



INTERNATIONAL NARCOTICS CONTROL BOARD



Precursors

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

2020



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Reports published by the International Narcotics Control Board for 2020

The *Report of the International Narcotics Control Board for 2020* (E/INCB/2020/1) is supplemented by the following reports:

Celebrating 60 years of the Single Convention on Narcotic Drugs of 1961 and 50 years of the Convention on Psychotropic Substances of 1971 (E/INCB/2020/1/Supp.1)

Narcotic Drugs: Estimated World Requirements for 2021—Statistics for 2019 (E/INCB/2020/2)

Psychotropic Substances: Statistics for 2019—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/2020/3)

Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances: Report of the International Narcotics Control Board for 2020 on the Implementation of Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (E/INCB/2020/4)

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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The text of the present report is also available on the website of the Board (www.incb.org).



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Foreword

I am delighted to present the report of the International Narcotics Control Board on precursors for 2020, the year which marks the thirtieth anniversary of the coming into force of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988, in fulfilment of the requirements of article 12 thereof.

Insofar as synthetic and semi-synthetic drugs are concerned, in an ideal world, the key to curbing their manufacture could be summarized by a simple equation: “no chemicals” equals “no drugs”. In the real world, however, in the past 30 years, the international community has had to contend with the fact that the chemicals that are used for the illicit manufacture of narcotic drugs and psychotropic substances also have a myriad of legitimate uses for important products and therefore cannot simply be prohibited. The answer lies in keeping a balance – the principle that underlies the international drug control treaties – between preventing the diversion of these substances for illicit purposes and, at the same time, ensuring that they remain available for licit uses.

In the last three decades, the Board’s role in international precursor control has focused on achieving the fulfilment of the goals of facilitating availability where needed and preventing diversion. The Pre-Export Notification Online system (PEN Online) and other tools, such as the databank and the Precursors Incident Communication System (PICS), put in place by the Board, with the wide participation of Member States, have been successfully used to contain the diversion of precursors from international trade channels. Such diversion is, therefore, now increasingly domestic in nature, and thus the Board, along with national authorities, has, in the past few years, increasingly focused on addressing domestic diversion. I would urge Governments to consider making use of the provisions of the 1988 Convention to control the domestic manufacture and distribution of substances included in Tables I and II of the Convention.

The emergence of alternative precursors that are not controlled internationally, including pre-precursors, chemical intermediates and, of late, designer precursors and “masked” precursors, has proved to be a major challenge in the area of drug control, one that has demanded the Board’s attention for some time now. One way to address this issue is faster international scheduling under the 1988 Convention, but the magnitude of the problem and the pace of changes warrants multipronged and innovative approaches. At its session in February 2020, the Board discussed options to address the problem of designer precursors, subsequently presenting them to the Commission on Narcotic Drugs at its sixty-third session, in March 2020, and I thank the Governments concerned for their constructive suggestions, which will help in developing new ways to control these substances.

The coronavirus disease (COVID-19) pandemic that swept through the world in 2020 meant that innovative ways of functioning had to be adopted to remain effective and efficient. Governments responded admirably to ensure that there were no far-reaching disruptions to supplies of precursors for licit purposes. The Board responded too, conducting its activities in a “virtual” or “hybrid” manner, thus turning the crisis into an opportunity to function in a smarter way. The way forward shall inevitably be even more technology-driven – as we already have with the online communication platform PICS and the extensive online training under the Global Rapid Interdiction of Dangerous Substances (GRIDS) programme and the INCB Learning initiative – and the Board will work to further upgrade its tools and systems in order to serve Governments in an even better fashion as they cope with the new realities.

I am grateful to Governments for having supported our efforts during the year and look forward to continued cooperation in future.

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by several loops and a long horizontal stroke at the bottom.

Cornelis P. de Joncheere
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 Tables I and 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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*The annexes are not included in the printed version of the present report but are available on the website of the International Narcotics Control Board (www.incb.org).

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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 reporting period for data from the PEN Online system and PICS is from 1 November 2019 to 1 November 2020, 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
4-AP	4-anilinopiperidine (<i>N</i> -phenylpiperidin-4-amine)
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 (methyl 3-oxo-2-phenylbutanoate)
MDA	3,4-methylenedioxyamphetamine
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

With 190 States parties, as at 1 November 2020, the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 enjoys near universal adherence. Article 12 of the 1988 Convention provides the basis for activities related to the control of precursors. Effective 3 November 2020, MAPA (methyl *alpha*-phenylacetoacetate) was added to Table I of the 1988 Convention, bringing the total number of substances listed in Table I to 22 (distinct from the 8 substances listed in Table II). Six of the 22 substances have been added in the last three years alone, indicating the rapid emergence of new substances, some created solely for the purpose of circumventing controls (designer precursors), in recent times. The emergence of such substances, as well as the use of various drug manufacturing methods that avoid the use of controlled precursors, continued to be major challenges faced by the international community in 2020.

The Board took several additional measures with regard to the issue of designer precursors, including updating the limited international special surveillance list of non-scheduled chemicals and the list of substances not under international control but under national control in certain countries. With regard to international trade, the Board's automated system for the prior notification of export shipments, the PEN Online system, continued to facilitate international cooperation between the 165 countries and territories registered to use the system: 90 per cent of the notifications submitted through PEN Online had been viewed and 78 per cent had been responded to, both representing an increase compared with the previous year. Given the demand for materials and equipment in the illicit manufacture of drugs, the Board, for the first time, issued guidelines to prevent and investigate cases of diversion of equipment for illicit drug manufacture, in February 2020.

PICS, developed by the Board to facilitate operational coordination in precursor-related matters, was used successfully in 2020 to identify suspected links between six seizures of acetic anhydride in 2017 and 2018 involving almost 22,000 litres of the substance, on the basis of similarities between jerry cans and labels used by traffickers, indicating the immense potential of the system.

Despite the wide adherence to the 1988 Convention, the quantity and quality of reporting required under article 12, paragraph 12, of the Convention has remained a challenge. In 2020, once again, only 71 countries submitted form D by the due date of 30 June 2020. The number had increased to 120, however, by the cut-off date of 1 November 2020.

During the reporting period, Governments continued to strengthen their legislative provisions related to precursors. Apart from extending the scope of controls over internationally controlled substances, and in some cases even non-scheduled substances, several innovative approaches to regulating designer precursors, including identifying and controlling those with no legitimate or industrial uses, were noted. In addition, Governments took steps to address the issue of the listing of precursors, as well as equipment used for illicit activities involving drugs, on business-to-business Internet platforms. The approaches taken ranged from awareness-raising initiatives involving such companies to changes in laws requiring mandatory registration for the listing of precursor chemicals.

For chemicals used in the illicit manufacture of methamphetamine, the total amount of ephedrine and pseudoephedrine seized, as reported by Governments on form D for 2019, fell to a mere 5.7 tons, from about 40 tons in 2018. This aggravates the trend observed by the Board in previous years whereby quantities of precursors seized fell short of the quantities of methamphetamine seized, and indicates a shift to possible alternatives for such substances. The trend of using the *Ephedra* plant for the manufacture of methamphetamine, as reported in Afghanistan, was also again seen in China.

Seizures of the traditional precursor of cocaine, potassium permanganate, remained largely stable. However, seizures of potassium manganate and sodium permanganate in the Netherlands also indicate a spread in the use of alternative cocaine precursors outside of South America.

There was a significant decline (69 per cent) noted in the total quantity of acetic anhydride seized in 2019, compared with 2018. This appears to be attributable to a decline in identified diversions involving the substance, changes in the traditional trafficking routes and, possibly, an increased reliance on alternative acetylating agents such as acetyl chloride.

With regard to precursors of fentanyl, fentanyl analogues and other synthetic opioids, apart from seizures of NPP and ANPP, which are included in Table I of the 1988 Convention, there were also seizures of 4-AP, a legitimate drug intermediate and non-scheduled precursor of ANPP, in Mexico. The introduction of controls on fentanyl-related substances as a group in China on 1 May 2019 appears to have prompted shifts to non-scheduled alternative precursors for the domestic manufacture of fentanyl in destination countries. The Board has also noted the listing of 4-AP on certain business-to-business websites, which points to the need for Governments to work closely with companies that operate such websites.

For each class of drugs, therefore, the year witnessed the emergence of non-scheduled chemicals, designer precursors and pre-precursors as alternatives to controlled precursors. Cognizant of such developments, the Board held consultations with Member States during its session in November 2020, while commemorating the thirtieth anniversary of the entry into force of the 1988 Convention, with a view to advancing the policy discussion on options to address the proliferation of non-scheduled chemicals at the international level and building consensus on the topic.

The year 2020 shall inevitably be linked to the global coronavirus disease (COVID-19) pandemic, which had an impact on virtually all spheres of human activity. As regards precursors, at least insofar as the first half of the year is concerned, the pandemic appears to have left its imprint on both licit and illicit activities related to precursors. There were 17 per cent fewer pre-export notifications in that period compared with the corresponding period in the previous years, even though Governments used innovative approaches, including the use of electronic means for the submission of import and export requests and the granting of authorizations. There was also a decrease in the number of incidents voluntarily communicated by Governments through PICS. Both developments point to a reduction in the corresponding activity, albeit temporary, caused by the pandemic.

I. Introduction

1. The present report provides an overview of action taken by Governments and by the International Narcotics Control Board (INCB) since the publication of its report on precursors for 2019¹ 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. As in reports for previous years, chapter II contains information on developments relating to the scheduling of substances, accession to the 1988 Convention and the treaty-mandated furnishing of data to the Board and highlights major changes to national control measures. Chapter II includes the latest information on the estimated annual legitimate requirements for precursors of amphetamine-type stimulants, a review of the functioning of the pre-export notification system and a snapshot of data furnished on licit trade in, uses of and requirements for precursors. A summary of the activities under Project Cohesion and Project Prism, the international initiatives focusing on precursor chemicals used in the illicit manufacture of cocaine and heroin and of synthetic drugs, respectively, is also contained in chapter II.

3. Chapter III provides an overview of licit trade in individual chemicals and significant trends and developments in their trafficking and illicit use. The chapter also contains an overview of the most important cases of suspicious and stopped shipments, diversion and attempted diversion, as well as activities associated with illicit drug manufacture.

4. Chapter IV, on the impact of the coronavirus disease (COVID-19) pandemic on licit and illicit activities related to precursors, continues the series of thematic chapters, introduced in 2011, that have addressed a particular precursor-related theme in greater depth in each of the respective reports. Throughout the report, specific recommendations and conclusions are highlighted to facilitate the taking of specific actions by Governments to prevent diversion.²

¹ *Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances: Report of the International Narcotics Control Board for 2019 on the Implementation of Article 12 of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 (E/INCB/2019/4).*

² A 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).

5. Chapter V provides a summary of salient conclusions and recommendations. The recommendations are presented to facilitate the taking of necessary actions by Governments to prevent trafficking in precursor chemicals.

6. 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.

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

A. Scope of control

7. The responsibilities of the Board under article 12 of the 1988 Convention include the assessment of substances for possible inclusion in Table I or Table II, or for rescheduling from one table to another, of the Convention. Furthermore, in accordance with article 12, paragraph 2, of the 1988 Convention, if a party or the Board has any information which, in its opinion, may require the scheduling or rescheduling of a substance in Table I or Table II, it should notify the Secretary-General and furnish him with the information in support of that notification.

Inclusion of a precursor of amphetamine and methamphetamine in Table I of the 1988 Convention

8. On 4 March 2020, the Commission on Narcotic Drugs decided, in accordance with the Board's recommendation, to add MAPA to Table I of the 1988 Convention. The decision was taken unanimously and became effective on 3 November 2020, 180 days after being communicated by the Secretary-General to the parties. INCB has updated the relevant documentation, including form D and the red list, with information about MAPA. The updated documents are available on the website of the Board (www.incb.org). **The Board urges all Governments to**

introduce the required controls as soon as possible and to inform it accordingly.

9. To facilitate monitoring of the legitimate trade in MAPA, if any, and since MAPA does not currently have a unique Harmonized System code,³ **the Board encourages Governments to adopt, on a voluntary basis, until such time as MAPA is assigned a unique Harmonized System code, an interim, discrete code based on the applicable Harmonized System group code.**⁴

B. Adherence to the 1988 Convention

10. As at 1 November 2020, the 1988 Convention had been ratified, acceded to or approved by 190 States and formally confirmed by the European Union (extent of competence: article 12). There have been no changes since the publication of the Board's 2019 report on precursors. Details on the status of accession are provided in annex I. To reduce the vulnerability of those States to trafficking in precursors, **the Board urges the remaining States in Africa (Equatorial Guinea, Somalia and South Sudan) and Oceania (Kiribati, Papua New Guinea, Solomon Islands and Tuvalu) that have yet to become parties to the Convention to implement the provisions of article 12 and to become parties without further delay.**

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

11. Under article 12, paragraph 12, of the 1988 Convention, parties are required to submit annually to INCB information on: (a) the amounts seized of substances included in Tables I and II of that Convention and, when known, their origin; (b) any substance not included in Table I or Table II that is identified as having been used in the illicit manufacture of narcotic drugs or psychotropic substances; and (c) methods of diversion and illicit manufacture. Parties are required to submit the information on the form, known as form D, made available by INCB.⁵ The

³See World Customs Organization, *Harmonized Commodity Description and Coding System*, 6th ed. (Brussels, 2017).

⁴Harmonized System classifications of non-scheduled chemicals used in the illicit manufacture of drugs are available to competent national authorities on a secure page of the INCB website.

⁵Since the 2018 reporting cycle, INCB has introduced an Excel form in an effort to streamline and expedite the reporting process and to minimize the potential for data entry errors. Thirty-nine Governments have used that form. The latest version of form D is available on the INCB website in the six official languages of the United Nations.

deadline for submission of the 2019 data was 30 June 2020, although INCB continued to encourage earlier submission (by 30 April) to allow sufficient time for any necessary clarification of the information received.

12. As at 1 November 2020, a total of 120 States parties had submitted form D for 2019, up from 71 as at 30 June 2020. Timor-Leste submitted form D for the first time. Nevertheless, 70 States parties failed to submit form D for 2019.⁶ Of those, 13 have not done so for the past five years, and 19 have not done so for the past 10 years (see table 1). Comprehensive information about the submission of form D by all Governments is included in annex II.

Table 1. States parties failing to report as required under article 12, paragraph 12, of the 1988 Convention, 2019

Africa		
Algeria	Eswatini ^b	Mali
Benin	Ethiopia	Mauritania
Burkina Faso ^a	Gambia	Mozambique
Cabo Verde	Guinea ^b	Namibia
Central African Republic ^b	Guinea-Bissau ^a	Niger ^b
Comoros ^b	Kenya	Sao Tome and Principe ^a
Congo ^b	Lesotho ^b	Senegal
Côte d'Ivoire	Liberia ^b	Seychelles
Djibouti ^b	Libya ^b	Togo ^a
Eritrea ^a	Malawi ^b	Zambia ^a
Americas		
Antigua and Barbuda ^b	Bolivia (Plurinational State of)	Paraguay
Bahamas ^b	Cuba ^a	Saint Kitts and Nevis ^b
Barbados ^a	Grenada ^b	Suriname
Belize	Haiti	
Asia		
Bangladesh	Israel	Singapore
Cambodia ^a	Kuwait	Sri Lanka
China	Mongolia	Turkmenistan
Democratic People's Republic of Korea	Nepal	
Iraq	Oman	
Europe		
Andorra	North Macedonia	Serbia
Luxembourg	Republic of Moldova	

⁶The Holy See, San Marino and Liechtenstein did not furnish form D separately, as their data are included in the reports of Italy and Switzerland.

Oceania		
Cook Islands ^a	Nauru ^b	Tonga ^b
Fiji	Niue ^b	Vanuatu ^a
Marshall Islands ^b	Palau	
Micronesia (Federated States of) ^a	Samoa ^a	

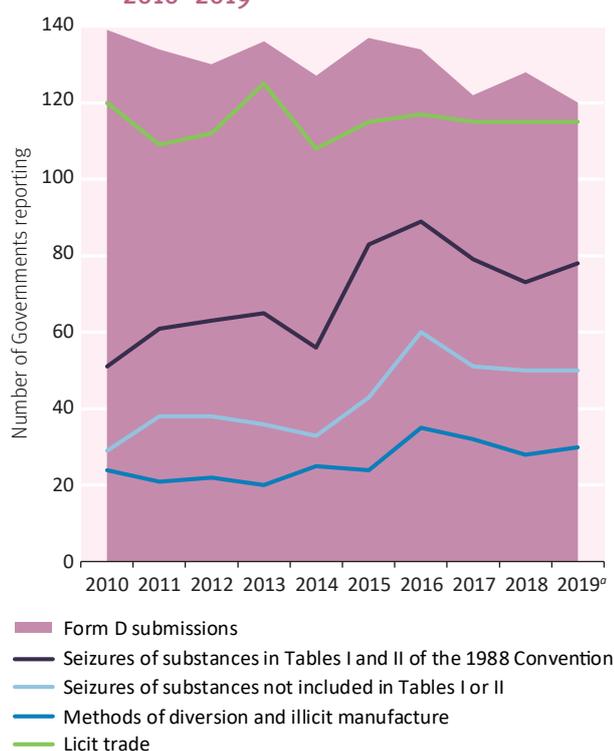
Note: See also annex II.

^aGovernment that failed to submit form D for any year during the past 5 years (2015–2019).

^bGovernment that failed to submit form D for any year during the past 10 years (2010–2019).

13. Seventy-eight Governments reported seizures of substances listed in Tables I and II of the 1988 Convention on form D for 2019. In most of the reports, Governments provided only the quantities seized and did not provide information on the origin of seized substances, although such information is critical for identifying weaknesses in control mechanisms and emerging trends. In addition, only a few Governments supplemented their responses with details regarding seizures of chemicals not under international control, methods of diversion and illicit manufacture, and stopped shipments (see figure I). **INCB reiterates its call to Governments to make every effort to collect and report complete information as mandated in article 12, paragraph 12, of the 1988 Convention, to submit form D on time, and to confirm and provide details of seizures in a timely manner, when so requested by the Board.**

Figure I. Reporting by Governments on form D, 2010–2019



^aAs at 1 November 2020.

D. Legislation and control measures

14. 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. Although there is no reporting requirement to the Board in this regard, since 1 November 2019, the following changes in control measures have come to the attention of INCB.

15. On 1 January 2020, by Supreme Decree No. 268-2019-EF, the Government of Peru subjected a number of chemicals associated with the illicit manufacture of cocaine to registration, control and inspection. The chemicals concerned include calcium chloride, sodium metabisulfite and sodium hydroxide.

16. In February 2020, the Government of the Russian Federation placed 10 precursors under national control. In the same month, the Government of Myanmar placed seven chemicals used for the manufacture of amphetamine-type stimulants under national control, in addition to the three chemicals that were included in Table I of the 1988 Convention as at 19 November 2019. APAAN is still not under control in Myanmar.

17. In March 2020, Brazil placed helional, a precursor of MDA, under national control (see also para. 126), on the basis of forensic reports that had identified helional-related impurities in seized MDA tablets.

18. The Government of the United States of America published accounts of two rule-making proceedings to establish controls on three substances used in the illicit manufacture of fentanyl. Specifically, it announced on 15 April 2020 that, effective 15 May 2020, two fentanyl precursors (benzylfentanyl and 4-AP, including its salts and some of its derivatives) would be scheduled as List 1 chemicals under the Controlled Substances Act. The scheduling of norfentanyl as an immediate precursor of fentanyl in Schedule II of the Act was announced on 17 April 2020, with an effective date 18 May 2020. The three chemicals are included in the limited international special surveillance list of non-scheduled substances, either directly in the list or under the extended definitions.

19. The President of Mexico announced in July 2020 that, in response to the purported violence and corruption resulting from trafficking in drugs and precursors at its ports, the country's armed forces would be responsible for customs and for addressing the problems of insecurity and drug trafficking at ports.

20. On 12 August 2020, the Criminal Code and Customs Legislation Amendment (Precursors and Drugs) Regulations 2020 came into effect in Australia, listing additional substances as either controlled precursors or “border-controlled precursors”,⁷ including a number of designer precursors recently placed under international control, as well as additional ones not yet under international control, such as chloroephedrine, chloropseudoephedrine and P-2-P methyl glycidic acid derivatives. The precursors have been identified as having no known legitimate industrial or commercial use. The Regulations also reduce the commercial and marketable quantities of phenyl-2-propanone, reflecting current methods used to illicitly manufacture methamphetamine from the substance.

21. On 26 August 2020, following instances of diversion of domestically manufactured ANPP for trafficking to Mexico, the Government of India tightened controls over two fentanyl precursors, namely, ANPP and NPP, by placing them in Schedule A of the Narcotic Drugs and Psychotropic Substances (Regulation of Controlled Substances) Order of 2013, thereby bringing the domestic manufacture, distribution, sale, possession and use of those substances under national control. On that same date, all of the designer precursors of amphetamine-type stimulants that were recently added to Table I of the 1988 Convention were brought under national control under the country’s regulations on precursors, albeit only in the context of export and import controls.

22. Prior to that, in October 2019, India amended its regulations on precursor control more generally by including the offering for sale or distribution, or the mediating in the sale or purchase, through a website or social media, or in any other manner, of domestically controlled precursors as activities requiring prior registration with the country’s Narcotics Control Bureau (see also box 2).

23. In November 2020, a number of substances were to be scheduled at the European Union level, including APAA, 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid, whose scheduling in Table I of the 1988 Convention became effective on 19 November 2019, and MAPA, whose scheduling at the global level became effective on 3 November 2020, as well as a number of other substances of regional concern, namely P-2-P methyl glycidic acid derivatives and red phosphorous.

24. In Egypt, measures to monitor the legal use of precursor chemicals were strengthened through the establishment of a tripartite commission composed of the Ministry of Justice, the Ministry of Health and the Ministry of the Interior. The Ministry of the Interior continued to coordinate with the relevant entities in the Ministry of Health, the Ministry of Industry and the Ministry of Investment to assess actual needs and determine the amounts of precursor chemicals required for legal use in the health and manufacturing industries.

25. The Inter-American Drug Abuse Control Commission amended its model legislation in November 2019 to, inter alia, address non-scheduled chemicals, including designer precursors. Specifically, under article 37 of the model legislation, the introduction to the country, manufacture, storage, provision, sale or transportation of raw materials of controlled or non-controlled chemical substances, with the knowledge or presumption that the purpose of such acts is the illicit manufacture of narcotic drugs, psychotropic substances or controlled chemical substances and/or the promotion, facilitation or financing of such acts, is to be considered a punishable act.

