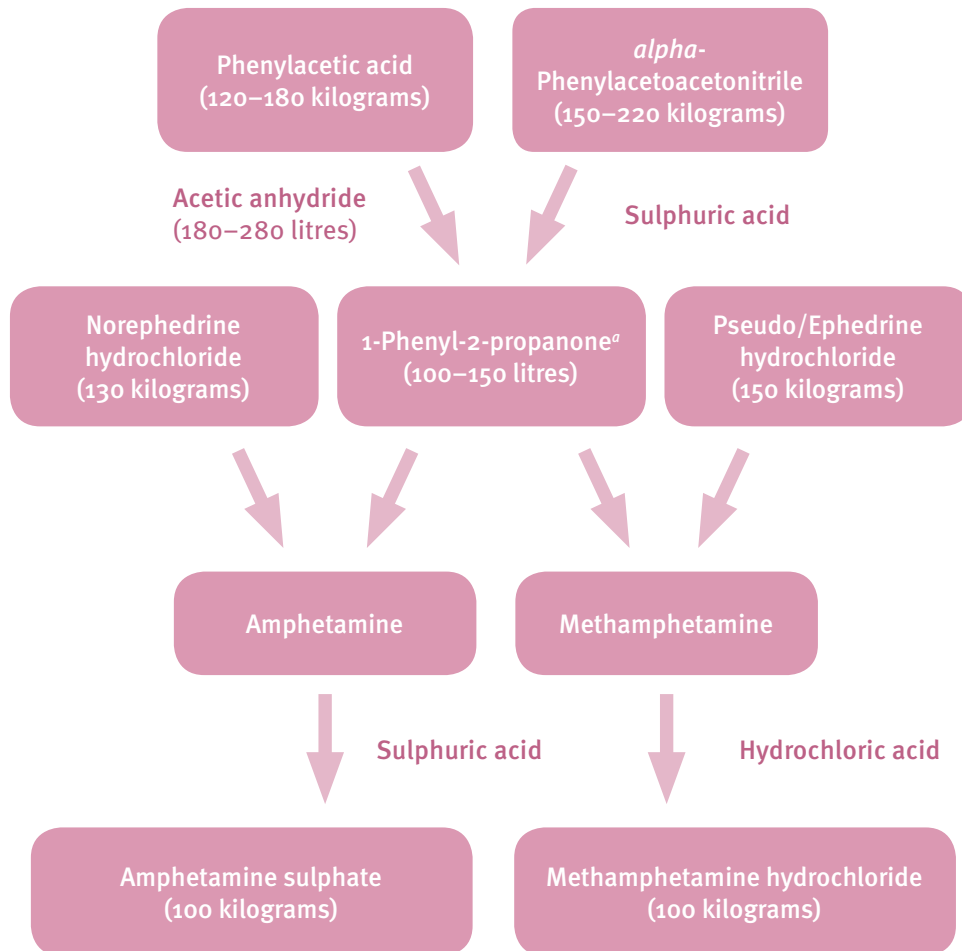
Figures I–V below depict the use of scheduled substances in the illicit manufacture of narcotic drugs and psychotropic substances. The approximate quantities provided are based on common manufacturing methods. Other manufacturing methods using scheduled substances — or even non-scheduled substances instead of or in addition to scheduled substances — may also be encountered, depending on the geographical location.

Figure I. Illicit manufacture of cocaine and heroin: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of cocaine or heroin hydrochloride



Note: The extraction of cocaine from coca leaf and the purification of coca paste and the crude base products of cocaine and heroin require solvents, acids and bases. A wide range of such chemicals are used at all stages of drug manufacture.