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

Measures to address the proliferation of non-scheduled chemicals, including designer precursors

27. The proliferation of non-scheduled chemicals and designer precursors continues to be of concern to the Board. These chemicals are characterized by being closely related with each other and with a controlled chemical, and many of them have no known legitimate use and are often designed specifically to circumvent existing legislation.

28. The Board is aware of the following approaches introduced by Governments at the national level in 2020:

⁷A category of precursors defined in Australian law.

(a) As part of an assessment of the risks associated with fentanyl and fentanyl analogues, the Advisory Council on the Misuse of Drugs of the United Kingdom of Great Britain and Northern Ireland, in early January 2020, recommended, inter alia, that consideration be given to expanding precursor controls to cover simple variants of ANPP (an immediate precursor of fentanyl that is under international control);

(b) The Government of the Netherlands has submitted a bill to parliament on specific types of non-scheduled chemicals that are not listed in the European Union drug precursor regulations and can be easily converted into a drug or drug precursor, and for which no legitimate industrial uses are known. The purpose of the bill is to prohibit the possession or transport of the listed chemicals without a permit. It is anticipated that a multidisciplinary expert group will be established to maintain the list.

29. **The Board welcomes all initiatives aimed at addressing the proliferation of designer precursors and other chemicals not under international control, and invites Governments to continue to share with it innovative and proactive approaches to, as well as experiences in, their implementation.**

30. The Board continued the policy discussion with Member States during the sixty-third session of the Commission on Narcotic Drugs, in March 2020, including by presenting a discussion paper⁸ on the topic. The Board also dedicated the commemoration of the thirtieth anniversary of the entry into force of the 1988 Convention, on 11 November 2020, to the challenges and successes in precursor control, with a special focus on designer precursors and other non-scheduled chemicals. In that same year, the Board conducted the following additional activities to assist Governments in preventing non-scheduled and designer precursors from reaching illicit laboratories:

(a) It updated the limited international special surveillance list of non-scheduled substances by including an additional fentanyl pre-precursor. The limited international special surveillance list is aimed at alerting authorities and relevant sectors of industry to the possible misuse in illicit drug manufacture of chemicals on the list and at facilitating public-private cooperation;

(b) It updated the list of chemicals not included in Table I or Table II of the 1988 Convention that are

controlled at the national level in various countries,⁹ with a view to providing Governments with a basis for informing their counterparts in transit and destination countries about known outbound shipments containing such chemicals so that the authorities in those countries can anticipate and take action on incoming shipments.

31. Both lists are included as part of the information package on precursor control that is available on the Board's secure website. **INCB encourages competent national authorities to make full use of those lists and to provide it with updated information on internationally non-scheduled chemicals that are under control at the national level.** This information will assist the authorities of importing and exporting countries in monitoring licit international trade in such chemicals. It will also assist source countries in informing relevant transit and destination countries about cases of trafficking in those chemicals, thereby facilitating enforcement action in the latter countries.

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

32. Information on licit trade in, uses of and requirements for substances listed in Tables I and II of the 1988 Convention is submitted to INCB, on a voluntary and confidential basis, in accordance with Economic and Social Council resolution 1995/20. Those data enable INCB and Governments to validate the information about proposed shipments notified through the PEN Online system, understand the underlying patterns of regular trade and prevent diversions by identifying unusual trade patterns and suspicious activity.

33. As at 1 November 2020, 115 Governments had submitted data on licit trade in substances in Table I or Table II of the 1988 Convention, and 104 Governments had furnished data on the licit uses of and/or requirements for one or more of those substances (see annex IV). As in the past, data on licit trade in precursors, although submitted on a voluntary basis, were typically submitted by more Governments, and were more comprehensive, than the mandatory data on seizures (see figure I above). **INCB thanks all Governments that have provided voluntary information on licit trade and wishes to encourage all other Governments to consider providing such data, with a view to identifying weaknesses in controlling precursors and preventing their diversion.**

⁸Conference room paper entitled "Options to address the proliferation of non-scheduled chemicals, including designer precursors – contribution to a wider policy dialogue" (E/CN.7/2020/CRP.13).

⁹Known as Part A, Table 4, of the information package on the control of precursors, and available for official use by competent national authorities.

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

34. In its resolution 49/3, the Commission on Narcotic Drugs requested Member States to provide to INCB estimates of their annual legitimate requirements for certain substances frequently used in the illicit manufacture of amphetamine-type stimulants, namely, 3,4-MDP-2-P, pseudoephedrine, ephedrine and P-2-P, and, to the extent possible, estimated requirements for preparations containing those substances that could be easily used or recovered by readily applicable means.

35. The estimates are used by INCB and by exporting countries to contextualize the amounts of those substances involved in proposed shipments to importing countries. Often, information about annual legitimate requirements presents the very first – and sometimes the only – reference tool for assessing the legitimacy of a proposed import. **The Board commends those Governments that make active use of the system of annual legitimate requirements and encourages all other Governments to make better use of this basic tool, as both exporters and importers of 3,4-MDP-2-P, pseudoephedrine, ephedrine and P-2-P, and preparations containing those substances.**

36. The estimated annual legitimate requirements for imports of precursors of amphetamine-type stimulants as reported by Governments are presented in annex V to the present report. They are also regularly updated and

published on a dedicated page of the Board's website.¹⁰ As at 1 November 2020, 172 Governments had provided at least one estimate; the total number of estimates submitted to the Board during the reporting period was 910 (see figure II). Three Governments, namely, Marshall Islands, Timor Leste and Viet Nam, provided estimates of their annual legitimate requirements for the first time ever.

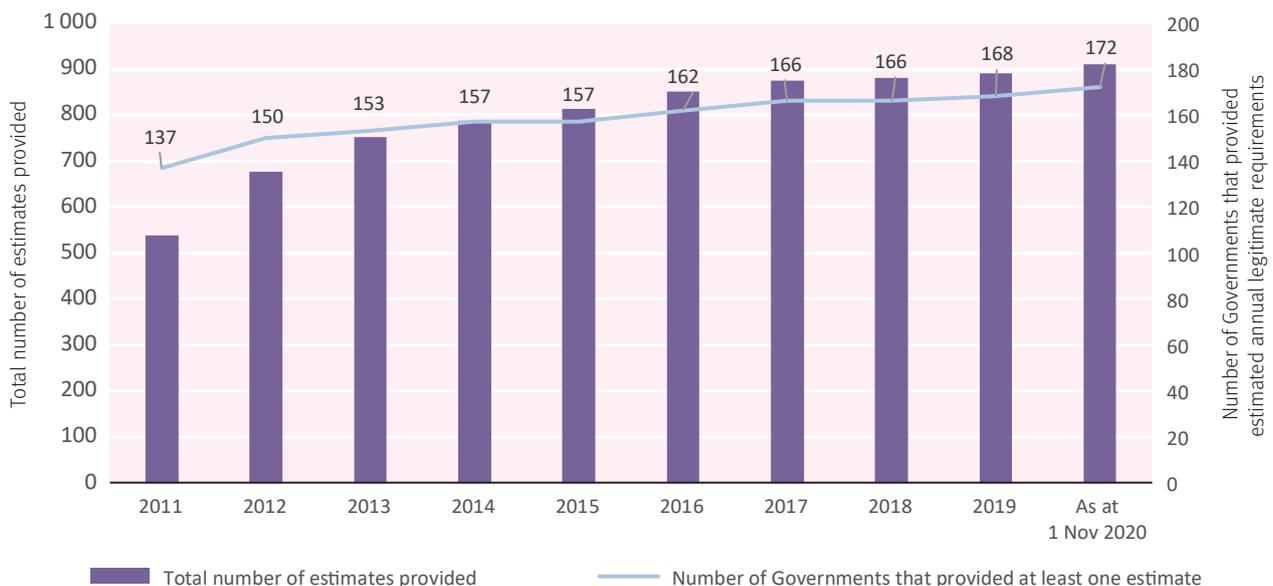
37. However, a total of 29 States parties to the 1988 Convention had not yet provided any estimates to the Board; the majority of those continued to be in Africa and Oceania.

38. Since the publication of the Board's 2019 report on precursors, 114 countries and territories have reconfirmed or updated their estimates for at least one of the substances, to reflect changing market conditions, as recommended by the Board, and almost half of those countries have reconfirmed or updated their annual legitimate requirements for all relevant substances. However, some estimates date back to 2006 and have never been updated. More than 58 Governments have not done so; some for one year; some repeatedly, for several years.

39. The Board also continues to be concerned that several Governments appear to build in substantial safety margins by submitting estimates of requirements that are far higher than actual imports, a practice that counters the purpose of the annual legitimate requirements as a tool for

¹⁰www.incb.org/incb/en/precursors/alrs.html.

Figure II. Estimated annual legitimate requirements for precursors of amphetamine-type stimulants: number of Governments that provided estimates and total number of estimates provided, 2011–2020



providing the authorities of exporting countries with at least an indication of the legitimate requirements of importing countries, and thus preventing diversion attempts. **INCB therefore again invites Governments to assess their annual legitimate requirements for individual precursors, to review the requirements as published on the Board's website, and to inform the Board of any necessary changes. The changes can be communicated to the Board at any time throughout the year. On the part of exporting countries, INCB encourages the concerned competent authorities to make use of the published estimates of annual legitimate requirements of importing countries and suspend exports until the grounds for initial doubts or actual discrepancies are removed.**

40. The Board would also like to refer Governments interested in more accurately establishing their estimates to the *Guide on Estimating Requirements for Substances under International Control*, developed by INCB and the World Health Organization, as well as the document entitled "Issues that Governments may consider when determining annual legitimate requirements for ephedrine and pseudoephedrine". Both are available on the Board's website.

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

41. Two complementary measures, namely, invoking article 12, subparagraph 10 (a), of the 1988 Convention, and registering with the Board's PEN Online system, have globally proven to be fundamental for rapidly identifying suspicious transactions in international trade in substances included in Table I and Table II of the 1988 Convention, hence preventing diversion of those substances.

1. Pre-export notifications

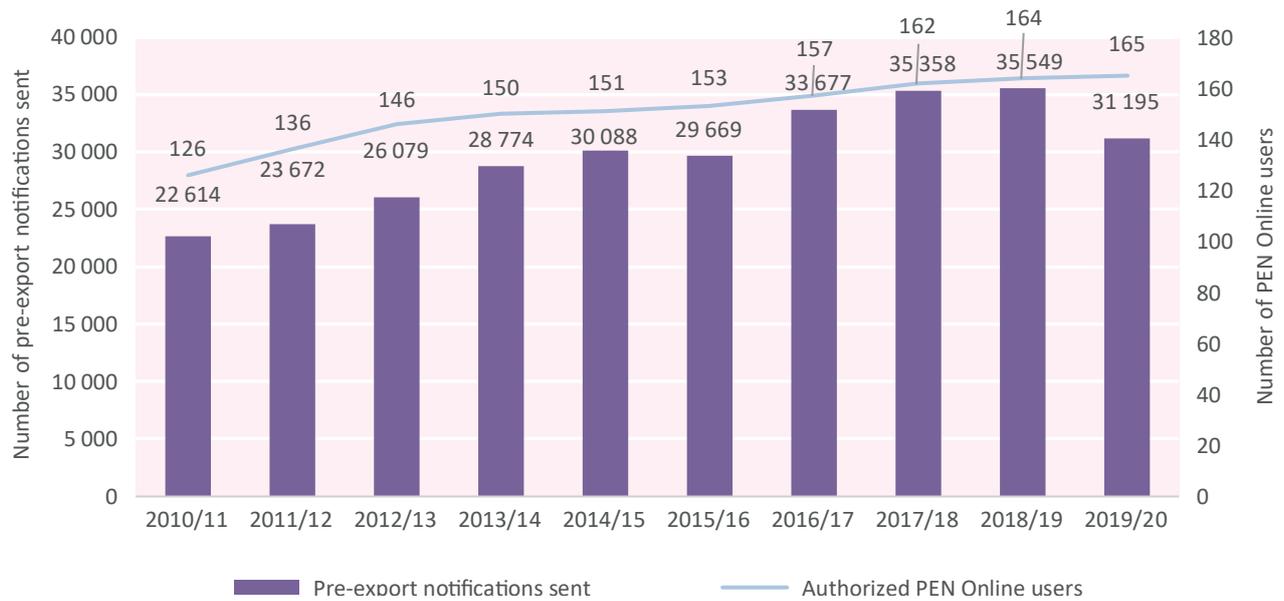
42. The receipt of pre-export notifications enables the competent authorities of the importing country to become aware of planned shipments of precursors destined for their territory, thus enabling them to verify the legitimacy of transactions and suspend or stop them, as required, in a timely manner. By invoking article 12, subparagraph 10 (a), of the 1988 Convention, Governments of importing countries can make it mandatory for exporting countries to inform them of planned exports of precursors prior to shipping.

43. As at 1 November 2020, 115 countries and territories had formally requested pre-export notifications (see annex VI). Since the Board published its 2019 report on precursors, two more Governments, Honduras and Tunisia, have invoked article 12, subparagraph 10 (a), of the 1988 Convention for almost all substances in Table I; Tunisia has additionally invoked the article for all substances in Table II. This brings the proportion of Governments in Africa and the Americas that have requested to receive pre-export notifications to, respectively, 33 per cent and 71 per cent, representing a slight improvement compared with the previous reporting period, when the proportions stood at 31 per cent for Africa and 69 per cent for the Americas. Yet, the generally low percentage of Governments, notably in Africa and Oceania (25 per cent), that have invoked their right to be pre-notified, remains of concern to INCB. **The Board therefore again calls on the Governments concerned to take the necessary steps to invoke the provisions of article 12, subparagraph 10 (a), without further delay.** The forms to be used for formally requesting to be notified of all shipments of substances included in Tables I and II of the 1988 Convention are available from INCB, including from its secure website.

2. Pre-Export Notification Online system

44. Although not a treaty requirement, registration with the Board's automated online system for the exchange of pre-export notifications, PEN Online, ensures that Governments receive information in real time about all relevant planned shipments of chemicals destined for their territory. Launched in 2006, registration for the PEN Online system has steadily increased over the last 10 years (see figure III). Since the publication of the Board's 2019 report on precursors, Guyana has been added to the list of countries and territories authorized to use the PEN Online system, bringing the total number of countries and territories on that list to 165. **The Board encourages the remaining 32 Governments that have not yet registered as users of the PEN Online system to do so in order to guarantee the timely submission of pre-export notifications to their territory.**¹¹

¹¹Those countries are: Antigua and Barbuda, Central African Republic, Comoros, Democratic People's Republic of Korea, Djibouti, Dominica, Equatorial Guinea, Eswatini, Fiji, Gabon, Guinea, Guinea-Bissau, 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, Tonga, Turkmenistan, Tuvalu and Vanuatu.

Figure III. Users of the PEN Online system and pre-export notifications submitted, 2011–2020^a

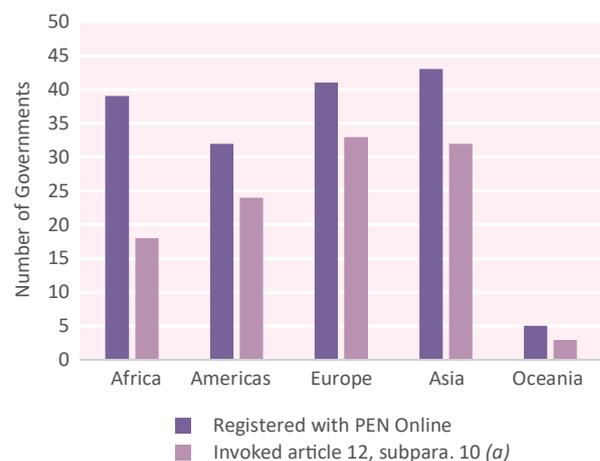
^aReporting periods are from 1 November of the first year to 1 November of the following year.

45. INCB would also like to once again remind Governments that by registering with the PEN Online system they do not automatically invoke article 12, subparagraph 10 (a), or vice versa. Currently, there are 50 countries that have registered to use the PEN Online system but have not yet invoked article 12, subparagraph 10 (a).¹² The majority of those are in Africa, followed by Asia (see figure IV). Antigua and Barbuda, and Tonga, on the other hand, have invoked the article but are not registered with PEN Online. Given the complementarity of the two measures, and to ensure that pre-export notifications for all shipments are submitted and received in real time, **INCB recommends that the Governments concerned take the necessary steps to implement both measures: invoking the article and registering with the PEN Online system.**

46. The number of submissions of pre-export notifications has increased by almost 60 per cent in the last 10 years and has stabilized at between 30,000 and 35,000 notifications per year (see figure III); these pre-export notifications are sent, on average, by about 70 exporting countries and territories. The level of use of the PEN Online system by importing Governments for communication with exporting authorities has also improved over

the years; during the present reporting period, about 90 per cent of the incoming pre-export notifications were viewed, and about 78 per cent of them have been responded to. Yet, a number of Governments have registered to use the PEN Online system but do not view or respond to incoming pre-export notifications. **The Board therefore reiterates its recommendations to importing Governments that are registered as users of the PEN Online system to regularly view all transactions involving precursors and to respond to exporting authorities in a timely manner, where necessary.**

Figure IV. Governments registered with the PEN Online system and having invoked article 12, subparagraph 10 (a), of the 1988 Convention, by region, as at 1 November 2020



¹²Those countries are: Albania, Andorra, Angola, Bahamas, Bahrain, Belize, Bosnia and Herzegovina, Botswana, Brunei Darussalam, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Chad, Congo, Democratic Republic of the Congo, Cuba, Eritrea, Gambia, Grenada, Guatemala, Guyana, Iceland, Iran (Islamic Republic of), Israel, Kuwait, Lao People's Democratic Republic, Mali, Marshall Islands, Mauritius, Montenegro, Morocco, Namibia, Nepal, North Macedonia, Rwanda, Saint Lucia, Senegal, Serbia, Seychelles, Solomon Islands, Somalia, South Sudan, Suriname, Timor-Leste, Ukraine, Uzbekistan, Viet Nam and Zambia.

47. Similar to previous years, about 7 per cent of proposed exports were objected to. Many of those objections were raised by importing Governments for administrative reasons. The majority of the shipments were subsequently released, as no evidence for illegal activities could be obtained. Most of the objections were related to the import authorization number not being included on the pre-export notification form. **To avoid unnecessary administrative objections and delays of shipments, INCB recommends that the authorities of exporting countries include all available details, including authorization numbers where available, in the relevant sections of the PEN Online pre-export notification form. Likewise, the online conversation tool available in the PEN Online system should be used to communicate with the trading partner before the importing authority conveys its final decision by means of the “objection” or “non-objection” function as to whether a shipment is authorized or not.**

Issues related to sending pre-export notifications and the use of the PEN Online system

(a) Sending pre-export notifications for all suspicious shipments

48. While the sending of pre-export notifications for all exports only becomes mandatory when the importing Government has invoked article 12, subparagraph 10 (a), of the 1988 Convention, Governments are reminded that article 12, paragraph 9 (c), requires parties to notify, as soon as possible, the competent authorities of the parties concerned of any suspicious shipment involving a substance in Table I or Table II of the 1988 Convention, i.e., if there is reason to believe that the import, export or transit of the substance is destined for the illicit manufacture of narcotic drugs or psychotropic substances. As the authorities of importing countries and territories may do so by objecting to a proposed import or communicating any issues regarding a specific shipment through the PEN Online communication tool, **the Board again encourages exporting countries to systematically use the PEN Online system to provide notification of shipments even in cases in which they have concerns about their legitimacy, and if they do so, to clearly indicate that the shipment will not proceed unless the authorities of the importing country or territory indicate their explicit approval.**¹³

¹³ A summary of minimum action for international trade monitoring through the PEN Online system is available in the INCB report on precursors for 2015 (E/INCB/2015/4), box 1.

(b) Harmonized System codes for preparations containing ephedrine, pseudoephedrine and norephedrine

49. The Board would also like to reiterate its recommendation to Governments to monitor, including by sending pre-export notifications on a voluntary basis, trade in ephedrine and pseudoephedrine in any form, including pharmaceutical preparations. Such voluntary action would be in line with resolution 54/8 of the Commission on Narcotic Drugs and would serve to ensure a comprehensive picture of global trade in ephedrines and their potential for diversion. In this connection, **the Board reminds all Governments that, since 2017, Harmonized System codes have been assigned to pharmaceutical preparations containing ephedrine, pseudoephedrine or norephedrine, and those codes should be used by importers and exporters when declaring shipments of such preparations at customs, thereby facilitating the monitoring of their trade and the verification of the legitimacy of their end use.** Harmonized System codes for preparations containing the three substances are available in the red list on the Board's website.

(c) Shipments involving brokers

50. A number of exports of precursor chemicals are mediated by brokers located in a country other than the exporting country. Occasionally, such exports are mistakenly pre-notified through the PEN Online system by the countries in which the broker company is established and registered, instead of, or in addition to, the exporting country. **The Board wishes to remind Governments of all exporting countries and of the countries in which brokers are established that, pursuant to article 12, paragraph 10, of the 1988 Convention, it is the responsibility of each country from whose territory a substance in Table I is to be exported to ensure the submission of details of proposed consignments, preferably through the PEN Online system, prior to such export.**

H. Other activities and achievements in international precursor control

1. Project Prism and Project Cohesion

51. Under Project Prism and Project Cohesion, INCB facilitates international cooperation and the secure exchange of real-time information to address the diversion of chemicals used in the illicit manufacture of synthetic drugs (Project Prism), and heroin and cocaine (Project

Cohesion).¹⁴ The two projects currently bring together operational focal points from law and regulatory enforcement from more than 140 Governments worldwide. **INCB wishes to remind all Governments to regularly review the contact details of their nominated focal points, available on the Board's secure website, to ensure that they are kept up to date, thus facilitating bilateral contacts and collaboration in cross-border precursor investigations.**

52. During the reporting period, INCB continued to serve as a focal point for the exchange of information on suspicious transactions in legitimate trade, trafficking trends, identified modi operandi and emerging non-scheduled chemicals, including through PICS (see sect. 2 below). Ten special alerts were circulated to focal points, including on concealment methods used to misdeclare or mislabel precursors of amphetamine-type stimulants, shipments of precursors to Iraq, the illicit manufacture of methamphetamine in Afghanistan, trends relating to the use of precursors in the illicit manufacture of fentanyl, trends relating to the increased efficiency of P-2-P-based methamphetamine manufacture (see para. 112 below), trafficking in sulphuric acid, suspicious shipments of chemicals destined for Myanmar and interventions to raise awareness about the sale over e-commerce platforms of equipment for use in illicit drug manufacture. All past alerts are available to registered users of PICS.

53. The INCB Precursors Task Force met twice in 2020, in person in March and online in September, to discuss progress and plan future activities.

2. Precursors Incident Communication System

54. PICS continued to facilitate global operational cooperation in precursor-related matters by offering registered users a platform for the secure exchange of actionable, real-time information related to trafficking in substances under international control and those that are not, as well as drug manufacturing equipment.

55. As at 1 November 2020, PICS had almost 560 registered users from 123 countries and territories, representing more than 285 agencies.¹⁵ More than 3,100 incidents have been communicated through PICS since its establishment

¹⁴A summary of the minimum action needed for international multilateral cooperation under Project Prism and Project Cohesion is available in the INCB report on precursors for 2015 (E/INCB/2015/4), box 2.

¹⁵Governments 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.

in 2012. The Board notes with appreciation the active utilization of PICS and the continued exchange of intelligence with foreign counterparts. For example, at the beginning of 2020, in response to Project Cohesion Alert No. 01/2017, on modi operandi and trafficking routes used by acetic anhydride traffickers, INCB, in cooperation with the authorities of Bulgaria, Iran (Islamic Republic of), the Netherlands and Turkey, and with Europol, identified suspected links between six seizures of acetic anhydride in 2017 and 2018, on the basis of similarities between jerry cans and labels used by traffickers in order to conceal contraband acetic anhydride, and partial overlaps in the transportation routes and countries involved. Those six cases, together involving almost 22,000 litres of acetic anhydride, represent the largest number of interlinked seizures of precursors identified so far on the basis of analysis of intelligence communicated through PICS and reflect the continued operation of trafficking groups. Investigations are ongoing. **INCB encourages Governments to continue to make active use of PICS both as providers and recipients of actionable information, participate actively in activities under Project Prism and Project Cohesion and provide feedback and timely responses to related enquiries by the Board and other national focal points.**

56. PICS also played a central role in identifying modifications to the illicit manufacture of methamphetamine that significantly increase the efficiency of P-2-P-based manufacturing methods (see para. 112 below), thus illustrating its relevance as an early warning system for the identification of chemicals.

3. Voluntary cooperation with industry

57. Public-private partnerships and voluntary cooperation with industry are key elements of an effective strategy to confront chemical diversion, in particular, given the proliferation of non-scheduled chemicals and designer precursors.

58. Information about suspicious requests, orders and transactions voluntarily shared by industry with national authorities helps to alert other companies in the same country. If the information is shared internationally, with INCB, through the respective national authorities, the authorities of other countries can be alerted, thus helping to prevent traffickers from placing the same order elsewhere. The Board is aware of past successes of Governments achieved through voluntary cooperation with business-to-business Internet-based companies, and **wishes to recall its recommendation to Governments to enforce any applicable regulations to prevent the misuse of the Internet for the diversion of chemicals into illicit channels or, as a**

minimum, to use such information to generate actionable intelligence for use in further investigations.¹⁶

59. Unfortunately, the information INCB has about the level of voluntary partnerships worldwide continues to be incomplete. Similarly, INCB only rarely receives information about suspicious requests or denied orders, thus limiting the Board's ability to alert authorities worldwide. With a few exceptions, Governments rarely inform the Board about the extent of suspicious shipments whose export has been stopped by the authorities or about cases in which companies have voluntarily refrained from fulfilling an order. One of those exceptions is Germany, a country with a long-established and well-functioning partnership between authorities and relevant industries. In the country in 2019, there were 14 incidents in which substances in Table I or Table II of the 1988 Convention, or chemicals not under international or national control, were not supplied, representing a decrease from 23 such incidents recorded in 2018.

60. **INCB wishes to reiterate the importance of cooperation with relevant industries in the successful and sustainable prevention of chemical diversion. While the nature, extent and scope of such cooperation is the prerogative of individual countries, INCB wishes to highlight the importance of the voluntary aspect of such cooperation, in particular with regard to designer precursors and other chemicals not under national control, which may present a global challenge. The Board also wishes to reiterate the importance of sharing information about suspicious requests and denied orders and transactions globally, with INCB, in order to prevent traffickers from shifting from one supplier to another, across borders.**

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

61. The present chapter provides an overview of the major trends and developments in both licit trade and trafficking in precursor chemicals, by substance group, with a view to addressing gaps and weaknesses in precursor control mechanisms. It summarizes information on seizures

¹⁶INCB report on precursors for 2019 (E/INCB/2019/4), para. 159, and INCB report on precursors for 2017 (E/INCB/2017/4), chap. IV.

and cases of diversion or attempted diversion from international trade, as well as activities associated with illicit drug manufacture. The chapter is based on information provided to the Board through various mechanisms, such as form D, the PEN Online system, PICS, Project Prism and Project Cohesion, and through national reports and other official information from Governments.

62. Information about non-scheduled chemicals not included in Table I or Table II of the 1988 Convention, including designer precursors, which are nonetheless used in illicit drug manufacture, is reported to INCB pursuant to article 12, subparagraph 12 (b), of the Convention. Governments also share such information through PICS, which has thus developed into an early warning system for precursors, although the identification of non-scheduled chemicals frequently presents forensic challenges due to the mislabelling and misdeclaration of products that are often found in clandestine laboratories or at points of entry. **INCB would like to thank all Governments for the information received and remind them that comprehensive reporting on form D of information regarding non-scheduled substances and of circumstantial information is critical to establishing and addressing new trends at an early stage and globally. INCB therefore again encourages all Governments to improve the quality and comprehensiveness of their annual form D submissions and reiterates its recommendation to make better use of PICS.**

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

1. Substances used in the illicit manufacture of amphetamines

(a) Ephedrine and pseudoephedrine

63. Ephedrine and pseudoephedrine are precursors used in the illicit manufacture of methamphetamine but can be substituted with P-2-P, phenylacetic acid, APAAN, APAA and a number of non-scheduled substances (see subsects. (c) and (d) below, and annex VIII). Both ephedrine and pseudoephedrine are also used for legitimate medical purposes and are therefore among the most frequently and widely traded substances included in Table I of the 1988 Convention.

Licit trade

64. Between 1 November 2019 and 1 November 2020, exporting countries sent almost 4,600 pre-export notifications through the PEN Online system for planned

shipments of ephedrine and pseudoephedrine, in bulk and in the form of pharmaceutical preparations. The notifications were for a total of more than 950 tons of pseudoephedrine and almost 80 tons of ephedrine. The shipments originated in 41 exporting countries and territories and were destined for 166 importing countries and territories. Overall, the level of trade in both ephedrine and pseudoephedrine was about 25 per cent lower than the average of the past three reporting periods.

65. Table 2 below presents the 10 largest importers of ephedrine and pseudoephedrine, ranked in terms of volume notified through the PEN Online system, in the reporting period.

Table 2. The 10 largest importers of ephedrine and pseudoephedrine, by volume, 1 November 2019–1 November 2020

Ranking	Ephedrine	Pseudoephedrine
1	Republic of Korea	United States
2	Nigeria	Switzerland
3	Indonesia	Egypt
4	Egypt	Turkey
5	Denmark	Indonesia
6	Ghana	Brazil
7	United States	Republic of Korea
8	Singapore	Japan
9	Switzerland	Canada
10	Germany	France

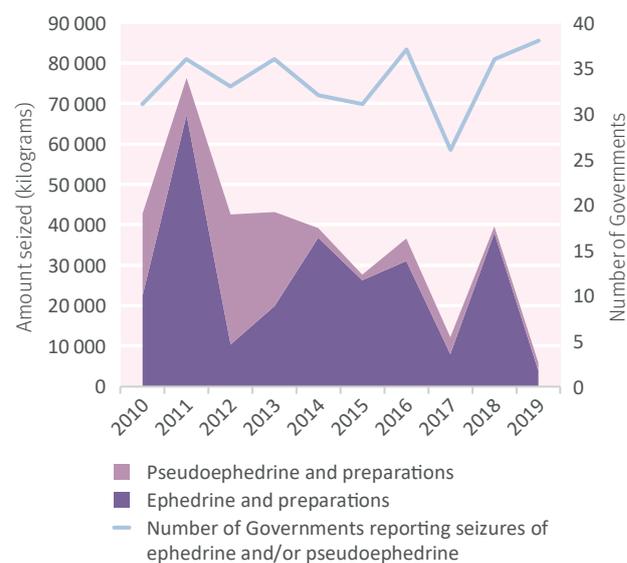
Trafficking

66. On form D for 2019, seizures totalling about 5.7 tons of ephedrine and pseudoephedrine were reported to INCB by 38 countries and territories in all regions (see figure V). That represents the lowest amount seized in several years, falling even short of the amounts seized in 2017 (12.1 tons), and also falling significantly short of explaining the amount of methamphetamine seized in those regions where ephedrines-based manufacturing methods are known to prevail.

Oceania

67. In 2019, the largest seizures of ephedrines were reported in Australia, amounting to almost 1,300 kg, of which 99 per cent was seized in a single incident, as the result of joint investigational efforts under a partnership agreement between the Australian Federal Police and the National Narcotics Control Commission of China. That seizure provides another piece of strong evidence indicating that pseudoephedrine tablets (known as “ContacNT”) have replaced ephedrine raw material as the

Figure V. Seizures of ephedrine and pseudoephedrine reported by Governments on form D, 2010–2019



main methamphetamine precursor seized in Australia and New Zealand. Yet, as in the past, no information was available on the origin of the ephedrine, i.e., whether it had been diverted from legitimate trade or illicitly manufactured, either by synthesis, from chemical pre-precursors, or by extraction from the *Ephedra* plant. Both synthesis from propiophenone or its precursors and extraction of ephedra are illicit manufacturing methods that have been encountered in China. Considering that the approaches to addressing diversion from legitimate trade will differ from the approaches needed to address the illicit manufacture of precursors and that, in the latter case, the approaches needed will further depend on whether the ephedrine was illicitly synthesized from pre-precursors or extracted from naturally grown *Ephedra* plant, **the Board reminds Governments to invest in determining the nature, or origin, of seized ephedrine. INCB therefore also reiterates its recommendation to have selected samples of seized precursors forensically analysed in order to provide strategic information about their origin, as a means to subsequently address any weaknesses in control mechanisms.**

68. On form D for 2019, New Zealand reported seizures of about 440 kg of ephedrine raw material, about the same amount as in 2018 (412 kg), thus indicating an end to the downward trend observed since 2016. The amount of ephedrine was seized in 45 incidents. In over 90 per cent of the cases, the origin of the substance was unknown; single incidents could be traced to China, including Hong Kong, the United Arab Emirates and the United Kingdom. Most of the seizures were made by customs authorities at points of entry, including international mail centres.

East and South-East Asia

69. The illicit manufacture of methamphetamine in East and South-East Asia continued to be predominantly ephedrines-based, but with increasing indications of the use of P-2-P-based methods, starting from non-scheduled chemicals or chemicals recently placed under international control (see subsect. 2 (d) below).

70. Nevertheless, seizures of methamphetamine precursors in East and South-East Asia continued to fall significantly short of explaining the dramatic increase in seizures and abuse of methamphetamine in that and neighbouring regions. In 2019, the total amount of ephedrines reported seized in East and South-East Asia amounted to less than 250 kg; the largest single seizure was reported by Malaysia (200 kg of pseudoephedrine, allegedly sourced in Bangladesh). Seizures of precursors of P-2-P cannot explain the methamphetamine output in that region either (see subsect. 2 (d) below).

71. After having seized almost 20 tons of ephedrine raw material, 6 tons of ephedrine preparations and more than 900 kg of pseudoephedrine in 2018, China noted a decrease in precursor seizures of almost 80 per cent in 2019, compared with 2018. Unfortunately, no further information was provided. The dismantling of an illicit ephedra processing site in China in May 2020 (see para. 91 below) is a reminder that illicit operators adapt quickly to risks and opportunities to ensure a continued supply of chemicals for illicit drug manufacture.

72. A media report in August 2020 suggested that there might be methamphetamine laboratories in Papua New Guinea and that those laboratories might be sourcing the precursors they use from cold and diet medications containing ephedrine and pseudoephedrine, while other common chemicals are easily obtainable in local stores. The Board is in the process of verifying the information.

73. The Board continues to be concerned about the scarcity of information from countries in East and South-East Asia and **encourages Governments in that region to enhance cooperation with each other and the Board with a view to curbing the illicit manufacture of methamphetamine and denying traffickers access to the required precursors, whether they are diverted from legitimate international or domestic channels, or are illicitly manufactured from non-controlled alternative precursors.**

West Asia

74. In 2019, Afghanistan and Pakistan were the only countries in West Asia that reported seizures of

ephedrines. In both countries, the amounts seized were the largest in many years. While Pakistan seized 80 kg of ephedrine, the largest amount reported since 2011, Afghanistan seized 440 kg of pseudoephedrine preparations, the largest amount reported since the reporting of seizures of pseudoephedrine started in 2016. The suspected origin of 350 kg of the seized pseudoephedrine was Pakistan; 90 kg allegedly originated in the Islamic Republic of Iran. The seizures provide further evidence of the illicit manufacture of methamphetamine in Afghanistan and of the continued use of pharmaceutical preparations, in addition to use of the *Ephedra* plant as a source for the extraction of ephedrine. Notable seizures of other chemicals, such as red phosphorous, associated with ephedrines-based methods (see para. 116 below) provide further evidence of the increasing prominence of illicitly manufactured methamphetamine in the illicit drug economy of Afghanistan.

South Asia

75. On form D for 2019, as in previous years, only India reported seizures of ephedrines, amounting to slightly more than 210 kg of ephedrine and almost 600 kg of pseudoephedrine; in all cases the substances originated in India. The majority of the destination countries were in Africa (Congo, Ethiopia, South Africa, United Republic of Tanzania, Zambia and Zimbabwe); Malaysia continued to be a destination country. The emergence of Australia as a destination country was a new and noticeable trend in 2020, with several seizures of pseudoephedrine being effected from post parcels destined for Australia from India.

76. A notable seizure that did not follow the pattern of small-scale outbound shipments was made in March 2020 and communicated through PICS. It involved the search of factory premises and a makeshift laboratory where about 480 kg of illicitly manufactured ephedrine were seized.

Africa

77. As in previous years, there was very limited information about seizures of ephedrines in Africa. On form D for 2019, only three Governments, Botswana, Ghana and Nigeria, reported seizures of ephedrine, totalling about 380 kg, of which Nigeria accounted for almost 355 kg. From other sources, INCB is aware of six seizures of ephedrine, totalling about 57 kg, in Zambia; information about the sources of the substance was not available. **The Board wishes to remind Governments of their obligation under the 1988 Convention to provide it with information on the amounts seized of substances in Table I and Table II of the Convention and, when known, their**

origin. Such information is critical for identifying emerging trends in precursor trafficking and the underlying weaknesses in control systems. That knowledge, in turn, is essential for preventing future diversions worldwide.

78. In Nigeria, to date, 17 illicit methamphetamine laboratories have been dismantled, 16 of which had used ephedrines-based methods. Of the total amount of ephedrine seized in Nigeria in 2019, two seizures, involving a total of 309 kg of ephedrine, were linked directly to an illicit methamphetamine laboratory in that country. Ephedrine smuggled out of Nigeria was most often destined for South Africa, as in the past; in 2020, an incidence of smuggling to the Democratic Republic of the Congo was also communicated.

79. In April 2019, a pharmacist was convicted in Nigeria for the diversion of 500 kg of ephedrine, of which 300 kg were recovered in the course of the investigations. The convictions were the result of several years of investigations that started with an enquiry by the Board about a shipment notified through PEN Online to a Nigerian company that was unknown to INCB. **The Board commends the authorities of Nigeria for the successful conclusion of the country's first diversion case and recommends that all Governments carefully verify the specific end uses and actual needs for ephedrines when registering new companies for both international trade and domestic distribution and use.**

North America

80. In 2019, the volume of ephedrines seized in North America reached its highest level in six years. The United States reported seizures totalling nearly 410 kg each of ephedrine and pseudoephedrine, while Canada seized 750 kg of ephedrine and some 25,000 tablets each of ephedrine and pseudoephedrine. Neither country provided any further information in that regard.

South America and Central America and the Caribbean

81. In 2019, two countries in South America, Argentina and Chile, reported seizures of ephedrine, amounting to a combined total of less than 15 kg. Of the countries in Central America and the Caribbean, Guatemala was the only one to have reported seizures of ephedrines on form D, the first such report by any country in Central America and the Caribbean in more than five years.

82. Specifically, Guatemala reported seizures of 155 kg of ephedrine preparations and 162 kg of pseudoephedrine

preparations in 2019. In addition, in connection with customs fraud investigations, in August 2020, Guatemala seized almost 80 kg of ephedrine tablets from the premises of an importing and exporting company, in packaging typically seen in South-East Asia.

Europe

83. In 2019, seizures of ephedrines in Europe, including in the form of pharmaceutical preparations, amounted to just slightly more than 250 kg. More than 60 per cent of that amount was reported by Poland, in the form of both pseudoephedrine raw material (92 kg) and pharmaceutical preparations (67 kg). Germany reported the second largest seizures of ephedrines in Europe, amounting to 23 kg of ephedrine and 10 kg of pseudoephedrine, both as raw material. That was followed by Czechia, which reported having seized 24 kg of pseudoephedrine in the form of preparations and about 6 kg as raw material.

84. The amount of the seizures provides evidence of the type of methamphetamine laboratories predominant in Europe, which continue to be small-scale, user-based laboratories that mainly use ephedrines extracted from pharmaceutical preparations. The seizures fall short, however, of explaining the increase in the illicit manufacture of methamphetamine in Europe, which is more often associated with P-2-P-based methods (see para. 116 below) and organized criminal groups.

85. In most of the seizures in Europe, the origin of the ephedrines was unknown, which was partly a result of the fact that most preparations are trafficked without the original packaging, thus making it difficult to determine their origin. In cases in which the origin was known, it was usually other European countries, including countries in South-Eastern Europe. Seizures of ephedrine in Ireland (20 kg, in 11 incidents) were made as a result of examination of postal consignments or freight at ports, airports or mail centres, suggesting that, once again, they may have been related to interregional trans-shipments aimed at disguising the origin of the substance from Asia destined for Africa and Oceania.

86. Similar to the previous year, on form D for 2019, Ukraine reported a number of small seizures of preparations containing ephedrine and pseudoephedrine. As in the past, the tablets originated in a number of countries, including Egypt, Israel and Turkey, and several countries in Europe. As noted in the Board's report on precursors for 2019, ephedrines raw material was also intercepted en route from Egypt to Ukraine via Germany; the seizures were made at mail and parcel facilities at German airports.

87. In a new development in 2019, Germany reported two cases of theft of a total of almost 540 kg of pseudoephedrine from the warehouses of a company manufacturing, trading in and shipping pseudoephedrine. Four months later, another attempted theft failed as a result of the company's increased security awareness.

(b) Norephedrine and ephedra

Licit trade

88. International trade in norephedrine, a substance that can be used in the illicit manufacture of amphetamine, remained at a low level compared with trade in other precursors of amphetamine-type stimulants. Between 1 November 2019 and 1 November 2020, 222 transactions involving norephedrine were notified through the PEN Online system: 11 exporting countries pre-notified shipments to 36 importing countries, amounting to approximately 27 tons of raw material and over 10 tons in the form of pharmaceutical preparations. Shipments amounting to 1 ton or more were pre-notified to the following importing countries, in descending order of the amounts shipped: United States, Philippines, Myanmar, Indonesia, Japan, Cambodia and Denmark. No exports of ephedra have been reported to the Board.

89. On form D for 2019, the authorities of India reported having stopped shipments of norephedrine to Somalia after the authorities there had informed them of an ongoing review of permits to import controlled substances, including precursors, into Somalia and the temporary suspension of all previously granted import permits; companies in Somalia were required to seek advice from the Ministry of Health and Human Services on a case-by-case basis.

Trafficking

90. With a few exceptions, seizures of norephedrine reported on form D have been small in recent years. However, for the last two consecutive years, the United States reported notable seizures of norpseudoephedrine (cathine), a substance controlled under the Convention on Psychotropic Substances of 1971. No seizures of ephedra have been reported on form D. However, there continued to be reports on the use of the *Ephedra* plant, the natural source of ephedrine, in the illicit manufacture of methamphetamine in Afghanistan. Seizures in Afghanistan and neighbouring countries and along trafficking routes have provided evidence of a significant increase in methamphetamine manufacture there, although the sources of the starting materials have not been unequivocally established.

91. According to an official media report, in May 2020, following several months of investigations, authorities in China raided a food processing plant in Xianyang City, Shaanxi Province, China, that was being used for the illicit processing of *Ephedra* plant to extract ephedrine. The authorities determined that the suspects had intended to process 10 tons of ephedra, with an estimated yield of 100 kg of ephedrine. The *Ephedra* plant material had allegedly been sourced in Tongliao, Inner Mongolia, China, and the ephedrine was suspected to have been smuggled to methamphetamine laboratories in the Golden Triangle. Forty-five persons were arrested, including the nine main suspects. **Governments are reminded that the use of existing industrial facilities for illicit manufacturing purposes is a recurrent modus operandi, owing to the availability of suitable infrastructure in such facilities, including for more sophisticated synthesis purposes. In relation to the use of the *Ephedra* plant and other natural sources of ephedrine for the illicit manufacture of methamphetamine, the Board wishes to remind Governments to remain alert and to consider adopting adequate measures to reduce the risk of their use in illicit drug manufacture.**

(c) P-2-P, phenylacetic acid, APAAN and APAA

92. P-2-P, phenylacetic acid, APAAN and APAA are precursors of amphetamine and methamphetamine. While P-2-P and phenylacetic acid are traded legitimately, albeit with differences in the extent of their trade, APAAN and APAA are designer precursors and trade in them is almost non-existent. Non-scheduled alternatives to P-2-P, pre-precursors and designer precursors used in the illicit manufacture of amphetamine and methamphetamine are discussed in subsection (d) below.

Licit trade

93. International trade in P-2-P continued to be limited. Between 1 November 2019 and 1 November 2020, there were 15 pre-export notifications involving P-2-P, from six exporting countries to four importing countries. As in the past few years, there were no transactions involving APAAN during the reporting period, but about 650 proposed shipments of phenylacetic acid were pre-notified through the PEN Online system, from 12 exporting countries to 47 importing countries and territories. No trade in APAA has been reported since 19 November 2019, the effective date of the scheduling of the substance in Table I of the 1988 Convention.