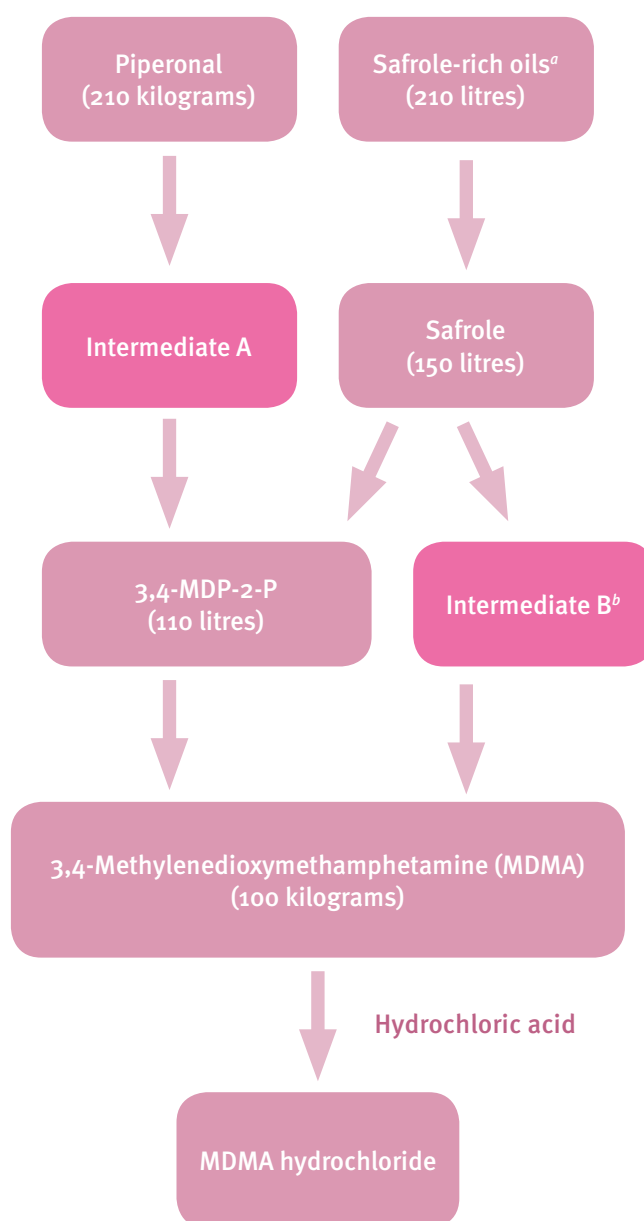
Figure II. Illicit manufacture of amphetamine and methamphetamine: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of amphetamine sulphate and methamphetamine hydrochloride



Note: Methcathinone, a less commonly encountered amphetamine-type stimulant, can be manufactured from pseudo/ephedrine hydrochloride, requiring the same approximate quantities as methamphetamine to yield 100 kilograms of hydrochloride salt.

^aMethods based on 1-phenyl-2-propanone result in racemic *d,l*-meth/amphetamine, while methods based on ephedrine, pseudoephedrine or norephedrine result in *d*-meth/amphetamine.

Figure III. Illicit manufacture of 3,4-methylenedioxymethamphetamine (MDMA) and related drugs: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of MDMA



Note: Isosafrole, another precursor of MDMA under international control, is not included in this scheme, as it is not commonly encountered as a starting material; it is an intermediate in a modification of methods for manufacturing MDMA from safrole, requiring approximately 300 litres of safrole to manufacture 100 kilograms of MDMA.

^a Assuming the safrole-rich oils have a safrole content of 75 per cent or higher.

^b The manufacture of 100 kilograms of MDMA via intermediate B would require 200 litres of safrole.

Figure IV. Illicit manufacture of methaqualone and phencyclidine: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 100 kilograms of methaqualone and phencyclidine

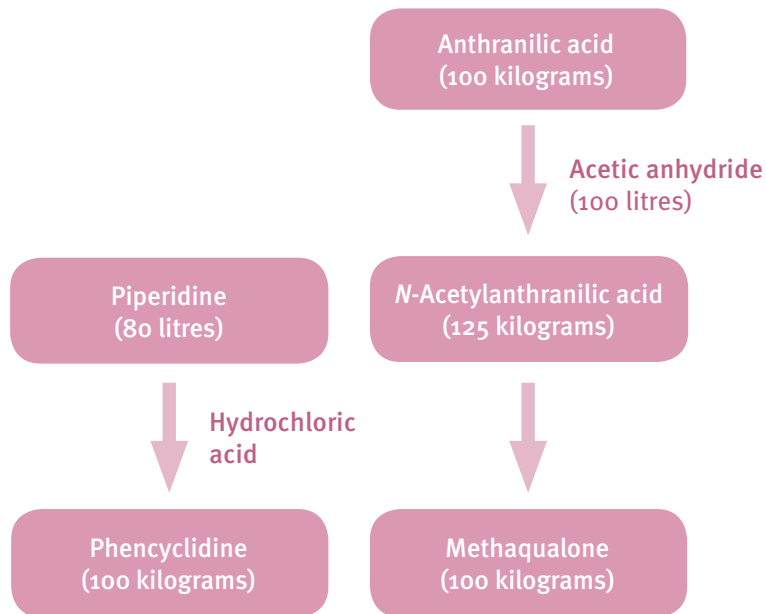
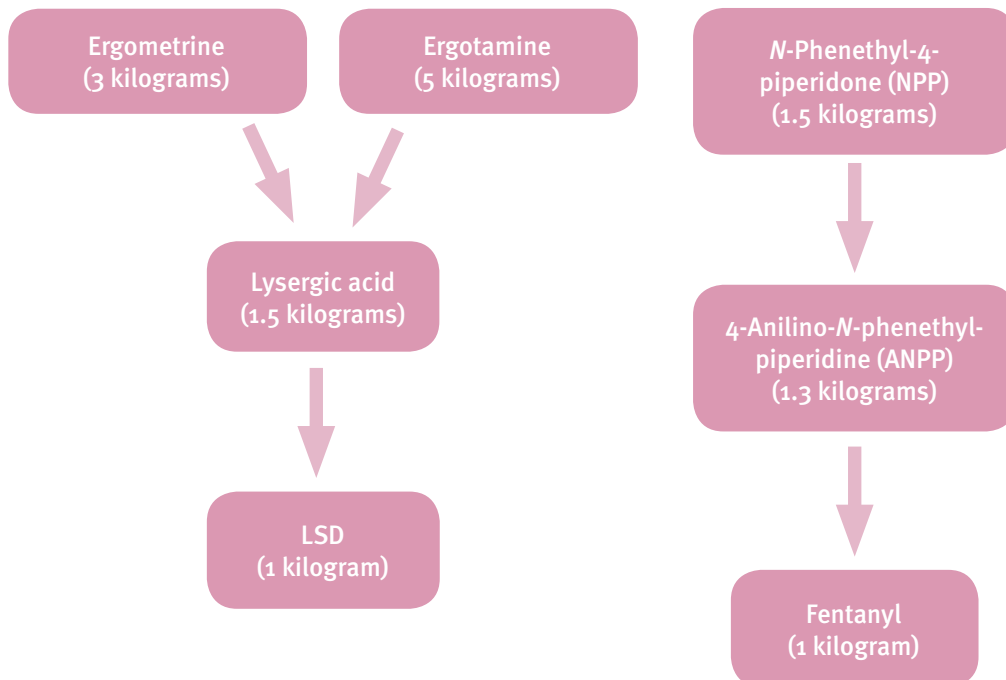


Figure V. Illicit manufacture of lysergic acid diethylamide (LSD) and fentanyl: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 1 kilogram of LSD or fentanyl



Annex IX

Licit uses of the substances in Table I and Table II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

Knowledge of the most common licit uses of substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, including the processes and end products in which the substances may be used, is essential for the verification of the legitimacy of orders or shipments. The most common licit uses of those substances reported to the International Narcotics Control Board are as follows:

<i>Substance</i>	<i>Licit uses</i>
Acetic anhydride	Acetylating and dehydrating agent used in the chemical and pharmaceutical industries for the manufacture of cellulose acetate, for textile sizing agents and cold bleaching activators, for polishing metals and for the production of brake fluids, dyes and explosives
Acetone	As a common solvent and intermediate for a variety of substances in the chemical and pharmaceutical industries, including plastics, paints, lubricants, varnishes and cosmetics; also used in the manufacture of other solvents, such as chloroform
<i>N</i> -Acetylanthranilic acid	Used in the manufacture of pharmaceuticals, plastics and fine chemicals
4-Anilino- <i>N</i> -phenethylpiperidine (ANPP)	Used in the pharmaceutical industry for the manufacture of fentanyl
Anthranilic acid	Chemical intermediate used in the manufacture of dyes, pharmaceuticals and perfumes; also used in the preparation of bird and insect repellents
Ephedrine	Used in the manufacture of bronchodilators (cough medicines)
Ergometrine	Used in the treatment of migraine and as an oxytocic in obstetrics
Ergotamine	Used in the treatment of migraine and as an oxytocic in obstetrics
Ethyl ether	Commonly used solvent in chemical laboratories and in the chemical and pharmaceutical industries; mainly used as an extractant for fats, oils, waxes and resins; also used for the manufacture of munitions, plastics and perfumes and, in medicine, as a general anaesthetic
Hydrochloric acid	Used in the production of chlorides and hydrochlorides, for the neutralization of basic systems and as a catalyst and solvent in organic synthesis
Isosafrole	Used in the manufacture of piperonal; to modify "oriental perfumes"; to strengthen soap perfumes; in small quantities, together with methyl salicylate, in root beer and sarsaparilla flavours; and as a pesticide
Lysergic acid	Used in organic synthesis
3,4-Methylenedioxyphenyl-2-propanone	Used in the manufacture of piperonal and other perfume components
Methyl ethyl ketone	Common solvent; used in the manufacture of coatings, solvents, degreasing agents, lacquers, resins and smokeless powders
Norephedrine	Used in the manufacture of nasal decongestants and appetite suppressants
<i>N</i> -Phenethyl-4-piperidone (NPP)	Used in the pharmaceutical industry for the manufacture of fentanyl and carfentanil

<i>Substance</i>	<i>Licit uses</i>
Phenylacetic acid	Used in the chemical and pharmaceutical industries for the manufacture of phenylacetate esters, amphetamine and some derivatives; also used for the synthesis of penicillins and in fragrance applications and cleaning solutions
<i>alpha</i> -Phenylacetoacetonitrile	None, except — in small amounts — for research, development and laboratory analytical purposes
1-Phenyl-2-propanone	Used in the chemical and pharmaceutical industries for the manufacture of amphetamine, methamphetamine and some derivatives; also used for the synthesis of propylhexedrine
Piperidine	Commonly used solvent and reagent in chemical laboratories and in the chemical and pharmaceutical industries; also used in the manufacture of rubber products and plastics
Piperonal	Used in perfumery, in cherry and vanilla flavours, in organic synthesis and as a component for mosquito repellent
Potassium permanganate	Important reagent in analytical and synthetic organic chemistry; used in bleaching applications, disinfectants, antibacterials and antifungal agents and in water purification
Pseudoephedrine	Used in the manufacture of bronchodilators and nasal decongestants
Safrole	Used in perfumery, for example in the manufacture of piperonal, and for denaturing fats in soap manufacture
Sulphuric acid	Used in the production of sulphates; as an acidic oxidizer; as a dehydrating and purifying agent; for the neutralization of alkaline solutions; as a catalyst in organic synthesis; in the manufacture of fertilizers, explosives, dyestuffs and paper; and as a component of drain and metal cleaners, anti-rust compounds and automobile battery fluids
Toluene	Industrial solvent; used in the manufacture of explosives, dyes, coatings and other organic substances and as a gasoline additive

Annex X

Treaty provisions for the control of substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances

1. Article 2, paragraph 8, of the Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol provides that parties shall use their best endeavours to apply to substances which do not fall under the Convention, but which may be used in the illicit manufacture of drugs, such measures of supervision as may be practicable.
2. Article 2, paragraph 9, of the Convention on Psychotropic Substances of 1971 provides that parties shall use their best endeavours to apply to substances which do not fall under the Convention, but which may be used in the illicit manufacture of psychotropic substances, such measures of supervision as may be practicable.
3. Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 contains provisions for the following:
 - (a) General obligation for parties to take measures to prevent diversion of the substances in Tables I and II of the Convention and to cooperate with each other to that end (para. 1);
 - (b) Mechanism for amending the scope of control (paras. 2–7);
 - (c) Requirement to take appropriate measures to monitor manufacture and distribution, to which end parties may control persons and enterprises, control establishments and premises under license, require permits for manufacture or distribution of substances in Table I and Table II and prevent accumulation of such substances (para. 8);
 - (d) Obligation to monitor international trade in order to identify suspicious transactions, to provide for seizures, to notify the authorities of the parties concerned in case of suspicious transactions, to require proper labelling and documentation and to ensure maintenance of such documents for at least two years (para. 9);
 - (e) Mechanism for advance notice of exports of substances in Table I, upon request (para. 10);
 - (f) Confidentiality of information (para. 11);
 - (g) Reporting by parties to the International Narcotics Control Board (para. 12);
 - (h) Report of the Board to the Commission on Narcotic Drugs (para. 13);
 - (i) Non-applicability of the provisions of article 12 to certain preparations (para. 14).

Annex XI

Regional groupings

Reference is made throughout the present report to various geographical regions, which are defined as follows:

Africa: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini,^a Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia and Zimbabwe;

Central America and the Caribbean: Antigua and Barbuda, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago;

North America: Canada, Mexico and United States of America;

South America: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of);

East and South-East Asia: Brunei Darussalam, Cambodia, China, Democratic People's Republic of Korea, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Singapore, Thailand, Timor-Leste and Viet Nam;

South Asia: Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka;

West Asia: Afghanistan, Armenia, Azerbaijan, Bahrain, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, State of Palestine, Syrian Arab Republic, Tajikistan, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan and Yemen;

Europe:

Eastern Europe: Belarus, Republic of Moldova, Russian Federation and Ukraine;

South-Eastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Romania, Serbia and the former Yugoslav Republic of Macedonia;

Western and Central Europe: Andorra, Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Holy See, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, San Marino, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom of Great Britain and Northern Ireland;

Oceania: Australia, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

^aSince 19 April 2018, "Eswatini" has replaced "Swaziland" as the short name used in the United Nations.

About the International Narcotics Control Board

The International Narcotics Control Board (INCB) is an independent and quasi-judicial control organ, established by treaty, for monitoring the implementation of the international drug control treaties. It had predecessors under the former drug control treaties as far back as the time of the League of Nations.

Composition

INCB consists of 13 members who are elected by the Economic and Social Council and who serve in their personal capacity, not as government representatives. Three members with medical, pharmacological or pharmaceutical experience are elected from a list of persons nominated by the World Health Organization (WHO) and 10 members are elected from a list of persons nominated by Governments. Members of the Board are persons who, by their competence, impartiality and disinterestedness, command general confidence. The Council, in consultation with INCB, makes all arrangements necessary to ensure the full technical independence of the Board in carrying out its functions. INCB has a secretariat that assists it in the exercise of its treaty-related functions. The INCB secretariat is an administrative entity of the United Nations Office on Drugs and Crime, but it reports solely to the Board on matters of substance. INCB closely collaborates with the Office in the framework of arrangements approved by the Council in its resolution 1991/48. INCB also cooperates with other international bodies concerned with drug control, including not only the Council and its Commission on Narcotic Drugs, but also the relevant specialized agencies of the United Nations, particularly WHO. It also cooperates with bodies outside the United Nations system, especially the International Criminal Police Organization (INTERPOL) and the World Customs Organization.