94. On form D for 2019, India confirmed having stopped a proposed shipment of 500 kg of P-2-P to a company in Azerbaijan. The case, which INCB noted in its report on

precursors for 2019,¹⁷ is a notable example of the successful cooperation between the competent authorities of Azerbaijan and India through the PEN Online system, and with INCB.

Trafficking

95. In 2019, the majority of the P-2-P seized continued to be seized from illicit laboratories or warehouses, indicating that it had been illicitly manufactured rather than having been diverted from a legitimate source. This applied particularly to seizures of the substance reported by the Netherlands (more than 5,700 litres), Mexico (more than 2,700 litres) and Viet Nam (1,054 litres; see para. 98 below). Regarding the largest amount of P-2-P reported seized in 2019, namely, more than 6,300 litres in Spain, as well as a seizure of 300 litres of P-2-P that allegedly originated in India, reported by Myanmar, no further circumstantial details were provided. **The Board calls on all Governments to fully investigate seizures, stopped shipments and diversion attempts involving precursors, with a view to preventing incidents in which the same or similar modi operandi are used in the future. The Board stands ready to facilitate such investigations and the exchange of shipping and other relevant documentation and information, as required.**

96. **The Board would also like to remind Governments of the importance of determining whether P-2-P has been diverted from a legitimate source and if so, what that source was, or whether the P-2-P has been illicitly manufactured from other controlled precursors or from non-scheduled pre-precursors. Distinguishing the two scenarios – diversion from legitimate sources and illicit manufacture – will enable the authorities concerned, and the Board, to devise appropriate approaches to address the underlying weaknesses.**

97. The largest seizures of **phenylacetic acid** in 2019 were reported by Mexico (more than 3.5 tons). Similar to P-2-P, seizures occurred in clandestine laboratories where the substance was used as an intermediate in the illicit synthesis of methamphetamine, via P-2-P. The most likely starting materials used in the illicit synthesis of methamphetamine in Mexico are benzyl chloride and sodium cyanide (see para. 109 below). Methylamine (see para. 128 below) is another key chemical in all P-2-P-based manufacturing methods. Mexican authorities allege that, to date, the use of precursors that are new or different to those reported on form D for 2019 and previous years has not been identified. The only other country that reported notable seizures of phenylacetic acid was Spain (1,050 kg in three instances), however, no circumstantial information was provided

98. With the exception of seizures of **APAA** in the Netherlands (totaling more than 4.3 tons), Viet Nam (350 kg) and Belgium (about 235 kg), there were no notable seizures of APAA and APAAN reported on form D for 2019. The seizure in Viet Nam was the first such seizure reported in that country, and one of the few in East and South-East Asia. In total, about 60 tons of chemicals, including more than 1,000 litres of illicitly manufactured P-2-P and related equipment were seized from a large methamphetamine laboratory. As that was one of the few reported seizures of non-scheduled or recently scheduled P-2-P pre-precursors in East and South-East Asia, **the Board commends the authorities of Viet Nam and encourages other Governments in the region to be vigilant to, and report indications of, the use of non-scheduled alternatives to P-2-P, ephedrine and pseudoephedrine as precursors in the illicit manufacture of methamphetamine in the region. The Board also encourages all Governments to share information about the sources and methods of diversion of such chemicals, preferably in real time, through PICS, or, as a minimum, in their annual submissions of form D.**

99. In 2020, through PICS, additional incidents involving P-2-P were communicated by the Netherlands (totalling more than 4,100 litres) and Mexico (totalling 420 litres). Almost all of the incidents involved illicit laboratories. Phenylacetic acid and other pre-precursors such as APAA and APAAN were sometimes seized from a single laboratory, suggesting that the seized P-2-P had been illicitly manufactured and not diverted from legitimate sources.

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

Derivatives of alpha-phenylacetoacetic acid and P-2-P methyl glycidic acid

100. Following the scheduling at the international level of APAAN in 2014 and APAA in 2019, the non-scheduled precursors of P-2-P subsequently encountered in the illicit manufacture of amphetamine or methamphetamine belonged to the following chemical groups: **esters of alpha-phenylacetoacetic acid** and derivatives of **P-2-P methyl glycidic acid**. The substances in these groups are designer precursors without any known legitimate uses other than for limited research and analytical purposes. While MAPA, the methyl ester of *alpha*-phenylacetoacetic acid, was included in Table I of the 1988 Convention effective 3 November 2020, other esters of that acid and derivatives of P-2-P methyl glycidic acid have not as yet been placed under international control.

¹⁷INCB report on precursors for 2019 (E/INCB/2019/4), para. 131.

101. On form D for 2019, 9 countries reported seizures of non-scheduled designer precursors of amphetamine and methamphetamine; all of the seizures were reported by countries in Europe. The largest amounts of **MAPA** were seized in Bulgaria (8 tons) and the Netherlands (7.5 tons), followed by Belgium and Hungary (about 4 tons each), and Germany and Slovenia (about 2 tons each). Seizures were typically made in illicit laboratories or at airports or seaports. As MAPA was neither under international control nor under control in the European Union in 2019, several of the seizures were the result of cooperation between European customs authorities involving monitored deliveries.

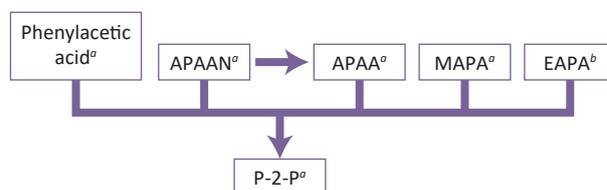
102. Seizures of **derivatives of P-2-P methyl glycidic acid** reported on form D for 2019 were negligible, with the exception of a seizure of 890 kg reported by Belgium. The Board is also aware of the use of P-2-P methyl glycidate and MAPA in the illicit manufacture of methamphetamine in Australia in 2019. Laboratory impurity analysis also provided forensic evidence of the use of P-2-P methyl glycidate in the illicit synthesis of amphetamine for “captagon” tablets seized in Lebanon.

103. In the first 10 months of 2020, 37 incidents involving MAPA were communicated through PICS, amounting to almost 21.5 tons. All but one incident were communicated by countries in Europe. The single largest seizure of an inbound shipment of MAPA in that period was a seizure of more than 4.2 tons of the substance at Frankfurt Airport in Germany. The seizure was one of a series of seizures at that airport totalling almost 7.5 tons, in just five days in September 2020. Together with seizures at Budapest Airport in Hungary, they possibly reflect a shift in European points of entry and, given that destination countries remained largely unchanged, to more complex routing. Seizures of derivatives of P-2-P methyl glycidic acid were only communicated by the Netherlands (more than 1.1 tons).

104. As a result of the increased scrutiny of MAPA following its international scheduling in November 2020, traffickers appear to have started to show an interest in **ethyl alpha-phenylacetoacetate (EAPA)**, the ethyl ester analogue of MAPA. The emergence of EAPA provides further evidence supporting the Board’s call to address groups of substances that are closely related chemically (see figure VI).¹⁸

¹⁸See the INCB report on precursors for 2018 (E/INCB/2018/4), paras. 214–230, and E/CN.7/2020/CRP.13.

Figure VI. Alternative chemicals used in the illicit manufacture of amphetamine or methamphetamine (scheme 1)



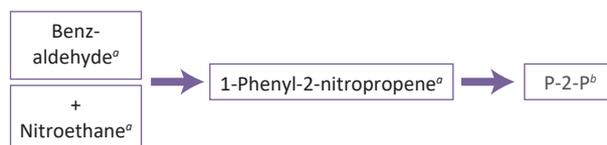
^aIncluded in Table I of the 1988 Convention; the scheduling of MAPA became effective on 3 November 2020.

^bNot under international control but included in the limited international special surveillance list.

Benzaldehyde, nitroethane and 1-phenyl-2-nitropropene

105. Benzaldehyde and nitroethane are used in the so-called nitrostyrene method to manufacture P-2-P and, subsequently, methamphetamine or amphetamine. 1-Phenyl-2-nitropropene is the chemical intermediate derived from the reaction between benzaldehyde and nitroethane and may also be encountered as a starting material in illicit laboratories (see figure VII).

Figure VII. Alternative chemicals used in the illicit manufacture of amphetamine or methamphetamine (scheme 2)



^aNot under international control but included in the limited international special surveillance list.

^bIncluded in Table I of the 1988 Convention.

106. Data reported on form D for 2019 confirm the continued decline in the importance of the nitrostyrene method, in particular in Mexico. While significant, albeit decreasing, amounts of **benzaldehyde** (more than 2,000 litres each year) were seized in the period 2015–2017, Mexico did not report any seizures of the substance in 2018 and 2019. Seizures of either of the other two chemicals indicative of the nitrostyrene method were not reported either, thus corroborating a trend of reverting back to phenylacetic acid-based manufacturing methods (see para. 97 above).¹⁹

¹⁹INCB report on precursors for 2019 (E/INCB/2019/4), para. 145.

107. In 2019, only Estonia continued to report notable seizures of **benzaldehyde** and **nitroethane**, amounting to 385 kg and 186 kg, respectively. The Russian Federation reported seizures of 48 kg of benzaldehyde and 23 kg of nitroethane in 2019, in connection with the illicit manufacture of amphetamine. Ukraine reported seizures of 66 kg of **1-phenyl-2-nitropropene**, including one incident at the point of entry into the country, with China as the alleged origin of the substance. In addition, Ukraine was the country most frequently associated with incidents involving 1-phenyl-2-nitropropene communicated through PICS in 2019 and 2020. Seizures of the substance in other countries suggest that the nitrostyrene method continues to be used in smaller-scale user-based laboratories.

108. In 2019, Costa Rica reported the largest seizure of benzaldehyde worldwide (almost 1.5 tons) in a misdeclared shipment from Guatemala. However, the intended end purpose of the substance was unknown.

Benzyl chloride, sodium cyanide and benzyl cyanide

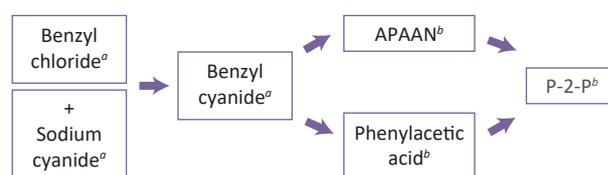
109. Seizures of non-scheduled chemicals that can be used in the illicit manufacture of P-2-P via APAAN or phenylacetic acid continued to be reported on form D for 2019. Specifically, significant quantities of **benzyl chloride** (more than 3,700 litres) and **sodium cyanide** (almost 1.9 tons) were seized in Mexico. Those seizures provide further evidence of the illicit synthesis in Mexico of phenylacetic acid from those chemicals, a trend that has been suggested by the results of earlier forensic profiling analyses.²⁰

110. While there have been recurrent claims by government officials in East and South-East Asia of the use of sodium cyanide in the illicit manufacture of methamphetamine in that region, only Myanmar reported seizures of the substance, amounting to about 4.6 tons, on form D for 2019, the first such reported seizures in the region since 2014, when Thailand reported a seizure of 5.5 tons at the border between Myanmar and Thailand.²¹ Myanmar allegedly also seized more than 22,000 litres of benzyl cyanide, the intermediate resulting from the reaction of benzyl chloride with sodium cyanide, and an indication of the illicit manufacture of P-2-P via APAAN or phenylacetic acid (see figure VIII). In addition, Viet Nam reported a seizure of 14 litres of benzyl cyanide on form D for 2019.

²⁰Ibid.

²¹The Board is aware that Thailand seized almost 100 tons of sodium cyanide in 2019.

Figure VIII. Alternative chemicals used in the illicit manufacture of methamphetamine or amphetamine (scheme 3)



^aNot under international control but included in the limited international special surveillance list (with the exception of sodium cyanide).

^bIncluded in Table I of the 1988 Convention.

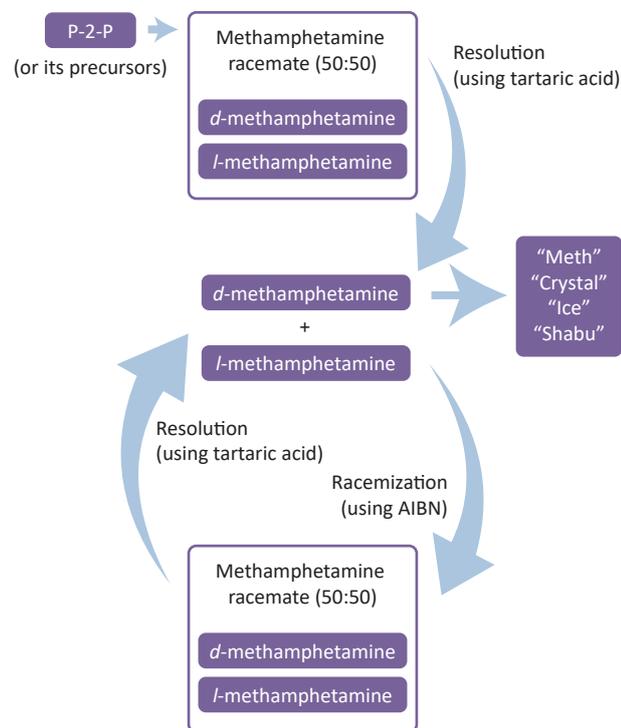
111. While the overall picture with regard to the nature and sources of the chemicals used in the illicit manufacture of amphetamine and methamphetamine still remains unclear, **the Board commends those Governments that have been able to build the capacity to look beyond controlled precursors and share the relevant information gathered. The Board would also like to acknowledge the support of the United Nations Office on Drugs and Crime, in particular in East and South-East Asia, in building capacity in this regard, and assisting Governments in fulfilling their obligations under the 1988 Convention, and making use of existing platforms for the sharing of information on precursor-related incidents.**

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

112. Since early 2020, incidents communicated through PICS have suggested the use in illicit laboratories of a modified and significantly more efficient method for manufacturing methamphetamine. Specifically, there have been a series of seizures of two chemicals known as **AIBN** (azobisisobutyronitrile) and **methyl thioglycolate**. Both chemicals are used along with other chemicals usually associated with P-2-P-based manufacturing methods and their use in such methods has the potential to produce more potent methamphetamine (see figure IX).

113. To date, the two chemicals have been encountered in illicit laboratories in the Netherlands but may also be in use elsewhere. **Therefore, the Board invites all Governments to be vigilant and communicate to it any suspicious shipments, smuggling attempts or seizures involving AIBN or methyl thioglycolate, preferably using PICS.**

Figure IX. The chemistry of P-2-P-based methamphetamine manufacturing methods



114. Seizures of **tartaric acid**, the other chemical illustrated in figure IX, which is required to increase the potency of methamphetamine manufactured using P-2-P-based methods, have been reported regularly by countries in which such illicit manufacture is known to occur. On form D for 2019, Myanmar reported the largest amount of tartaric acid seized (almost 23 tons). Mexico reported seizures of about 4 tons, the lowest amount in 5 years. A total of 213 kg of the substance were seized in Viet Nam and 154 kg in the Netherlands.

115. Another innovation in illicit manufacturing methods, which was also discovered by authorities in the Netherlands, relates to a modification and simplification in the illicit manufacture of amphetamine using the so-called Leuckart method. Specifically, this involves the use of **sodium hydroxide** in the second reaction step. The corresponding incidents involving sodium hydroxide were communicated through PICS.

116. While findings relating to innovations in P-2-P-based manufacturing methods in the Netherlands provide further evidence that the illicit manufacture of methamphetamine has become established in Europe on a substantial scale, information reported on form D for 2019 suggests that ephedrines-based methods for such manufacture also continue to be widespread in that region: seven countries in Europe reported seizures of at least one of the chemicals associated with the so-called Nagai

method of illicit methamphetamine manufacture (**iodine, hydriodic acid, red phosphorous, hypophosphorous acid and phosphorous acid**). Outside Europe, seizures of such chemicals were reported by Malaysia, New Zealand, Nigeria, the Republic of Korea and the United States. The Board is also aware of two massive seizures, of red phosphorous and iodine, respectively, in Afghanistan.

117. In contrast to Europe, in East and South-East Asia, a different ephedrines-based method has long been the predominant method of illicit methamphetamine manufacture. Central to the so-called Emde method is **thionyl chloride**, a chemical that has almost exclusively been reported seized in East and South-East Asia. In 2019, Myanmar seized a record amount of 11,600 litres of thionyl chloride. The Board has repeatedly drawn attention to the significance of chemicals not under international control in the illicit manufacture of amphetamine and methamphetamine. Furthermore, the Board has noted the dynamic nature of illicit manufacture using non-scheduled chemicals, as well as the fact that in some regions there is a major discrepancy between, for example, illicit methamphetamine manufacture and reports about seizures of chemicals used in such manufacture. Bearing in mind forensic capacity and issues relating to the identification of new and unusual chemicals, **the Board encourages all Governments to make better use of its limited international special surveillance list of non-scheduled chemicals and to remain alert with regard to the use of such chemicals in the illicit manufacture of amphetamine and methamphetamine.**

2. Substances used in the illicit manufacture of MDMA and its analogues

118. With the international scheduling of 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid, effective 19 November 2019, the number of substances under international control that can be used in the illicit manufacture of MDMA and related substances increased to six (see annex VIII).

(a) 3,4-MDP-2-P, 3,4-MDP-2-P methyl glycidate, 3,4-MDP-2-P methyl glycidic acid and piperonal

Licit trade

119. Among the precursors of MDMA, piperonal is the most widely traded, while trade in 3,4-MDP-2-P is very limited, and 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid are typical examples of designer precursors whose trade, if any, is limited to research and analytical purposes.

120. Specifically, between 1 November 2019 and 1 November 2020, 15 exporting countries and territories notified the authorities of 47 importing countries and territories of about 790 proposed exports of piperonal; both the number of exporting and importing countries in that period remained about the same as in previous years. There were no pre-export notifications for 3,4-MDP-2-P or for the two substances recently added to Table 1 of the 1988 Convention, 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid.

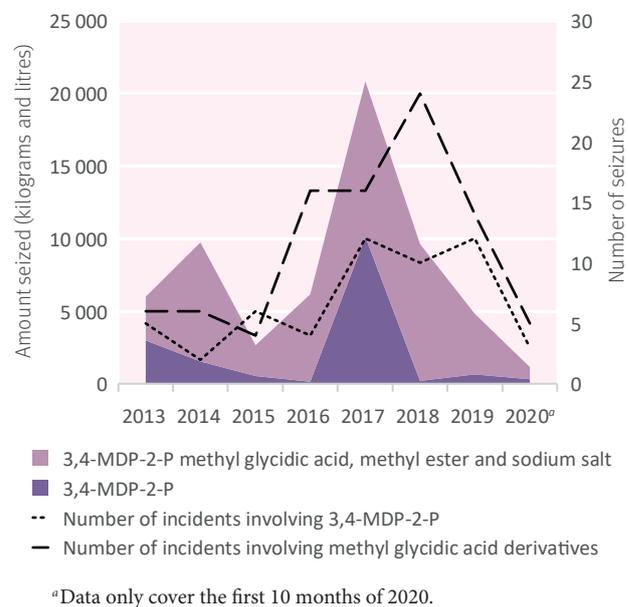
Trafficking

121. As regards the extent of the use of the various precursors of MDMA for illicit purposes, there is at present little evidence of 3,4-MDP-2-P, piperonal, safrole and isosafrole being used as starting materials in the illicit manufacture of MDMA and related substances. In cases where 3,4-MDP-2-P was seized, it had usually been illicitly manufactured. By contrast, significant seizures of 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid continued to be reported in 2019.

122. On form D for 2019, the only notable seizures of 3,4-MDP-2-P were reported by the Netherlands (more than 630 litres, in 12 incidents), while the recently scheduled derivatives of 3,4-MDP-2-P methyl glycidic acid accounted for the largest share of seizures of precursors of MDMA and related substances. This situation has been observed for several years, including by means of PICS (see figure X).

123. In 2019, notable seizures of precursors of MDMA and related substances continued to be made exclusively in Europe, notably in the Netherlands. Brazil reported small seizures of 3,4-MDP-2-P methyl glycidate after the substance was placed under national control in October 2019; the amount seized was suspected to have been purchased online. Small amounts were also reported for the first time by the United States. While the introduction of controls over derivatives of 3,4-MDP-2-P methyl glycidic acid will likely increase the geographic spread of seizures of MDMA precursors in the future, to date, through PICS, only nine incidents have been communicated from outside Europe, six of which involved 3,4-MDP-2-P and three of which involved derivatives of 3,4-MDP-2-P methyl glycidic acid. Two of the latter three incidents occurred in Oceania (in Australia in 2019) and one in West Asia (in Lebanon in 2017). **The Board reminds all Governments that these chemicals continue to be available through online vendors and trading platforms and encourages them to enforce any applicable regulations aimed at preventing the misuse of the Internet for the diversion of chemicals**

Figure X. Seizures of 3,4-MDP-2-P and derivatives of 3,4-MDP-2-P methyl glycidic acid communicated through the Precursors Incident Communication System, 2013–2020



into illicit channels or, at a minimum, to use such information to generate actionable intelligence for use in further investigations.

(b) Safrole, safrole-rich oils and isosafrole

Licit trade

124. Trade in safrole and safrole-rich oils has remained relatively stable over the years in terms of the number of exporting and importing Governments and the amounts traded. Between 1 November 2019 and 1 November 2020, six exporting countries sent 25 pre-export notifications regarding safrole and safrole-rich oils to the authorities of 15 importing countries and territories through the PEN Online system. Those notifications concerned a total volume of about 1,400 litres, the majority of which was exported in the form of safrole-rich oils. There were no pre-export notifications for isosafrole.

Trafficking

125. Very few Governments have reported seizures of safrole and safrole-rich oils on form D in recent years. In 2019, the Philippines reported the largest seizures, amounting to almost 440 litres, followed by the United States, which accounted for slightly more than 250 litres. Small amounts were also seized in the Netherlands and Spain. No seizures of isosafrole have been reported for several years.

(c) Use of non-scheduled substances and other trends in the illicit manufacture of MDMA and its analogues

126. Possibly as a result of the international scheduling of 3,4-MDP-2-P methyl glycidate and 3,4-MDP-2-P methyl glycidic acid, the year 2019 saw an increase in reports and the geographical spread of the use of **helional** in the illicit manufacture of MDA and MDMA. Brazil reported the domestic diversion of almost 220 kg of helional and its subsequent seizure from two illicit laboratories involved in the synthesis of MDA, representing the first notable report of the use of helional in South America.

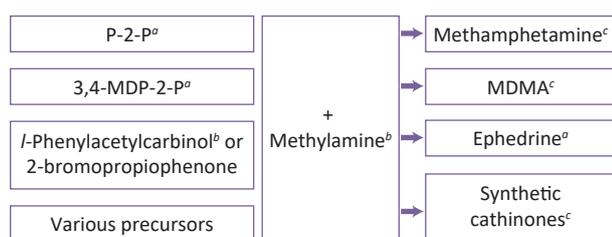
127. The use of helional in the illicit manufacture of MDA has been encountered since 2011, in Australia and the United States. In a survey conducted by the Board in 2014, Australia, Canada, the Netherlands and the United States mentioned incidents that had involved helional as a starting material in illicit laboratories or its smuggling and illicit importation. Notable seizures of helional were reported by Canada in the period 2014–2016 and by the Netherlands in 2014, although subsequent seizures of the substance in that country were small. The Board is also aware of the dismantling in 2019 of a small, user-based laboratory in Germany in which MDA had been synthesized from helional.

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

Methylamine

128. Methylamine is a versatile chemical that is required in the illicit manufacture of a number of amphetamine-type stimulants (e.g., methamphetamine and MDMA) and new psychoactive substances, namely, synthetic cathinones, as well as ephedrine (figure XI).

Figure XI. Use of methylamine in illicit drug manufacture



^aIncluded in Table I of the 1988 Convention.

^bNot under international control but included in the limited international special surveillance list.

^cMethamphetamine, MDMA and some synthetic cathinones are controlled under the Convention on Psychotropic Substances of 1971.

129. On form D for 2019, seizures of methylamine continued to be reported by the Netherlands (more than 4.3 tons) and Mexico (more than 2,600 litres). Viet Nam reported seizures of 70 litres of the substance in connection with a large-scale methamphetamine manufacturing laboratory in Kon Tum Province in its central highlands region, bordering the Lao People’s Democratic Republic and Cambodia.

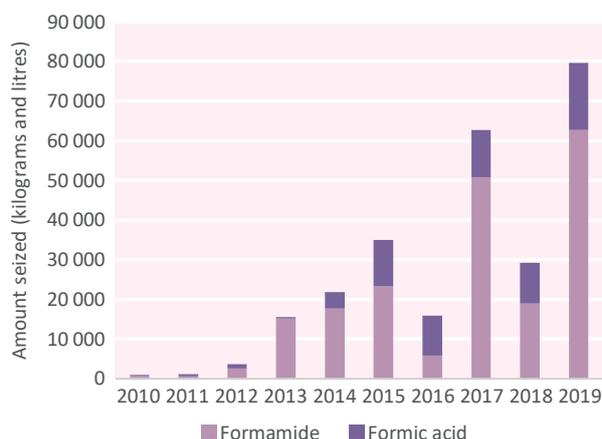
Hydrogen gas

130. Thefts and seizures of hydrogen gas, which can be used as a reducing agent in the illicit manufacture of a number of synthetic drugs, continued to be reported on form D for 2019. Specifically, the Netherlands reported seizures totalling 2.4 tons of hydrogen gas, a slight increase from 2 tons in 2018 but significantly lower than the amounts reported annually between 2014 and 2017. In addition, Germany noted that thefts of the hydrogen gas had decreased in 2018, after peaking between 2015 and 2017. However, in 2019, the number of thefts of the gas significantly increased again, involving a total of more than 9.5 tons, an amount which authorities in Germany estimated could potentially have been used in the illicit manufacture of more than 14 tons of MDMA. In 2019, for the first time, Germany encountered a theft of laboratory equipment for use in the illicit manufacture of drugs.

Formamide and formic acid

131. Formamide and formic acid are versatile solvents and synthetic reagents that are required in the illicit manufacture of amphetamine from P-2-P using the so-called Leuckart method. They can also be used to manufacture other amphetamine-type stimulants. Owing to the history of illicit amphetamine manufacture in Europe (as opposed to illicit methamphetamine manufacture in many other regions of the world), seizures of formamide and formic acid have typically been made in Europe, with an increasing trend over the years (see figure XII).

Figure XII. Seizures of formamide and formic acid, as reported by Governments in Europe on form D, 2010–2019



132. Incidents involving formamide and formic acid also continued to be communicated through PICS in 2020. An investigation into one such incident in Germany that began with the backtracking of dumped chemicals led to a company that was known by the authorities as a reliable industry partner. Yet, chemicals, including formamide and formic acid, and other non-scheduled chemicals, as well as some acids and solvents included in Table II of the 1988 Convention, were ordered in bulk and then refilled into smaller jerry cans on the company's premises with a view to supplying clandestine laboratories in the Netherlands. The case is a reminder of the importance of the know-your-customer principle and of the need to scrutinize individual transactions and carefully review orders and circumstances on a case-by-case basis.

B. Substances used in the illicit manufacture of cocaine

1. Potassium permanganate

Licit trade

133. Trade in potassium permanganate remained relatively stable during the reporting period, involving a similar number of importing and exporting countries and similar amounts. Specifically, the authorities of 33 exporting countries and territories sent more than 1,500 pre-export notifications to 115 importing countries and territories relating to a total of more than 32,500 tons of potassium permanganate. The main exporter was China, accounting for approximately 25,000 tons, followed by India and the United States, accounting for more than 3,800 tons and 2,700 tons, respectively. As in the previous reporting period, the main importers were countries in East and South-East Asia. Imports of the substance by the three coca-producing countries in South America – Bolivia (Plurinational State of), Colombia and Peru – continued to account for a very limited proportion of the total global amount imported (less than 1 per cent). Imports of the substance by other countries in South America amounted to 4 per cent (1,300 tons), a slight increase over last year. None of those countries exported or re-exported potassium permanganate in any significant amounts.

134. On form D for 2019, the Lao People's Democratic Republic reported having stopped incoming shipments involving more than 2,000 tons of potassium permanganate. Jordan stopped imports of about 23 tons, while Spain stopped exports of almost 36 tons destined for nine countries and India stopped 5 tons destined for Yemen. Although the majority of those shipments were stopped for administrative reasons, **INCB would like to remind**

Governments that comprehensive and timely information on shipments of substances that have been stopped on the basis of sufficient evidence that the substances may have been diverted into illicit channels is essential to addressing emerging trafficking trends at an early stage and globally. INCB also wishes to remind Governments that thwarted attempts to divert a given substance should 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 attempts to divert the substances from other sources.

Trafficking

135. Potassium permanganate is the principal oxidizing agent used in the illicit manufacture of cocaine, and most of the cocaine that is seized continues to be highly oxidized.²²

136. On form D for 2019, 20 countries and territories reported seizures of potassium permanganate. The largest seizures were reported by Colombia (a total of almost 47 tons, in 344 incidents), Chile (7.7 tons, in 1 incident, en route to the Plurinational State of Bolivia), Pakistan (more than 4.8 tons), Germany (3 tons, in 1 incident) and Venezuela (Bolivarian Republic of) (almost 2.8 tons, in 3 incidents). As in the past, very little circumstantial information was provided in relation to those seizures, yet the substance typically originated from within the country in which the seizure was made. **INCB therefore wishes once again to reiterate its call to all Governments, especially those of countries in South America, to review their domestic control mechanisms for potassium permanganate and to devise strategies to address the situation in that regard.**

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

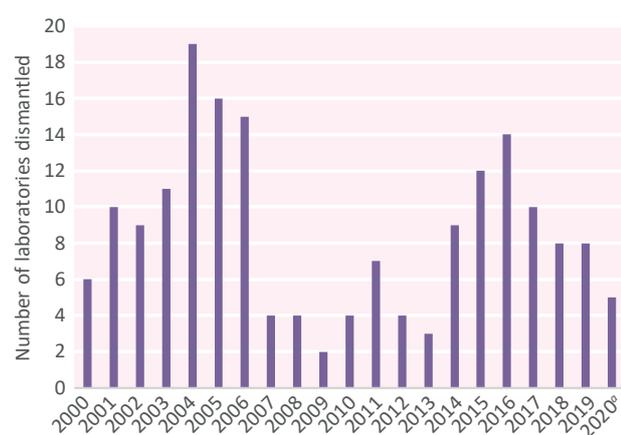
137. Several countries in South America have placed various other chemicals that can be used in the illicit manufacture of cocaine under national control. In 2019, as in previous years, the majority of those chemicals were reported to have been diverted from domestic distribution channels. Illicit manufacture also remains a source of those chemicals for illicit purposes.

²²According to results from the Cocaine Signature Program of the United States Drug Enforcement Administration Special Testing and Research Laboratory, only about 1 per cent of the cocaine samples examined, from seizures in 2019 in the United States, were moderately or not oxidized.

Precursors of and substitutes for potassium permanganate

138. On form D for 2019, the largest seizures of **potassium manganate**, an immediate precursor of potassium permanganate, were reported by Colombia (1.4 tons, in four incidents), as in the past. In the first 10 months of 2020, five potassium permanganate laboratories were destroyed (see figure XIII).

Figure XIII. Potassium permanganate laboratories dismantled in Colombia, 2000–2020



Source: Colombian Drug Observatory.

^aData only cover the first 10 months of 2020.

139. A seizure of 48 kg of potassium manganate was also reported by the Netherlands, reflecting the increase in cocaine-related incidents in that country. The Netherlands also reported a seizure of 80 kg of **sodium permanganate**, a direct substitute for potassium permanganate, following a seizure of 15 kg of the substance in 2018. The only other seizures of the substance ever reported to INCB were made in the Plurinational State of Bolivia in 2016, amounting to 260 kg.

140. No seizures of **manganese dioxide** (pyrolusite), a precursor of potassium manganate, and no seizures of **sodium hypochlorite**, a possible substitute for and complement to potassium permanganate, were reported by any country in 2019.

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

141. In addition to requiring an oxidizing agent such as potassium permanganate or any of its substitutes, the processing of cocaine requires a variety of other chemicals, including common acids, bases and solvents used in the extraction of cocaine base from coca leaves and for the

conversion of cocaine base into hydrochloride. In addition, over the years, a number of other chemicals have also been encountered in clandestine cocaine laboratories, including chemicals that help to improve the efficiency of the manufacturing process, such as sodium metabisulfite and calcium chloride, as well as chemicals used to illicitly manufacture controlled precursors. The majority of those chemicals continued to be sourced domestically.

142. Overall, on form D for 2019, those chemicals were reported seized in comparable amounts by the same countries, notably countries in South America, countries situated along cocaine trafficking routes and countries representing destination markets where cocaine was being recovered from the materials into which it was incorporated for the purpose of smuggling. For example, seizures of **sodium metabisulfite**, a reducing agent used to standardize the oxidation level of cocaine base sourced from multiple extraction laboratories prior to further processing, outside South America have only been reported in Europe. In 2019, for the fourth consecutive year, seizures were reported by the Netherlands; the only other European country that had previously reported seizures of sodium metabisulfite was Spain. Unlike the trend of previous years, the amount of **calcium chloride** seized in Ecuador decreased to about 63 per cent of the amount seized in 2018 (about 90 tons) and was only second to the amount seized in Colombia (125 tons). The amount seized in Peru decreased as well, from more than 14 tons in 2018 to just below 6 tons in 2019. On 1 January 2020, calcium chloride was placed under control in Peru (see para. 15).

143. With regard to seizures of **acetate solvents** (methyl, ethyl, butyl and propyl acetate and recycled mixtures of them) used in the final crystallization step of cocaine manufacture, in which cocaine base is converted into cocaine hydrochloride, the overall situation in 2019 was similar to previous years in that the majority of the seizures were made in Colombia, where all such substances are under national control.

144. While forensic profiling results in late 2018 had suggested a shift away from ethyl acetate towards other acetate solvents,²³ seizure data for 2019 again showed an increase in the use of ethyl acetate, compared with 2018 (figure XIV). In addition, more recent forensic profiling results indicate that ethyl acetate is the predominant solvent in cocaine samples seized in Europe, a profile rarely seen in cocaine seized in the United States.

²³United States Drug Enforcement Administration Special Testing and Research Laboratory, Cocaine Signature Program; based on cocaine samples seized in the United States.

Figure XIV. Percentage of seizures of ethyl acetate among seizures of all acetate solvents reported on form D in South America and Colombia, 2015–2019



145. Authorities in Colombia have estimated that 90 per cent of the solid substances needed for the production of cocaine paste and base is **cement**, while 99 per cent of liquid substances needed is **gasoline or other types of**

hydrocarbons. Gasoline was also the chemical most affected by the COVID-19-related supply chain disruptions in early 2020, which had some, albeit short-term, impact on the illicit production of cocaine.

146. Chemicals needed in cocaine processing that were reported to have been illicitly manufactured in 2019 or of which there were indications of such manufacture included ammonia, hydrochloric acid, sodium carbonate and sulphuric acid. Chile, Colombia and Peru each reported one or more incidents involving such manufacture.

147. As with other drugs, seizures of **cutting agents** (adulterants and diluents) continued to be reported, including in connection with the illicit processing of cocaine. Cutting is performed at the stage of initial crystallization of cocaine hydrochloride, at points along the trafficking route, or in destination countries before retail-level distribution. Analysis of cutting agents can provide valuable clues for efforts to counter trafficking. **INCB reminds Governments of the investigative value of monitoring adulterants and cutting agents and encourages them to consider taking action against cutting agents, in accordance with article 13 of the 1988 Convention.**

Box 1. Estimated requirements for chemicals for the manufacture of cocaine hydrochloride in Colombia, 2019

On the basis of the potential illicit manufacture of 1,137 metric tons of cocaine hydrochloride in 2019 (an increase of 1.5 per cent from 2018),^a authorities in Colombia estimated the demands for chemicals essential for the conversion of coca paste into coca base and subsequently into that amount of cocaine hydrochloride as follows:

<i>Chemical</i>	<i>Amount</i>	<i>Unit of measurement</i>
Organic solvents	17 700	Thousands of litres
Ethyl acetate		
Butyl acetate		
n-Propyl acetate		
Recycled mixture of the above solvents		
Calcium chloride	1 398	Metric tons
Hydrochloride acid	284	Thousands of litres
Sulphuric acid	2 600	Thousands of litres
Potassium permanganate	361	Metric tons

^a UNODC and Colombia, *Monitoreo de Territorios afectados por Cultivos Ilícitos 2019* (Bogotá, Sistema Integrado de Monitoreo de Cultivos Ilícitos, 2020).

C. Substances used in the illicit manufacture of heroin

1. Acetic anhydride

148. Acetic anhydride, which is a key precursor in the illicit manufacture of heroin and is also used in the illicit manufacture of P-2-P and, subsequently, amphetamine and methamphetamine, is one of the most frequently and widely traded chemicals included in Table I of the 1988 Convention.

Licit trade

149. From 1 November 2019 to 1 November 2020, the authorities of 26 exporting countries and territories used the PEN Online system to submit more than 1,700 pre-export notifications regarding shipments of acetic anhydride. The shipments were destined for 91 importing countries and territories and involved a total of about 565 million litres of acetic anhydride. About 46 per cent of that amount was destined for European Union member States, and 20 per cent for the United States.

150. The rate of objections to pre-export notifications related to proposed exports of acetic anhydride remained stable, at just over 7 per cent, similar to 2019, yet lower than the 10.5 per cent noted in the period 2016–2018. Most objections were made for administrative reasons, and about half of the objected shipments involved imports into the United States, from Mexico.

151. The low number of diversions from international trade confirms the preventive role that the PEN Online system has played over the years; it also substantiates the Board's concern that diversion from domestic distribution channels remains the prevailing source of acetic anhydride for illicit purposes.

Trafficking

152. In 2019, global seizures of acetic anhydride totalled 60,049 litres and were thus significantly – by about 69 per cent – lower than in 2018, when global seizures of the substance amounted to a total of 194,281 litres (about 67,000 litres more than in 2017). Preliminary data suggest that this downward trend might have continued in 2020.

153. Reasons for the significant decrease in the amounts of acetic anhydride seized in 2019 and 2020 might include the following: (a) a decline in the number of diversion attempts and actual diversions, and in the subsequent trafficking of the substance, compared with the peak period of 2016–2018; (b) the emergence of trafficking in acetyl chloride; and (c) the shift to alternative trafficking routes.

154. Compared with 2018, when six countries – China, Georgia, Iran (Islamic Republic of), the Netherlands, Pakistan and Turkey – each reported seizures of more than 10,000 litres of acetic anhydride, in 2019, the Islamic Republic of Iran and Pakistan, with seizures totalling 15,000 litres and 19,060 litres, respectively, were the only two countries that reported seizures exceeding that amount. Another five countries seized 3,000 or more litres of acetic anhydride, including Belgium (3,000 litres), Bulgaria (8,000 litres), Myanmar (4,140 litres), the Netherlands (4,063 litres) and Romania (4,975 litres).

155. In Afghanistan, the amount of acetic anhydride seized in 2019 (786 litres) was 10 times lower than the amount seized in 2018 (7,364 litres), and was the lowest since at least 2008, when Afghanistan started reporting seizures of the substance on form D. In the first ten months of 2020, Afghanistan reported nine seizures of small amounts of acetic anhydride, amounting to over 600 litres.

156. However, the small amount of acetic anhydride seized within Afghanistan in 2019 and 2020 does not necessarily suggest that trafficking of the substance into the country, or the countries that share borders with Afghanistan, has completely halted. For example, in April 2020, authorities in the Islamic Republic of Iran seized a consignment of 15 tons of acetic anhydride destined for Afghanistan. The seized consignment, misdeclared as paint, was transported from or through the port of Jebel Ali in the United Arab Emirates. In addition, Pakistan, which for a number of years has been a transit country for chemicals smuggled into Afghanistan, communicated in November 2019 a seizure of a consignment of 19,060 litres of acetic anhydride in Karachi, Pakistan. The seized substance was allegedly misdeclared as acetic acid. A further seizure of 3,210 kg of acetic anhydride, suspected of having originated in China, was made in Karachi in June 2020.

157. The Board has noted that some trafficking routes that had emerged and had been exploited by traffickers between 2016 and 2018 may already have lost, in part, their significance with regard to acetic anhydride trafficking. For example, in Georgia, a country on the so-called Southern Caucasus route, seizures of acetic anhydride dropped from 13,733 litres in 2018 to only 1 litre in 2019.

158. In Turkey, which lies on the Balkan route, seizures of acetic anhydride also significantly decreased, from 38,569 litres in 2018 to 803 litres in 2019, the lowest amount of the substance seized in the country since 2013. According to authorities in Turkey, this drop in seizures could in part be attributed to strengthened control measures and law enforcement activities that might have had a deterrent effect on the trafficking of acetic anhydride through Turkey.

159. For a number of years, there have been few seizures of acetic anhydride in Central Asia. Kazakhstan and Turkmenistan have not reported on form D any seizures of acetic anhydride since 2010 and 2000, respectively. In 2019, authorities in Tajikistan seized 49 litres of the substance. The alleged destination of the substance was Afghanistan. The authorities in Kyrgyzstan also reported seizures of smaller amounts of acetic anhydride (95 litres) in 2019, the first such seizures reported in that country since 2012, when almost 800 litres were seized.

160. In Europe, the largest number of seizures (seven) of acetic anhydride between 2019 and 2020 was communicated by the Netherlands. Most of the incidents occurred in warehouses or in connection with the dismantling of clandestine drug laboratories, in which the substance was seized along with other internationally controlled, as well as non-scheduled, chemicals. In December 2019, authorities in the Netherlands seized 950 litres of acetic anhydride from an illicit laboratory. The seized substance was mislabelled and believed to be destined for the Islamic Republic of Iran. The seizure appeared to be linked with another

seizure of 8,000 litres of acetic anhydride a few days later in Bulgaria. In both cases, investigations have been initiated in the countries concerned.

161. In Germany, the high number of diversion attempts involving acetic anhydride in the period 2016–2017 started to decrease during 2018. Owing to action taken by authorities in Germany, most of the identified diversion attempts were prevented and, as a result, the total amount of the substance seized in Germany has remained low in the past three years. In 2019, only one diversion attempt was identified and investigated, in cooperation with other European countries.

162. Despite the demand for significant amounts of acetic anhydride for the illicit manufacture of heroin in Colombia, Mexico and Myanmar, the number of seizures of the substance in those countries continued to be low. Since 2008, seizures of acetic anhydride in Colombia have not exceeded 100 litres per year, except for 2010, when 1,006 litres of the substance were seized. In 2019, Colombia did not report any seizures of acetic anhydride.

Box 2. Progress towards addressing Internet-facilitated trade in precursors

In its two previous reports on precursors, the Board reported on a seizure of almost 10 tons of acetic anhydride in India in 2018, the largest amount of the substance seized in the country since 2000.^{a,b} The seizure was a result of investigations, in cooperation with the private sector, into a number of suspicious requests for supplies of acetic anhydride that had been posted by suspected criminals on several online trading platforms in India.

Those investigations also revealed that the online trading companies that had allowed on their platforms the posting of suspicious requests for supplies of acetic anhydride were, according to the national information technology law of India, intermediaries and thus enjoyed exemption from any liability for facilitating suspicious trade in precursors, unless knowledge of the offence or contravention could be attributed to them.

As that was not the case, and as there was no legal instrument available to secure such information, the details of the suspicious requests for supplies and the companies involved were shared with the competent national authorities by the online companies involved on a voluntary basis.

Apart from voluntary cooperation between the Government and the private sector, and perhaps on the basis of its previous practical experience, the Government of India decided to amend its respective legislation on precursors to also include on the list of regulated activities involving precursors activities involving the offering for sale or distribution, or mediating in the sale or purchase through a website, social media or in any other manner, of precursors. In accordance with the amended legislation, such activities would require prior authorization (registration) of the company involved by the competent national authorities of India. In addition, online trading platforms that facilitated trade in precursor chemicals were also required to provide the details of transactions involving selected precursors.

^aINCB report on precursors for 2019 (E/INCB/2019/4), box 3.

^bINCB report on precursors for 2018 (E/INCB/2018/4), para. 186.

163. In Mexico, where past seizures of acetic anhydride were more likely to have been linked with the manufacture of methamphetamine (via phenylacetic acid and P-2-P) rather than of heroin, only 133 litres of the substance were reported seized in 2018 and only 15 litres in 2019. That was considerably less than the average amount of acetic anhydride seized annually in the country from 2015 to 2017 (5,000 litres) and from 2010 to 2014 (27,500 litres).

164. On form D for 2019, Myanmar reported seizures of more than 4,000 litres of acetic anhydride, the largest amount reported seized by the country since 2001. The Board is also aware of a seizure of almost 10,300 litres of acetic anhydride from a truck in Myanmar in August 2020. In the same incident, about 1,300 litres of hydrochloric acid and 200 kg of caffeine were also seized. Authorities in Myanmar noted that, during 2020, most of the precursors smuggled into the country had been smuggled across the border between China and Myanmar, at Muse Township, Myanmar, and subsequently transported to illicit manufacturing sites in the border area, where governance was limited owing to armed conflicts there.