Functions

The functions of INCB are laid down in the following treaties: Single Convention on Narcotic Drugs of 1954 as amended by the 1972 Protocol; Convention on Psychotropic Substances of 1971; and United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988. Broadly speaking, INCB deals with the following:

(a) As regards the licit manufacture of, trade in and use of drugs, INCB endeavours, in cooperation with Governments, to ensure that adequate supplies of drugs are available for medical and scientific uses and that the

diversion of drugs from licit sources to illicit channels does not occur. INCB also monitors Governments' control over chemicals used in the illicit manufacture of drugs and assists them in preventing the diversion of those chemicals into the illicit traffic;

(b) As regards the illicit manufacture of, trafficking in and use of drugs, INCB identifies weaknesses in national and international control systems and contributes to correcting such situations. INCB is also responsible for assessing chemicals used in the illicit manufacture of drugs, in order to determine whether they should be placed under international control.

In the discharge of its responsibilities, INCB:

(a) Administers a system of estimates for narcotic drugs and a voluntary assessment system for psychotropic substances and monitors licit activities involving drugs through a statistical returns system, with a view to assisting Governments in achieving, inter alia, a balance between supply and demand;

(b) Monitors and promotes measures taken by Governments to prevent the diversion of substances frequently used in the illicit manufacture of narcotic drugs and psychotropic substances and assesses such substances to determine whether there is a need for changes in the scope of control of Tables I and II of the 1988 Convention;

(c) Analyses information provided by Governments, United Nations bodies, specialized agencies or other competent international organizations, with a view to ensuring that the provisions of the international drug control treaties are adequately carried out by Governments, and recommends remedial measures;

(d) Maintains a permanent dialogue with Governments to assist them in complying with their obligations under the international drug control treaties and, to that end, recommends, where appropriate, technical or financial assistance to be provided.

INCB is called upon to ask for explanations in the event of apparent violations of the treaties, to propose appropriate remedial measures to Governments that are not fully applying the provisions of the treaties or are encountering difficulties in applying them and, where necessary, to assist Governments in overcoming such difficulties. If, however, INCB notes that the measures necessary to remedy a serious

situation have not been taken, it may call the matter to the attention of the parties concerned, the Commission on Narcotic Drugs and the Economic and Social Council. As a last resort, the treaties empower INCB to recommend to parties that they stop importing drugs from a defaulting country, exporting drugs to it or both. In all cases, INCB acts in close cooperation with Governments.

INCB assists national administrations in meeting their obligations under the conventions. To that end, it proposes and participates in regional training seminars and programmes for drug control administrators.

Reports

The international drug control treaties require INCB to prepare an annual report on its work. The annual report contains an analysis of the drug control situation worldwide so that Governments are kept aware of existing and potential situations that may endanger the objectives of the international drug control treaties. INCB draws the attention of Governments to gaps and weaknesses in national control and in treaty compliance; it also makes suggestions and

recommendations for improvements at both the national and international levels. The annual report is based on information provided by Governments to INCB, United Nations entities and other organizations. It also uses information provided through other international organizations, such as INTERPOL and the World Customs Organization, as well as regional organizations.

The annual report of INCB is supplemented by detailed technical reports. They contain data on the licit movement of narcotic drugs and psychotropic substances required for medical and scientific purposes, together with an analysis of those data by INCB. Those data are required for the proper functioning of the system of control over the licit movement of narcotic drugs and psychotropic substances, including preventing their diversion to illicit channels. Moreover, under the provisions of article 12 of the 1988 Convention, INCB reports annually to the Commission on Narcotic Drugs on the implementation of that article. That report, which gives an account of the results of the monitoring of precursors and of the chemicals frequently used in the illicit manufacture of narcotic drugs and psychotropic substances, is also published as a supplement to the annual report.





INTERNATIONAL NARCOTICS CONTROL BOARD

The International Narcotics Control Board (INCB) is the independent monitoring body for the implementation of United Nations international drug control conventions. It was established in 1968 in accordance with the Single Convention on Narcotic Drugs, 1961. It had predecessors under the former drug control treaties as far back as the time of the League of Nations.

Based on its activities, INCB publishes an annual report that is submitted to the United Nations Economic and Social Council through the Commission on Narcotic Drugs. The report provides a comprehensive survey of the drug control situation in various parts of the world. As an impartial body, INCB tries to identify and predict dangerous trends and suggests necessary measures to be taken.

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