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

165. The illicit manufacture of heroin requires, in addition to acetic anhydride, a variety of other common chemicals not under international control. In addition, some chemicals have been known to be used as cover load or to otherwise conceal acetic anhydride contraband. One such chemical is **glacial acetic acid**, which has also been suspected of being used in the acetylation of morphine to yield heroin, probably mixed with acetic anhydride.²⁴

166. Since 2016, the intended and actual use of glacial acetic acid as a cover load for acetic anhydride contraband has been reported by several countries in Africa, Europe and West Asia. The actual use of acetic acid in heroin laboratories in Afghanistan, where the substance was mixed in various ratios with acetic anhydride, was earlier confirmed by authorities in Afghanistan in the framework of the INCB Operation Eagle Eye in 2013.

167. In Afghanistan, seizures of significant amounts of glacial acetic acid have been encountered since at least 2011. The largest seizure of glacial acetic acid in Afghanistan involved a shipment of 20,271 litres of the substance seized in April 2016. In March 2019, authorities in Afghanistan communicated through PICS another large seizure of glacial acetic acid (9,780 litres). In recent years,

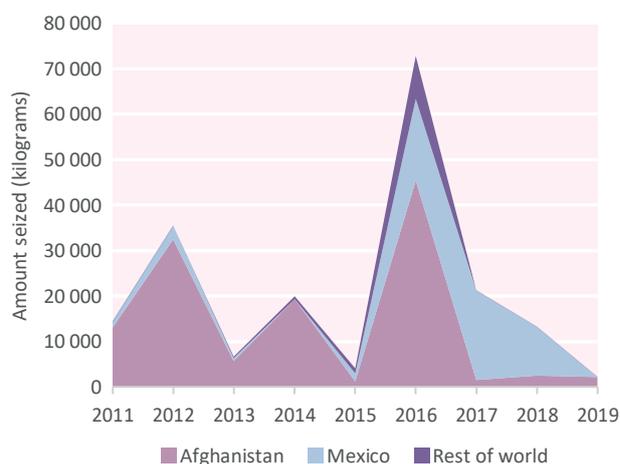
both Afghanistan and the Islamic Republic of Iran have also reported small seizures involving both glacial acetic acid and acetic anhydride. The last such seizure, conducted in Afghanistan in March 2020, involved about 80 litres of glacial acetic acid and 120 litres of acetic anhydride.

168. **Acetyl chloride** is another chemical substance included in the INCB limited international special surveillance list because of its potential use as an acetylating agent in the illicit manufacture of heroin. The first known seizure of acetyl chloride in Afghanistan, involving 90 litres, was reported in October 2017, and the second in June 2019 (300 litres).

169. Within West Asia, significant amounts of acetyl chloride were seized in the Islamic Republic of Iran in May 2018 (19,950 litres) and August 2019 (16,840 litres), as well as in the United Arab Emirates in May 2018 (2,777 litres). The alleged country of origin of the seized acetyl chloride in all three cases was China. **The Board wishes to reiterate its earlier call to all countries, in particular those in West Asia, to remain vigilant with respect to attempts to traffic acetyl chloride through the region, and to communicate any seizures of the substance through PICS and report them on form D, with a view to identifying any new trends and devising suitable countermeasures.**

170. Another chemical not under international control but included in the Board's limited international special surveillance list and frequently encountered in connection with the illicit manufacture of heroin (and methamphetamine) is **ammonium chloride**. According to information available to INCB, ammonium chloride is under national control in at least 11 countries, however, only Afghanistan and Mexico have regularly reported seizures of the substance (see figure XV). Information on the origin of the substance was usually not available.

Figure XV. Seizures of ammonium chloride reported on form D, 2011–2019



²⁴INCB report on precursors for 2015 (E/INCB/2015/4), para. 152.

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

1. Ergot alkaloids and lysergic acid

171. On form D for 2019, record seizures of precursors of lysergic acid diethylamide were reported. The United States seized almost 20 kg of lysergic acid, while Brazil reported seizures of nearly 3 kg of ergotamine that had allegedly originated in Paraguay. The amounts of both substances were the largest seized in the last 10 years worldwide. Unfortunately, no additional information was provided. No seizures of ergometrine were reported.

2. N-Acetylanthranilic acid, anthranilic acid and alternative chemicals

172. On form D for 2019, small seizures of methaqualone precursors, totalling less than 5 kg, were reported by Argentina, Spain and Canada (in descending order of amounts seized).

173. However, as with other drugs, it appears that the illicit manufacture of methaqualone has increasingly relied on the use of non-scheduled alternative chemicals. On form D for 2019, South Africa reported two seizures totalling more than 2.8 tons of what had appeared to be **isatoic anhydride**, while in 2018, it had stopped three incoming shipments of **acetanthranil**, totalling more than 64 tons. Acetanthranil is a stable intermediate and immediate precursor of methaqualone, that is converted through a single-step synthetic process. It has no known legitimate uses other than in the manufacture of substances related to methaqualone but is nevertheless available from a number of online suppliers.

174. Evidence of trafficking in acetanthranil and its use in illicit manufacture has been reported by South Africa since 2015. While reports of the smuggling of the substance have so far been limited to South Africa, it cannot be excluded that similar attempts are being made elsewhere. **The Board therefore encourages Governments to be vigilant and communicate to it any suspicious shipments, smuggling attempts or seizures involving isatoic anhydride or acetanthranil, preferably using PICS.**

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

Licit trade

175. Between 1 November 2019 and 1 November 2020, 20 proposed shipments of ANPP were pre-notified by the authorities of 4 exporting countries to 11 importing countries and territories. The majority of the shipments involved very small amounts, indicating that they were intended for limited research and analytical purposes.

176. With regard to NPP, authorities of three exporting countries sent 20 pre-export notifications to seven importing countries, involving a total of about 3.2 tons of the substance. The Board verified the end use in a number of cases. Similar to the previous year, amounts larger than those required for limited research and analytical purposes were proposed for import into countries known to manufacture fentanyl legitimately, including Brazil, Germany, the Russian Federation, Slovakia, South Africa and the United States. The largest exporter of NPP was India.

177. In its report on precursors for 2019, the Board noted significant exports of NPP that had been under investigation in India because they were effected without the knowledge of the competent national authorities, even though NPP and ANPP had been under national control in India since February 2018.²⁵ Although the investigations in India have been concluded, the Board regrets that it has so far been unable to confirm the legitimacy of the end use of the NPP by the alleged consignee, a company in Italy. **The Board reminds Governments to adequately monitor the manufacture and distribution of NPP and ANPP, and to fully investigate all diversions and attempted diversions, with a view to gathering relevant intelligence and preventing future diversions using the same modus operandi.**

Trafficking

178. On form D for 2019, the United States reported seizures of nearly 480 kg of NPP and almost 200 kg of ANPP. The only other reported seizures of fentanyl precursors were made in Estonia, amounting to slightly less than

²⁵INCB report on precursors for 2019 (E/INCB/2019/4), para. 218.

34 kg of NPP, and in Mexico (3.8 kg of ANPP). Through other sources, INCB is aware of a seizure of a misdeclared shipment of 50 kg of ANPP in Canada. In May 2020, Mexico seized 100 kg of ANPP from sea cargo originating in China. The consignment also included nearly 70 kg of 4-AP, a non-scheduled precursor of ANPP, misdeclared as washing powder. A seizure of 100 grams of 4-AP was also reported by Germany on form D for 2019, however, no contextual information was provided. Belgium reported on form D having seized an air shipment of about 1 kg of 4-piperidone monohydrate hydrochloride, another alternative precursor of fentanyl. The shipment was misdeclared and allegedly originated in China, with the Netherlands as the destination.

179. Through other sources, the Board also became aware of an attempt to manufacture fentanyl in Australia in 2019. It was reported that the laboratory involved operated in a residential area, however, details about the specific chemicals and manufacturing method intended to be applied were not available.

180. In 2020, INCB was made aware of a consignment of 72 tons of propionyl chloride, a chemical not under international control but included in the limited international special surveillance list that can be used in the illicit manufacture of fentanyl. The shipment was stopped by the customs authorities of the Lao People's Democratic Republic en route to a consignee in Myanmar, purportedly located in a special administrative region in the eastern part of the country. The investigations by the Lao authorities did not provide sufficient evidence to substantiate the legitimate use of the substance, and the supporting documents were not issued by a recognized government authority. **INCB commends the authorities concerned for their vigilance and reminds Governments of the importance of verifying the legitimacy of shipments, including, to the extent possible, of chemicals included in the limited international special surveillance list, and in particular when they are intended for consignees in areas outside of government control.**

181. The introduction of controls on the group of fentanyl-related substances in China on 1 May 2019 appears to have resulted in an increase in attempts by traffickers to smuggle precursors, in particular non-scheduled alternative precursors, intended for the manufacture of fentanyl in destination countries. Yet, there continue to be intelligence gaps related to various aspects of this development, including trafficking routes, modi operandi and the nature of the alternative chemicals, as well as the location of fentanyl synthesis laboratories (as opposed to those

laboratories in which fentanyl in powder form is compressed into tablets).

182. Adaptation of the illicit market to the tightening of controls over the two primary fentanyl precursors, NPP and ANPP, in a number of countries is also evident from the results of forensic impurity profiling of samples of fentanyl seized in the United States. Profiling results for 2019 suggested a further decline in the use of the Siegfried method of illicit fentanyl manufacture, which involves the use of NPP or ANPP, and an accompanying increase in the Janssen method, which does not rely on the two chemicals. In 2019, the proportion of fentanyl samples analysed that had been manufactured using the Janssen method increased; for samples of fentanyl powder, to 76 per cent, from 70 per cent in 2018, and for fentanyl tablets, to 63 per cent, from 52 per cent in 2018.

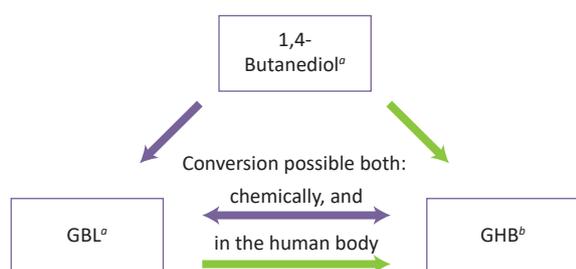
183. In line with these developments, the United States placed 4-AP and two chemicals associated with the Janssen method under control in order to prevent their use in the illicit manufacture of fentanyl (see para. 18). Given that several of the alternative precursors of fentanyl have no currently known legitimate uses, **INCB encourages Governments to be vigilant and cooperate with each other and with the Board in exchanging actionable information related to suspicious shipments, smuggling attempts or seizures involving suspected fentanyl precursors, preferably using PICS. The Board would also appreciate receiving evidence of the actual use of any of those chemicals in the illicit manufacture of fentanyl and fentanyl analogues.**

E. Substances not listed 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 GHB

184. **GBL** is a precursor used in the illicit manufacture of GHB but is also directly ingested and metabolized into GHB in the body. 1,4-Butanediol is another precursor of GBL and a pre-precursor of GHB, and is also readily converted to GHB upon its ingestion (see figure XVI).

Figure XVI. GBL and GHB



^aNot under international control but included in the limited international special surveillance list.

^bIncluded in Schedule II of the 1971 Convention.

185. As in the past, there were significant differences among countries in the amounts of GBL reported on form D for 2019, ranging from less than 1 kg (reported by Canada) to more than 25,000 kg (reported by Germany and Slovenia). According to authorities in Germany, GBL is sourced in Asia by companies in Germany and abroad, which resell the substance, as a cleaning agent, on the Internet to clients in Germany and other European countries for illicit purposes. Large seizures of GBL by customs authorities in Germany have provided further evidence of this modus operandi. In addition, for the first time in five years, Germany detected evidence of the user-based illicit manufacture of GHB from GBL.

186. The majority of seizures of GBL continued to be reported by countries in Europe. Countries outside Europe where GBL had been seized included Brazil, Canada, Chile and the United States. From other sources, including PICS, the Board is also aware of additional seizures of the substance in Australia and Hong Kong, China, in 2019. Although in most of the seizures made in Australia the substance had originated in China, including Hong Kong, the Netherlands was most frequently identified as the country of origin of the quantities seized in Europe and Chile. No seizures of **1,4-butanediol** were reported on form D for 2019.

2. Precursors of ketamine

187. There is no systematic reporting of information about ketamine precursors and the illicit manufacture of ketamine. From national reports and other official sources, INCB is aware of the dismantling of two clandestine ketamine laboratories in India, in Bangalore in May 2019 and in Chennai in June 2020. About 52 kg and 110 kg, respectively, of ketamine were seized. No information about the precursors used or their sources was available. The ketamine was destined for Malaysia.

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

188. As in past years, on form D for 2019, a number of European countries reported seizures of precursors of new psychoactive substances and recently scheduled substances. The most frequently reported chemical was **2-bromo-4'-methylpropiofenone**, a mephedrone precursor, which was seized in amounts ranging from 1 kg to 120 kg in the Netherlands, Belgium, Germany and France (in descending order of amounts seized). Authorities in Germany also reported trans-shipments of more than 610 kg of the substance to countries in Eastern Europe.

189. Seizures of **2-bromo-4'-chloropropiofenone** (a precursor of various 4-chloro-substituted cathinone derivatives, such as 4-CMC (clephedrone)), amounting to 300 kg were reported on form D for 2019 by Germany. The substance, as well as other cathinone precursors such as **2-bromo-4'-methoxypropiofenone** (a precursor of methedrone) were also communicated through PICS in the period 2019–2020. The vast majority of the incidents was communicated by PICS users in countries in Europe. Where such information was provided, the destinations were countries in Europe, most frequently Poland, and the last known countries of departure were China; including Hong Kong, China; and India. Shipments were usually trafficked by air.

190. INCB is also aware of the dismantling in the Russian Federation in 2019 and 2020 of clandestine laboratories of significant size that had been manufacturing *alpha*-pyrrolidinopentiophenone (*alpha*-PVP). A small-scale *alpha*-PVP laboratory containing equipment and unspecified precursors was also seized in Belarus, while a seizure of 50 kg of valerophenone, an *alpha*-PVP precursor, in Czechia was communicated through PICS.

191. Seizures of small amounts of precursors of *alpha*-PVP, namely *alpha*-bromovalerophenone and pyrrolidine, and other reagents required for the illicit synthesis of *alpha*-PVP were also reported on form D for 2019 by the authorities of Brazil.

192. **The Board once again commends countries that voluntarily report seizures of precursors of new psychoactive substances and substances recently scheduled under the 1971 and 1961 Conventions, as such**

reporting helps to identify emerging trends. To make the best possible use of available information and intelligence, all Governments are encouraged to communicate relevant incidents through PICS in real time.

IV. Impact of the coronavirus disease (COVID-19) on licit and illicit activities related to precursors

193. In the first half of 2020, the world was hit by the global COVID-19 pandemic, which infected tens of millions of persons, affected the livelihoods of millions and caused Governments to take steps to contain the spread of the disease. The scope and stringency of the subsequent public health and social measures has varied around the world, but there was a general disruption in the international movement of persons and cargo during the peak period of the pandemic.

194. Numerous research and policy papers have been published that address the actual or likely impact of the pandemic on the various aspects of illicit drug markets, including on the trafficking of chemical precursors.²⁶ According to UNODC, the measures implemented by Governments to counter the COVID-19 pandemic have inevitably affected all aspects of the illegal drug market, from the production and trafficking of drugs to their use. Precursor chemicals that are critical to the manufacture of several drugs are nonetheless accorded a different status than the drugs themselves, because such chemicals also have valid industrial, chemical or pharmaceutical applications. Historically, disruptions of the supply of precursor chemicals have been known to affect the availability of illicitly manufactured drugs. The present chapter examines the impact of the COVID-19 pandemic on the availability of precursors for both licit and illicit activities.

²⁶For example, Jason Eligh, "Crisis and opportunity: impacts of the coronavirus pandemic on illicit drug markets", Policy Brief (Geneva, Global Initiative against Transnational Organized Crime, 2020); Louise Shelley, "Fentanyl, COVID-19, and public health", *World Medical and Health Policy* (2020); UNODC, "Covid-19 and the drug supply chain: from production and trafficking to use", Research Brief (Vienna, 2020)

Impact of COVID-19 on licit activities related to precursors

195. In order to ascertain the impact of the COVID-19 pandemic on the availability of precursors and their international licit trade, the Board carried out a global survey involving competent national authorities of exporting and importing countries, through the PEN Online system, and members of the INCB Precursors Task Force. Respondents were asked to report on, inter alia, whether or not there had been any disruptions or changes in the supply of and demand for precursors, delays in receiving responses through PEN Online or challenges encountered as a result of the COVID-19 pandemic.

196. More than 40 replies were received. Most respondents reported no major disruptions in the legitimate supply of precursors, apart from those resulting from the general lockdown measures, for example, border closures affecting trade in general. Respondents also pointed out that several precursors are legitimately used in the activities of pharmaceutical and related industries, which, as they were considered essential in nature, were maintained during the lockdowns, albeit often with a limited scope.

197. Among the countries that experienced disruptions, Kyrgyzstan noted a significant reduction in the volume of supplies of precursors resulting from the closure of borders. Hungary noted a rise in the demand for potassium permanganate relating to some companies' requirements for reserves of the substance. Malaysia reported delays in the importation of certain precursors such as pseudoephedrine, potassium permanganate, acetic anhydride and piperonal. The Russian Federation observed a decrease of about 20 per cent in the number of applications received for import and export permits for precursors during the months of April and May 2020. Sweden reported a decline of 50 per cent in such applications and attributed it to a decrease in the number of orders. Most respondents reported that the time taken to respond to notifications through PEN Online had been only marginally affected, owing to the fact that continued operations by the relevant authorities had been ensured through business continuity arrangements.

198. Several innovative measures were reportedly adopted by Governments to ensure that legitimate supplies were not adversely impacted. For example, the Government of El Salvador changed the modality used for delivering requests for all procedures related to, inter alia, precursors from in-person delivery at authorized counters to delivery by electronic means, also allowing such requests to be made around the clock. Canada informed the competent authorities of its trading partners and the

Board that all import and export permits for precursors, as well as narcotic drugs and psychotropic substances, would temporarily be issued electronically in lieu of being sent through the post. Health Canada provided details on the appearance of its electronic documents and the signatures and stamps digitally added to them and encouraged its counterparts to notify their colleagues in customs and border-control authorities of the new format.

199. Similarly, the authorities in India permitted the electronic submission of applications for “no objection” certificates for the export or import of narcotic drugs, psychotropic substances or precursors, along with scanned copies of supporting documents. They also temporarily permitted, upon prior notification of 48 hours, changes to export shipment routes necessitated by the cancellation of scheduled international airline flights, with no need to await formal approval. Although the time period during which restrictions related to COVID-19 appear to have affected international legitimate trade is not identical across the globe, the period January to June 2020 is the one in which such trade is most likely to have been impacted most widely. To illustrate this, a comparative analysis of the pre-export notifications submitted in the period from January to June for the years 2018, 2019 and 2020 is presented in table 3.

Table 3. Number of pre-export notifications submitted by Governments through the PEN Online system in the period from January to June, 2018–2020

Month	2018	2019	2020
January	3 067	3 115	2 605
February	2 854	2 978	2 557
March	2 959	3 192	2 817
April	2 796	3 001	2 665
May	3 180	3 471	2 147
June	2 904	2 733	2 479
Total	17 760	18 490	15 270

200. It is evident that there were nearly 17 per cent fewer pre-export notifications submitted in the period January to June 2020, compared with the corresponding period in 2019. In contrast, there had been a slight increase, of 4 per cent, in the number of pre-export notifications sent in 2019, compared with 2018, in the period January to June. The data from the PEN Online system therefore suggest that the number of proposed exports of substances listed in Table I of the 1988 Convention for licit activities has indeed declined by about a sixth, owing to the pandemic.

The most significant decline occurred during May 2020 (38 per cent fewer notifications than in 2019), after which the number increased again, during the month of June. The upward trend continued in July (over 2,600 pre-export notifications), decreasing moderately in August (over 2,300 pre-export notifications). However, even the temporary declines do not appear to have affected the availability of precursors for legitimate purposes, probably because there were sufficient stocks to meet the reduced industry requirements during the peak period of the pandemic.

201. Another aspect of licit activities related to precursors that may gain in importance as a result of the pandemic is that various Governments, concerned about supply-chain disruptions causing shortages of legitimate medications, are considering establishing or re-establishing their own industrial pharmaceutical production lines. As part of that process, the Governments themselves may source the relevant chemical intermediates of the desired active pharmaceutical ingredients. These intermediates can be, depending on the active pharmaceutical ingredient that is manufactured from them, immediate precursors of narcotic drugs or psychotropic substances. As they are typically custom-made, on demand, for the requesting pharmaceutical company, **the Board wishes to encourage competent authorities in countries where such intermediates are manufactured for legitimate purposes to carefully verify the legitimacy of any incoming requests to prevent these substances from entering illicit channels.**

Impact of COVID-19 on illicit activities related to precursors

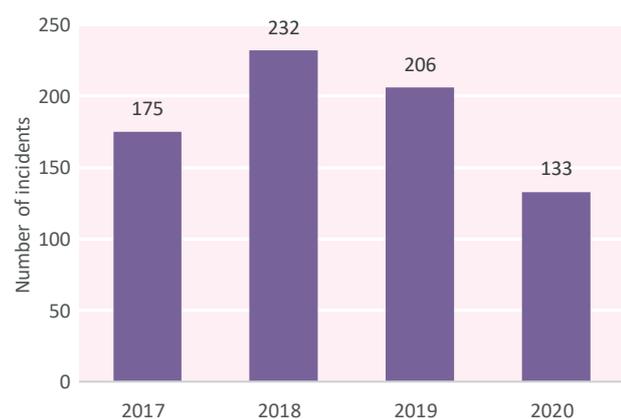
202. There have been several research papers and media reports about a shortage of precursors for illicit purposes. However, these claims need to be analysed in more detail. Firstly, assessing the scale of an illicit economy is challenging even in times when there is no pandemic. Attempting to assess an impact in the relatively short period of the pandemic and after the peak period of the lockdown is even more difficult and to a large extent speculative. With regard to the impact on the availability of precursors for illicit purposes, it is important to differentiate between those that are under international or national control and those that are not. Several of the studies that refer to a notable impact in fact refer to common, non-scheduled chemicals and solvents, such as gasoline, in the illicit processing of cocaine (see para. 145 above).

203. One approach to gauging the impact of the pandemic on the availability of precursors for the illicit manufacture of drugs is to observe the trends in illicit

drug manufacture noted during the pandemic. Some studies argue that wherever there is a legitimate domestic manufacturing industry or reliance on domestically or regionally manufactured precursors, the availability of synthetically manufactured drugs has not been impacted, as in the case of South-East Asia, where the precursor chemicals for illicit drug manufacture are sourced from within the region, or in the case of the Russian Federation, where precursors of mephedrone are domestically available. However, where the precursors are sourced from other countries, such as in the case of acetic anhydride for heroin manufacture in Afghanistan, the availability of precursors for illicit drug manufacture might be impacted. On the other hand, some studies also argue that the manufacture and supply chain integrity of chemical precursors have remained largely uninterrupted during the pandemic.

204. Another approach could be to analyse the number of seizures of precursors that were made during the pandemic and compare it with the non-pandemic period of previous years. A comparison of the number of seizures and other incidents involving precursors (substances in Table I and Table II, as well as certain non-scheduled chemicals) shared through PICS and relating to the period from January to June in the years 2017 to 2020 is presented in figure XVII.

Figure XVII. Number of incidents involving precursors communicated through the Precursors Incident Communication System in the period from January to June, 2017–2020



205. It is evident that there was a decline of about 35 per cent in the number of incidents communicated through PICS in the period January to June 2020, when compared with the corresponding period in 2019. Compared with the average number of PICS incidents in the period

January to June in the years 2017 to 2019, the corresponding number in 2020 declined by about 14 per cent. As in any comparative analysis of seizure data, when the data are applied to a limited timespan and geographical extent, they can be interpreted in different ways. For example, a decline in seizures could reflect an actual decline in incidents of diversion or misuse, or point to decreased law enforcement activity. When the data are applied globally and to a sufficiently long timespan, however, a comparative analysis would tend to indicate a trend in the actual trafficking activity itself.

206. It is also noteworthy that about 60 per cent of the incidents communicated through PICS in the period 2017–2019 were communicated by countries in Europe and about 20 per cent by countries in Asia. In 2020, the number of incidents communicated by PICS users in Europe declined by about 25 per cent while the number communicated by users in Asia decreased by over 50 per cent. Those declines corroborate findings regarding recent drug trends in those regions. As a significant proportion of global manufacture of precursors of both heroin and amphetamine-type stimulants occurs in Asia, the decline of more than 50 per cent in precursor-related incidents reported by countries in Asia is consistent with the trend of reduced availability of those drugs themselves, as reported in other studies. The relatively smaller decline in incidents communicated by countries in Europe could be attributable to the presence of stockpiles in key manufacturing countries, in particular with regard to precursors of amphetamine-type stimulants.

207. In that connection, during the Precursors Task Force meeting held in September 2020, participants discussed the possibility that manufacturing companies experiencing economic difficulties as a result of the COVID-19 pandemic were being targeted by traffickers for the illicit manufacture of precursors.

208. Overall, therefore, it appears that measures enacted globally as a result of the COVID-19 pandemic may also have contributed to reducing trafficking in and misuse of precursors, which is likely to have had an impact on the manufacture of the corresponding drugs during the period of the pandemic. However, at the time of finalization of the present report, no permanent shifts or trends in precursor trafficking have been attributed to the pandemic. **The Board encourages Governments to remain vigilant with regard to the diversion of precursors from licit to illicit channels and, at the same time, to take all possible measures to ensure that legitimate trade is not impeded.**

V. Conclusions and recommendations

209. The present chapter contains broad conclusions and recommendations to address challenges to, and existing gaps in, national and regional precursor control systems that have implications at the global level. The recommendations are presented to facilitate Governments in taking the action necessary to prevent trafficking in precursor chemicals. Summaries of the more detailed, technical recommendations, a number of which have already been made in previous years and are still valid, are included in the preceding chapters.

Need for full utilization of the provisions of article 12 of the 1988 Convention

210. Article 12, paragraph 8, of the 1988 Convention mandates the parties to take measures they deem appropriate to monitor the manufacture and distribution of substances in Table I and Table II of the Convention that are carried out within their territory. To this end, the article provides that the parties may put in place controls over persons and enterprises engaged in the manufacture and distribution of such substances and control under licence the establishment and premises in which such manufacture or distribution may take place. This provision, although not mandatory, is intended as guidance for Governments to curb domestic diversion of substances included in Table I and Table II. Indeed, several Governments have gainfully utilized this provision in respect of substances initially included in Table I and Table II and have been successful in identifying points of diversion through domestic controls.

211. With effective controls over the international trade in precursors, the diversion of precursors is now mostly domestic in nature. The Board is accordingly of the opinion that putting in place domestic controls over substances in Table I and Table II is critical to Governments' efforts to address diversion. Notably, the substances added to Table I since 2014 are mostly designer precursors, a number of which have no known legitimate uses. Domestic controls would aid Governments in thwarting attempts by traffickers to target legitimate chemical and pharmaceutical manufacturers in order to procure such substances. Since some of the recent additions to Table I are in the nature of pre-precursors or chemical intermediates of synthetic drugs such as fentanyl and amphetamines, legitimate manufacturers may be approached by traffickers specifically regarding the manufacture of such intermediates. The lack

of understanding of the potential domestic market for such customized syntheses, as well as the lack of domestic controls over them, despite their scheduling in Table I, undermines to a certain extent the purpose of such scheduling. **The Board therefore urges Governments to consider making use of the provisions of article 12, paragraph 8, relating to domestic controls.**

Use of the limited international special surveillance list and other INCB resources, such as the list of substances not under international control that are under national control in some countries

212. The Board has, for several years, drawn attention to the challenges that the proliferation of non-scheduled chemicals, in particular designer precursors, pose to international drug control efforts. The experience in the year 2020 has been no exception. For all the major classes of semi-synthetic and synthetic drugs – heroin, cocaine, amphetamine-type stimulants and fentanyls, as well as methaqualone – there were reports of the use of either non-scheduled chemicals or different methods that avoid the use of controlled precursors for illicit drug manufacture (see subsects. III.A.1 (d) and 2 (c), III.B.2., III.C.2 and III.D.2 and 3 above).

213. The Board believes that the legitimate chemical and pharmaceutical industries represent a key component in providing early warnings on the emergence of non-scheduled substances for use in illicit activities. With adequate awareness and education, those industries will be critical partners in Governments' efforts to control illicit drug manufacture. The Board has therefore strongly encouraged partnerships between Governments and the chemical industry and published guidelines in that regard in 2009, which were updated in 2013 and further complemented by practical notes in 2015. Furthermore, the Board has continued to publish the limited international special surveillance list of non-scheduled substances that are known to have been used in illicit drug manufacture but that are not under international control. Since 1998, the Board has continuously expanded the list, which at present not only lists 55 chemicals but also includes extended definitions that capture common derivatives, as well as other closely related chemicals that can be converted into one of the controlled precursors using readily applicable means. In 2019, the limited international special surveillance list was further updated to highlight those chemicals that do not have any known legitimate uses.

214. Moreover, with a view to facilitating enforcement action, the Board has also made available a list of

substances that are not under international control but that are controlled domestically in several countries. Specifically, the list is aimed at aiding government authorities in informing their counterparts in transit and destination countries more systematically about outbound shipments containing such chemicals, so that the authorities in those countries can anticipate and take action on incoming shipments. **The Board recommends that Governments make greater use of the limited international special surveillance list of non-scheduled substances and the list of substances not under international control but under national control in some countries, to prevent chemical diversion.** Both tools are available on the INCB secure website as part of the information package for use by competent national authorities.

Focus on the Internet – the clear web

215. The clear web (or “surface web”) has been known to be used by traffickers to source or sell precursor chemicals for illicit drug manufacture. Since, by their very nature, most chemical precursors are largely dual-use substances that have valid licit applications in the chemical or pharmaceutical industry but are also used in illicit drug manufacture, the listing of such chemicals on e-commerce websites on the clear web is itself not necessarily an indicator of illicit activity. However, the Board has been closely monitoring the listings of precursors such as acetic anhydride on business-to-business e-commerce websites and has pointed out to the Governments concerned the suspicious nature of such listings, determined on the basis of the countries from which inquiries were raised and the amount of the chemical being offered for trade. In one case, this led to the successful interdiction by the Government concerned of a large quantity of acetic anhydride intended to be trafficked for the purpose of illicit drug manufacture. The case serves as an example of the gains possible through voluntary cooperation with the private sector, in this case, business-to-business e-commerce platforms. The Board has organized several workshops bringing together the leading global business-to-business companies and relevant government partners, with a view to engaging all concerned stakeholders in a common forum.

216. However, the Board has observed that internationally controlled precursors, including fentanyl precursors such as ANPP and NPP, and MDMA precursors such as derivatives of 3,4-MDP-2-P methyl glycidic acid, continue to be listed on such e-commerce websites. Even certain alternative precursors, including designer precursors, of fentanyl have been noted on such websites, in some cases involving the same suppliers and/or intermediaries that are known to have been involved in illicit activities in the past.

217. The importance for Governments of focusing on business-to-business platforms that operate on the clear web, as a priority area in their drug control efforts, can therefore not be overemphasized. Several options are possible with regard to such platforms, ranging from regulation to engagement with such companies in the gathering of intelligence regarding illicit activities, to outright blocking of certain search terms, or even of the websites altogether. **The Board recommends that Governments choose one or more from among such options, appropriate to the circumstances, while prioritizing this area in their drug control efforts.**

Adequate use of article 13 of the 1988 Convention

218. Article 13 of the 1988 Convention provides for parties to take measures 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. Furthermore, the Commission on Narcotic Drugs, in its resolution 62/4 of 22 March 2019, called upon all Member States to increase operational use of article 13 and to take appropriate measures to prevent trade in and the diversion of materials and equipment used in the illicit production or manufacture of narcotic drugs and psychotropic substances.

219. As detailed in the thematic chapter of its report on precursors for 2019, the Board is of the opinion that due focus on materials and equipment, as distinct from the focus on controlled precursors, would provide Governments with useful investigative leads on the possible use of such materials and equipment for illicit activities relating to drug manufacture. Notably, like precursor chemicals, which have valid industrial, chemical and pharmaceutical applications but are also used in the illicit manufacture of drugs, materials and equipment such as tableting machines, encapsulators and dies have regular applications in the pharmaceutical, chemical and related industries, but are also sought by traffickers for use in the illicit manufacture of drugs.

220. Governments may wish to consider choosing from a number of possible responses, ranging from regulatory controls to a system of voluntary cooperation with the private sector, to prevent the diversion of equipment for illicit drug manufacture. To this end, the Board issued guidelines to prevent and investigate cases of diversion of equipment for illicit drug manufacture, in February 2020. **The Board recommends making full use of the guidelines in order to ensure an appropriate response to the issue of diversion of materials and equipment. Governments may also refer to the Board’s dedicated web page on**

materials and equipment, which features select national approaches in that regard.

Qualitative and quantitative improvements in intelligence-sharing through the Precursors Incident Communication System

221. The sharing of actionable information about precursor-related incidents in a secure manner at a global level is key to successful law enforcement efforts to address the diversion of precursors for use in illicit activities. To that end, the Board developed PICS, a secure platform for the sharing of information about trafficking in controlled precursors, non-scheduled chemicals and drug manufacturing equipment in real time. PICS is not merely an instrument for the exchange of information and an early-warning system for chemicals but also serves as an investigative aid by facilitating the identification of possible linkages between major cases on the basis of common factors such as, inter alia, sources, destinations, modi

operandi and trafficking routes. In addition, information in PICS on concealments, misdescription and mislabelling used by traffickers can be used by customs authorities for the risk profiling of precursor trafficking cases. This functionality has already been demonstrated several times, including during 2020.

222. While the use of PICS has increased and the quality and level of detail of the information shared through it has improved, the Board believes that PICS is not yet being used to its full potential. The sharing of more incidents in greater detail through PICS would further contribute to the richness of its actionable information and further improve the quality of the analysis that it can generate, thereby serving Governments worldwide in a better fashion. This is even more relevant in the wake of the rapid emergence of designer precursors in different parts of the world. **The Board therefore recommends that Governments share, through PICS, in a timely fashion, all incidents concerning precursors, non-scheduled chemicals and related materials and equipment.**

Glossary

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

chemical intermediate	A chemical generated during a multi-step synthesis process that is normally not isolated but immediately consumed in the next synthesis step. Stable chemical intermediates can be isolated and have been encountered as purpose-made substitute chemicals for controlled precursors
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	The transfer of substances from licit to illicit channels
immediate precursor	A precursor that is generally only one reaction step away from the end product
industrial-scale laboratory	A 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
monitored delivery	A technique similar to a controlled delivery but which can occur in countries where no national legislation exists in relation to controlled deliveries, in cases where the substance is not under international control, or in cases where agreements to take part in a controlled delivery could not be reached by all involved authorities in the time frame allotted
pharmaceutical preparation	A 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; such preparations may be presented in their retail packaging or in bulk
precursor	In general, a starting material used to manufacture a narcotic drug, psychotropic substance or another precursor; sometimes used to refer exclusively to the substances in Table I and Table II of the 1988 Convention
pre-precursor	A precursor of a precursor
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; it may be temporary or permanent (i.e., confiscation); different national legal systems may use different terms
stopped shipment	A 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	A 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)**

An 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 2020

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)	Gabon (10 July 2006)	Equatorial Guinea
	Angola (26 October 2005)	Gambia (23 April 1996)	Somalia
	Benin (23 May 1997)	Ghana (10 April 1990)	South Sudan
	Botswana (13 August 1996)	Guinea (27 December 1990)	
	Burkina Faso (2 June 1992)	Guinea-Bissau (27 October 1995)	
	Burundi (18 February 1993)	Kenya (19 October 1992)	
	Cabo Verde (8 May 1995)	Lesotho (28 March 1995)	
	Cameroon (28 October 1991)	Liberia (16 September 2005)	
	Central African Republic (15 October 2001)	Libya (22 July 1996)	
	Chad (9 June 1995)	Madagascar (12 March 1991)	
	Comoros (1 March 2000)	Malawi (12 October 1995)	
	Congo (3 March 2004)	Mali (31 October 1995)	
	Côte d'Ivoire (25 November 1991)	Mauritania (1 July 1993)	
	Democratic Republic of the Congo (28 October 2005)	Mauritius (6 March 2001)	
	Djibouti (22 February 2001)	Morocco (28 October 1992)	
	Egypt (15 March 1991)	Mozambique (8 June 1998)	
	Eritrea (30 January 2002)	Namibia (6 March 2009)	
	Eswatini (8 October 1995)	Niger (10 November 1992)	
	Ethiopia (11 October 1994)	Nigeria (1 November 1989)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Rwanda (13 May 2002)	Togo (1 August 1990)	
	Sao Tome and Principe (20 June 1996)	Tunisia (20 September 1990)	
	Senegal (27 November 1989)	Uganda (20 August 1990)	
	Seychelles (27 February 1992)	United Republic of Tanzania (17 April 1996)	
	Sierra Leone (6 June 1994)	Zambia (28 May 1993)	
	South Africa (14 December 1998)	Zimbabwe (30 July 1993)	
	Sudan (19 November 1993)		
Regional total 54	51		3
AMERICAS	Antigua and Barbuda (5 April 1993)	Guatemala (28 February 1991)	
	Argentina (10 June 1993)	Guyana (19 March 1993)	
	Bahamas (30 January 1989)	Haiti (18 September 1995)	
	Barbados (15 October 1992)	Honduras (11 December 1991)	
	Belize (24 July 1996)	Jamaica (29 December 1995)	
	Bolivia (Plurinational State of) (20 August 1990)	Mexico (11 April 1990)	
	Brazil (17 July 1991)	Nicaragua (4 May 1990)	
	Canada (5 July 1990)	Panama (13 January 1994)	
	Chile (13 March 1990)	Paraguay (23 August 1990)	
	Colombia (10 June 1994)	Peru (16 January 1992)	
	Costa Rica (8 February 1991)	Saint Kitts and Nevis (19 April 1995)	
	Cuba (12 June 1996)	Saint Lucia (21 August 1995)	
	Dominica (30 June 1993)	Saint Vincent and the Grenadines (17 May 1994)	
	Dominican Republic (21 September 1993)	Suriname (28 October 1992)	
	Ecuador (23 March 1990)	Trinidad and Tobago (17 February 1995)	
	El Salvador (21 May 1993)	United States of America (20 February 1990)	
	Grenada (10 December 1990)	Uruguay (10 March 1995)	

<i>Region</i>	<i>Party to the 1988 Convention</i>	<i>Non-party to the 1988 Convention</i>
	Venezuela (Bolivarian Republic of) (16 July 1991)	
Regional total 35	35	0
ASIA	Afghanistan (14 February 1992)	Lebanon (11 March 1996)
	Armenia (13 September 1993)	Malaysia (11 May 1993)
	Azerbaijan (22 September 1993)	Maldives (7 September 2000)
	Bahrain (7 February 1990)	Mongolia (25 June 2003)
	Bangladesh (11 October 1990)	Myanmar (11 June 1991)
	Bhutan (27 August 1990)	Nepal (24 July 1991)
	Brunei Darussalam (12 November 1993)	Oman (15 March 1991)
	Cambodia (2 April 2005)	Pakistan (25 October 1991)
	China (25 October 1989)	Philippines (7 June 1996)
	Democratic People's Republic of Korea (19 March 2007)	Qatar (4 May 1990)
	Georgia (8 January 1998)	Republic of Korea (28 December 1998)
	India (27 March 1990)	Saudi Arabia (9 January 1992)
	Indonesia (23 February 1999)	Singapore (23 October 1997)
	Iran (Islamic Republic of) (7 December 1992)	Sri Lanka (6 June 1991)
	Iraq (22 July 1998)	State of Palestine (29 December 2017)
	Israel (20 March 2002)	Syrian Arab Republic (3 September 1991)
	Japan (12 June 1992)	Tajikistan (6 May 1996)
	Jordan (16 April 1990)	Thailand (3 May 2002)
	Kazakhstan (29 April 1997)	Timor-Leste (3 June 2014)
	Kuwait (3 November 2000)	Turkey (2 April 1996)
	Kyrgyzstan (7 October 1994)	Turkmenistan (21 February 1996)
	Lao People's Democratic Republic (1 October 2004)	United Arab Emirates (12 April 1990)

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Uzbekistan (24 August 1995)	Yemen (25 March 1996)	
	Viet Nam (4 November 1997)		
Regional total 47	47		0
EUROPE	Albania (27 July 2001)	Liechtenstein (9 March 2007)	
	Andorra (23 July 1999)	Lithuania ^a (8 June 1998)	
	Austria ^a (11 July 1997)	Luxembourg ^a (29 April 1992)	
	Belarus (15 October 1990)	Malta ^a (28 February 1996)	
	Belgium ^a (25 October 1995)	Monaco (23 April 1991)	
	Bosnia and Herzegovina (1 September 1993)	Montenegro (3 June 2006)	
	Bulgaria ^a (24 September 1992)	Netherlands ^a (8 September 1993)	
	Croatia ^a (26 July 1993)	North Macedonia (13 October 1993)	
	Cyprus ^a (25 May 1990)	Norway (14 November 1994)	
	Czechia ^a (30 December 1993)	Poland ^a (26 May 1994)	
	Denmark ^a (19 December 1991)	Portugal ^a (3 December 1991)	
	Estonia ^a (12 July 2000)	Republic of Moldova (15 February 1995)	
	Finland ^a (15 February 1994)	Romania ^a (21 January 1993)	
	France ^a (31 December 1990)	Russian Federation (17 December 1990)	
	Germany ^a (30 November 1993)	San Marino (10 October 2000)	
	Greece ^a (28 January 1992)	Serbia (3 January 1991)	
	Holy See (25 January 2012)	Slovakia ^a (28 May 1993)	
	Hungary ^a (15 November 1996)	Slovenia ^a (6 July 1992)	
	Iceland (2 September 1997)	Spain ^a (13 August 1990)	
	Ireland ^a (3 September 1996)	Sweden ^a (22 July 1991)	
	Italy ^a (31 December 1990)	Switzerland (14 September 2005)	
	Latvia ^a (25 February 1994)	United Kingdom of Great Britain and Northern Ireland ^b (28 June 1991)	

<i>Region</i>	<i>Party to the 1988 Convention</i>		<i>Non-party to the 1988 Convention</i>
	Ukraine (28 August 1991)	European Union ^c (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)	Papua New Guinea
	Fiji (25 March 1993)	Palau (14 August 2019)	Solomon Islands
	Marshall Islands (5 November 2010)	Samoa (19 August 2005)	Tuvalu
	Micronesia (Federated States of) (6 July 2004)	Tonga (29 April 1996)	
	Nauru (12 July 2012)	Vanuatu (26 January 2006)	
Regional total 16	12		4
World total 198	191		7

^aState member of the European Union.

^bThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

^cExtent 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 2015–2019

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>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
Afghanistan	X	X	X	X	X
Albania	X	X	X	X	X
Algeria	X	X	X	X	
Andorra	X	X	X		
Angola		X	X	X	X
<i>Anguilla^a</i>					
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
Austria ^b	X	X	X	X	X
Azerbaijan	X	X	X	X	X
Bahamas					
Bahrain	X	X	X	X	X
Bangladesh	X		X		
Barbados					
Belarus	X	X	X	X	X
Belgium ^b	X	X	X	X	X
Belize			X		
Benin	X	X	X	X	
<i>Bermuda^a</i>					
Bhutan	X	X	X	X	X
Bolivia (Plurinational State of)	X	X	X	X	
Bosnia and Herzegovina	X	X	X	X	X
Botswana			X		X
Brazil	X	X	X	X	X
<i>British Virgin Islands^a</i>					

<i>Country or territory</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
Brunei Darussalam	X	X	X	X	X
Bulgaria ^b	X	X	X	X	X
Burkina Faso					
Burundi	X				X
Cabo Verde	X	X	X	X	
Cambodia					
Cameroon					X
Canada	X	X	X	X	X
<i>Cayman Islands^a</i>					
Central African Republic					
Chad	X				X
Chile	X	X	X	X	X
China	X	X		X	
<i>China, Hong Kong SAR</i>		X		X	X
<i>China, Macao SAR</i>	X			X	
<i>Christmas Island^{a,c}</i>					
<i>Cocos (Keeling) Islands^{a,c}</i>					
Colombia	X	X	X	X	X
Comoros					
Congo					
Cook Islands					
Costa Rica	X	X	X	X	X
Côte d'Ivoire		X			
Croatia ^b	X	X	X	X	X
Cuba					
<i>Curaçao</i>	X	X	X		
Cyprus ^b	X	X	X	X	X
Czechia ^{b,d}	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		X	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 ^e					
Ethiopia	X				
<i>Falkland Islands (Malvinas)</i>	X	X			
Fiji		X			
Finland ^b	X	X	X	X	X

<i>Country or territory</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
France ^b	X	X	X	X	X
<i>French Polynesia^a</i>	X				
Gabon				X	X
Gambia		X			
Georgia	X	X	X	X	X
Germany ^b	X	X	X	X	X
Ghana	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	X
Haiti	X			X	
Holy See ^f					
Honduras	X	X	X	X	X
Hungary ^b	X	X	X	X	X
Iceland	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	
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	X
Kenya	X	X	X		
<i>Kiribati</i>					
Kuwait	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					
<i>Liechtenstein^g</i>					
Lithuania ^b	X	X	X	X	X
Luxembourg ^b	X	X	X		
Madagascar	X	X		X	X
Malawi					

<i>Country or territory</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
Malaysia	X	X	X	X	X
Maldives		X			X
Mali	X	X			
Malta ^b	X	X	X	X	X
Marshall Islands					
Mauritania				X	
Mauritius				X	X
Mexico	X	X	X	X	X
Micronesia (Federated States of)					
Monaco		X	X	X	X
Mongolia	X	X	X		
Montenegro	X	X	X	X	X
<i>Montserrat^a</i>	X	X	X	X	
Morocco	X	X	X	X	X
Mozambique		X		X	
Myanmar	X	X	X	X	X
Namibia		X			
Nauru					
Nepal			X		
Netherlands ^b	X	X	X	X	X
<i>New Caledonia^a</i>	X	X			
New Zealand	X	X	X	X	X
Nicaragua	X	X	X	X	X
Niger					
Nigeria	X	X	X	X	X
Niue					
<i>Norfolk Island^{a,c}</i>					
North Macedonia ^h				X	
Norway	X		X	X	X
Oman	X	X	X		
Pakistan	X	X	X	X	X
Palau					
Panama	X	X	X	X	X
Papua New Guinea					
Paraguay		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	X
Republic of Korea	X	X	X	X	X
Republic of Moldova	X	X	X	X	
Romania ^b	X	X	X	X	X
Russian Federation	X	X	X	X	X
Rwanda	X				X

<i>Country or territory</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
<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 ^f				X	
Sao Tome and Principe					
Saudi Arabia	X	X	X	X	X
Senegal	X	X		X	
Serbia		X	X	X	
Seychelles		X			
Sierra Leone				X	X
Singapore	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	X
South Sudan			X	X	
Spain ^b	X	X	X	X	X
Sri Lanka	X	X	X	X	
Sudan	X	X	X	X	X
Suriname				X	
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	X
Thailand	X	X	X	X	X
Timor-Leste					X
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			
<i>Turks and Caicos Islands^a</i>					
Tuvalu					
Uganda	X			X	X
Ukraine	X	X	X	X	X
United Arab Emirates	X	X	X	X	X
United Kingdom of Great Britain and Northern Ireland ⁱ	X	X	X	X	X
United Republic of Tanzania	X	X	X	X	X

<i>Country or territory</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
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	X
<i>Wallis and Futuna Islands^a</i>					
Yemen				X	X
Zambia					
Zimbabwe	X	X	X	X	X
Total number of Governments that submitted form D	137	134	122	128	118
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.

^cInformation was provided by Australia.

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

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

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

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

^hSince 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.

ⁱThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

Annex III

Seizures of substances in Tables I and 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, 2015–2019

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; see Merck, The Merck Index (Rahway, New Jersey, 1989).

8. As an example, 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.

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acid ^c (kilograms)	3,4-MDP-2-P methyl glycidate ^c (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)
AMERICAS																								
CENTRAL AMERICA AND THE CARIBBEAN																								
Guatemala	2019	-	-	-	-	156	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	162	-
Honduras	2018	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-
Regional total	2015	0	0	0	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	0	0	0
	2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2018	0	0	0	0	0	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2019	0	0	0	0	156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	162	0
NORTH AMERICA																								
Canada	2015	0	-	-	0	b	-	0	-	0	0	-	-	-	-	-	-	-	0	-	-	-	b	0
	2016	-	-	-	639	b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	b	-
	2019	0	-	-	750	b	-	-	-	0	-	-	-	0	-	-	-	-	7	-	-	-	b	-
Mexico	2015	3 356	-	-	-	-	-	-	-	-	-	-	-	-	-	550	-	-	16 537	-	-	-	-	-
	2016	2 900	-	-	-	-	-	-	-	-	-	-	-	-	59	-	-	-	7 033	-	-	-	-	-
	2017	8 601	-	-	-	-	-	-	-	-	-	-	-	-	19 435	-	-	-	2 455	-	-	-	-	-
	2018	133	-	-	-	-	-	-	-	-	-	-	-	-	13 42	-	-	-	19 015	-	-	-	-	-
	2019	15	-	-	-	0	-	-	-	-	-	-	-	-	3 505	-	-	-	2 753	-	-	-	-	-
United States of America	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	210	-	-
	2016	0	-	-	27	-	-	-	1	3 880	0	-	-	0	-	0	-	-	1	288	0	127	-	3
	2017	-	-	-	6	-	-	-	-	-	-	-	-	1	50	4	-	-	-	-	-	195	-	32
	2018	-	-	-	2	-	-	-	-	594	-	-	-	7	-	0	-	-	0	-	-	28	-	0
	2019	0	-	-	198	-	-	-	-	19 577	-	2	2	9	476	4	-	-	2	-	-	406	-	252

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acid (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)	
Colombia	2015	8																			57 639				
	2016	12																			582 540				
	2017	95																			97 889				
	2018	38																			70 444				
	2019																				46 626				
Ecuador	2015																				2				
	2016																				5				
	2017																				25				
	2018																				2				
	2019																				24				
Peru	2015																				53				
	2016	2 889																			248				
	2018																				52				
	2019	40																			207				
	2019										135														
Uruguay	2015																								
	2016																					1 554			
	2017																				200				
	2018	5						15													660				
	2019																				1 330				
Venezuela (Bolivarian Republic of)	2015																								
	2016																								
	2017																								
	2018	5																							
	2019																					2 775			
Regional total	2015	1 052	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60 166	0	0	0	0
	2016	2 901	0	0	250	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	585 003	0	0	0	0
	2017	370	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	103 635	0	0	0	0
	2018	48	0	0	168	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	76 983	0	0	0	0
	2019	40	0	0	12	0	0	2 975	0	135	0	0	0	0	0	0	0	0	0	0	57 384	0	0	0	0

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthrnic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acidc (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)
ASIA																								
EAST AND SOUTH-EAST ASIA																								
China ^d	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
	2018	53 500	150	-	19 370	5 718	449	-	-	-	18	-	-	-	-	6 552	-	3 873	-	3 521	908	-	-	-
China, Hong Kong SAR	2016	-	-	-	43	^b	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-
	2018	-	-	-	11	^b	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-
	2019	-	-	-	10	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China, Macao SAR	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indonesia	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	^b
	2016	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
	2019	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Japan	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-
	2017	7 647	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	0	-	-
	2018	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Malaysia	2015	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	-	-
	2016	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	262	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-
	2018	-	-	-	197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-
Myanmar	2015	60	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	16	-	-	534	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	181	-	-
	2017	1 318	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	421	-	-
	2018	40	1 000	-	-	^b	-	-	-	-	-	-	-	-	-	4 000	-	-	3 298	-	-	-	-	-
	2019	4 140	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-	-	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acid (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetoacetonitrile (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)		
Philippines	2015	-	-	-	50	-	-	-	-	-	-	-	-	0	0	-	-	-	-	-	-	2	-	-		
	2016	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	2017	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	209	-	-		
	2018	-	-	-	11 212	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2019	-	-	-	0	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	0	-	-	439		
	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3 829	-	
	2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350	-	1 054	-	-	-	-	1 153	-
Regional total	2015	11 130	0	0	23 604	221	0	0	0	0	0	0	0	6	0	3	0	0	5 407	0	31 550	77	3	0		
	2016	56 193	0	0	2 056	3 470	0	0	0	0	376	0	0	0	0	0	0	0	11 639	0	45	181	3 829	0		
	2017	8 965	0	0	264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	644	1 153	0		
	2018	53 540	1 150	0	30 795	5 858	449	0	0	18	0	0	0	0	0	10 552	0	0	7 171	0	3 522	908	8	0		
	2019	4 140	0	0	26	1	0	0	0	1	0	0	0	0	0	0	350	0	1 354	1	0	200	1	439		
SOUTH ASIA	India	2015	4	-	-	97	-	-	-	-	472	43	-	-	-	-	-	-	-	-	-	-	730	^b	-	
		2016	2 464	-	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	155	-	
		2017	23	-	-	-	-	-	-	-	349	-	-	-	-	-	-	-	-	-	-	-	-	1 869	-	
		2018	9 716	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	235	-	
		2019	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	595	-	-	
		Regional total	4	0	0	97	0	0	0	0	0	472	43	0	0	0	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	0	0	0	155	0
			2017	23	0	0	0	1 120	0	0	0	349	0	0	0	0	0	0	0	0	0	0	0	0	1 869	0
			2018	9 716	0	0	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	235	0
	2019	0	0	0	211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	595	0	0		

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acid (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)	
Tajikistan	2018	266	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	2015	4 402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2016	1 588	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	23 238	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	38 569	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	803	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uzbekistan	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32 684	-	-	-	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
	2017	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
	2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-
Regional total	2015	13 481	0	0	0	0	0	0	0	0	0	0	0	0	0	16 082	0	0	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	0	0	3 260	0	2	16	0	0	
	2017	88 184	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	0	0	0	
	2018	107 417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11 048	0	926	0	1	51	0	0	
	2019	35 793	0	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4 851	0	440	0	
EUROPE																									
STATES NOT MEMBERS OF THE EUROPEAN UNION																									
Bosnia and Herzegovina	2018	1	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 525	-	-	8	-
Belarus	2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-
	2017	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	0	-

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acid ^c (kilograms)	3,4-MDP-2-P methyl glycidate ^c (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Pi-peronal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)	
		Iceland	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Republic of Moldova	2015	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	-
	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	2015	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	6
	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	-
	2019	-	-	-	3	^b	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Russian Federation	2015	47	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	0	0	-
	2016	6	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	0	-	-	-
	2017	19	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
	2018	9	-	-	-	-	-	-	-	2000	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-
	2019	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	1	-	-	-
Serbia	2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-
Switzerland	2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
Ukraine	2015	57	-	-	-	0	-	-	-	-	-	-	-	0	-	25	-	-	430	0	10	0	47	-	
	2016	97	-	-	-	253	-	-	-	-	0	-	-	-	-	-	-	-	1	-	14	0	2	-	
	2017	310	-	-	5	0	-	-	-	-	-	-	-	-	-	-	-	-	1	-	12	0	6	-	
	2018	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	-	12	-	-	0	1	3	-	
	2019	20	-	-	-	^b	-	-	-	-	-	-	-	-	-	-	-	-	-	0	11	1	^b	-	
Regional total	2015	104	0	0	0	1	0	0	0	0	0	0	0	0	0	25	0	0	0	0	10	0	47	0	
	2016	103	0	0	3	253	0	0	0	0	0	0	0	0	0	0	0	0	440	0	14	0	3	0	
	2017	329	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	12	0	6	6	
	2018	10	0	0	2	0	0	0	0	2000	1	0	0	0	0	0	0	12	6	1	1530	18	11	0	
	2019	21	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	11	2	0	0	

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-P methyl glycidic acidc (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)	
Finland	2015					2													0	0					
	2016																		1	0					
	2017					0													0	0					
	2019																								
	2015				0																				
France	2016				11	0				500	888														
	2019				0						0						1								
	2015				4														38	2	0	0	4		
	2016				15			200											200			0	0		
Germany	2017				9																				
	2018				5														150	0			63	2	
	2019				23							1 101								14		3 000	10		
	2015					0																			
	2016					^b																0			
Hungary	2017				0	8																			
	2018				0	125														0				8	
	2019				0					2								0	0			0		2	
	2015				0																				
	2016				5																				
Ireland	2017				7	0																			
	2018				10																				
	2019				21																				
	2019				0	0																			
	2016																						0		
Italy	2018																								
	2018																								
	2019																								
Latvia	2016																								
	2018																								
Latvia	2018																								
	2019																			8					
Latvia	2018																			182					
	2019																					42			

Country or territory	Year	Acetic anhydride (litres)	N-Acetylanthranilic acid (kilograms)	4-Anilino-N-phenethylpiperidine (ANPP) ^a (kilograms)	Ephedrine (kilograms)	Ephedrine preparations ^b (kilograms)	Ergometrine (grams)	Ergotamine (grams)	Isosafrole (litres)	Lysergic acid (grams)	3,4-Methylenedioxyphenyl-2-propanone (litres)	3,4-MDP-2-F methyl glycidic acid (kilograms)	3,4-MDP-2-P methyl glycidatec (kilograms)	Norephedrine (Phenylpropanolamine) (kilograms)	N-Phenethyl-4-piperidone (NPP) ^a (kilograms)	Phenylacetic acid (kilograms)	alpha-Phenylacetamide (APAA) ^c (kilograms)	alpha-Phenylacetone (APAA) ^c (kilograms)	1-Phenyl-2-propanone (litres)	Piperonal (kilograms)	Potassium permanganate (kilograms)	Pseudoephedrine (kilograms)	Pseudoephedrine preparations ^b (kilograms)	Safrole (litres)
New Zealand	2015	3	-	-	952	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	61	-	-
	2016	0	-	-	1 228	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	9	-
	2017	0	-	-	562	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	0	-
	2018	1	-	-	412	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	0	-
	2019	0	-	-	340	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	3	-
Regional total	2015	3	0	0	1 409	0	0	281	0	0	139	0	0	12	0	1	0	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	0	0	0	1 046	9	0
	2017	0	0	0	6 487	0	0	450	0	3 877	4	0	0	250	0	225	0	0	0	10	0	167	0	0
	2018	1	0	0	412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0
	2019	0	0	0	1 637	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0
World total	2015	31 169	0	0	25 981	225	0	281	0	472	689	0	0	18	0	16 921	0	1 537	29 840	46	138 837	1 182	228	77
	2016	135 183	0	0	5 833	25 197	0	490	1	5 197	1 433	0	0	0	10	59	0	597	22 511	289	585 087	1 396	4 022	2 166
	2017	126 877	0	0	6 785	1 283	0	450	0	4 229	9 838	0	0	272	54	19 664	0	5 066	4 184	48	103 669	10 19	3 056	3 007
	2018	194 290	1 233	275	31 432	6 106	449	168	0	2 594	2 307	0	0	7	0	12 036	0	19 897	38 008	31	80 575	10 097	402	3 868
	2019	60 048	0	202	3 343	162	0	2 975	0	19 715	659	4 547	4 142	9	509	4 559	4 953	0	18 013	8	65 335	13 21	702	707

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

^bSeizures 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 following countries and territories listed in the table below have reported seizures of preparations containing ephedrine and/or pseudoephedrine quantified in terms of consumption units.

Seizures of ephedrine and pseudoephedrine reported to the Board in consumption units, 2015–2019

<i>Country</i>	<i>Year</i>	<i>Ephedrine preparations (units)</i>	<i>Pseudoephedrine preparations (units)</i>
Canada	2015	30 433	907
	2016	9 757 657	45
China, Hong Kong SAR	2016	11 050	–
	2018	10	–
Germany	2015	–	1 779
Hungary	2016	21	–
India	2015	560	3 342 792
Indonesia	2015	–	60
Myanmar	2018	450 000	–
Norway	2019	2 146	143
Portugal	2016	–	2
Republic of Moldova	2015	–	60
	2016	–	60
Sweden	2016	6 363	–
	2019	387	–
Ukraine	2019	183	5 454
United Kingdom ^f	2016	2 350	–

^eIncluded in Table I of the 1988 Convention, effective 19 November 2019.

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

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

^hThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

Table B. Seizures of substances in Table II of the 1988 Convention as reported to the International Narcotics Control Board, 2015–2019

<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>
AFRICA									
Namibia	2016	-	-	-	-	-	-	-	47 355
Nigeria	2015	-	-	-	-	-	-	-	0
	2016	979	-	-	3	-	-	-	785
	2018	203	-	-	30	-	-	120	319
	2019	425	-	-	-	-	-	50	325
United Republic of Tanzania	2017	25	-	173	293	20	-	730	30
Regional total	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
	2018	203	0	0	30	0	0	120	319
	2019	425	0	0	0	0	0	50	325
AMERICAS									
CENTRAL AMERICA AND THE CARIBBEAN									
Costa Rica	2019	359	-	-	-	-	-	-	-
Guatemala	2017	4	-	-	-	-	-	-	-
	2019	67	-	-	5	7 429	-	2 271	-
Honduras	2016	22	-	-	8	-	-	1	-
Regional total	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
	2018	0	0	0	0	0	0	0	0
	2019	426	0	0	5	7 429	0	2 271	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>
NORTH AMERICA									
Canada	2015	0	0	-	0	0	-	0	-
	2016	215	-	-	317	-	-	41	246
	2018	0	-	-	-	-	-	-	-
	2019	0	-	-	-	-	-	-	-
Mexico	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
	2018	6 236	-	-	14 604	-	-	8 390	14 316
	2019	8 881	-	-	43 061	27	-	50	39 683
United States of America	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
	2018	256	-	26	214	-	-	191	0
	2019	503	-	3	87	2	552	47	9
Regional total	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
	2018	6 492	0	26	14 818	0	0	8 581	14 317
	2019	19 384	0	3	43 148	30	552	97	39 692
SOUTH AMERICA									
Argentina	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
	2018	459	-	54	19 383	9	-	6 523	1 135
	2019	1 047	3	19	1 064	1 606	-	14 852	12 393
Bolivia (Plurinational State of)	2015	45 869	-	12 309	5 722	-	-	51 837	160
	2016	32 937	-	14 570	25 832	245	-	47 795	-
	2017	7 667	-	-	18 126	-	-	40 817	-
	2018	83 080	-	-	7 832	-	-	31 740	-

<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>
Brazil	2015	1 081	-	313	374 679	-	-	317 998	-
	2016	421	-	1	1 210	-	-	2 529	3 011
	2017	201	-	1	107	-	-	3	200
	2018	335	-	387	126	-	-	490	-
	2019	48	-	23	111	-	-	4	-
	2015	0	-	-	142	14	-	196	0
	2016	2	-	-	95	-	-	73	-
	2017	1	-	-	1 278	-	-	234	-
	2018	2 040	-	-	139	49	-	644	0
2019	3 066	-	4	93	-	-	52	1	
Colombia	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	1 091 435	-	27	98 380	16 956	-	411 933	106 710
	2018	1 501 098	-	8 998	171 618	15 126	-	661 983	217 854
	2019	1 560 719	-	1 912	88 624	12 814	-	566 377	346 248
	2015	-	-	-	11	-	-	2 642	-
	2016	-	-	-	40 927	-	-	4 831	-
	2017	-	-	-	-	24	-	1 400	-
	2018	-	-	-	-	-	-	3 380	-
2019	-	-	-	-	-	16 894	2 866	-	
Peru	2015	55 229	-	-	9 904	-	-	16 576	-
	2016	114 318	-	-	49 203	976	-	68 354	1 795
	2018	19 440	-	-	1 011	76	-	1 500	4 351
2019	98 948	-	-	11 179	-	-	55 006	889	
Uruguay	2016	2	-	-	-	-	-	-	-
2019	5	-	-	-	-	-	-	-	-
Venezuela (Bolivarian Republic of)	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
	2018	34 639	-	3	17 324	0	-	16 009	5 502
	2019	7 410	-	-	4 125	7	-	36 440	1 130

<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	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
	2018	1 641 091	0	9 441	217 432	15 261	0	722 268	228 843
	2019	1 671 243	3	1 957	105 195	31 321	0	675 596	360 660
ASIA									
EAST AND SOUTH-EAST ASIA									
China ^e	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
	2018	-	-	12 204	2 280 230	1 906	-	314 292	361 954
China, Hong Kong SAR	2016	3	-	-	-	-	-	-	-
	2019	6	-	-	0	-	-	-	-
Indonesia	2015	20	-	-	29	-	-	63	19
	2016	11	-	-	30	-	-	14	6
	2017	5	-	-	0	-	-	0	0
	2019	1	-	-	-	-	-	-	-
Malaysia	2015	194	-	3	283	-	-	-	513
	2016	-	-	3	74	-	-	-	875
	2017	173	-	5	215	-	-	-	-
	2018	792	-	14	179	-	-	-	835
	2019	200	-	-	42	-	-	-	35
Myanmar	2016	1 238	-	250	3 495	-	-	28 476	-
	2017	-	-	-	106 720	-	-	11 035	-
	2018	71 540	2 100	203 794	181 657	7 860	-	62 135	4 602
	2019	2 620	-	26 674	-	-	-	77 883	16 680
Philippines	2015	217	-	-	283	-	-	5	1 293
	2016	221	-	-	200	-	-	2	55
	2017	-	-	-	46	0	-	23	514
	2018	2 389	-	-	1 097	-	-	5	2
	2019	27	-	-	5	2	-	0	102
Republic of Korea	2019	4	-	-	-	-	-	-	2
Singapore	2016	0	-	-	-	2	-	-	-

<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>
Thailand	2019	-	-	-	13 286	-	-	-	-
Viet Nam	2019	2 637	-	-	737	-	-	1 745	2,200
Regional total	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
	2018	74 720	2 100	216 012	2 463 163	9 766	0	376 432	367 393
	2019	5 495	0	26 674	14 071	2	0	79 628	19 018
SOUTH ASIA									
India	2015	-	-	-	-	32	-	-	-
	2018	-	-	-	-	-	-	-	83
	2019	198	-	-	-	-	-	-	-
Regional total	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
	2018	0	0	0	0	0	0	0	83
	2019	198	0	0	0	0	0	0	0
WEST ASIA									
Afghanistan	2015	-	-	-	-	-	-	15 900	363
	2016	502	-	-	269	-	-	48	450
	2017	-	-	-	2 260	-	-	-	-
	2018	20 146	-	-	1 313	-	-	122	72 185
	2019	2 208	-	-	11 170	-	-	45 000	-
Armenia	2015	0	-	-	0	-	-	0	0
	2016	0	-	-	0	-	-	0	-
	2017	-	-	-	0	-	-	0	-
	2018	0	-	-	0	-	-	0	-
	2019	-	-	-	1	-	-	0	-
Georgia	2018	-	-	-	0	-	-	0	-
Iran (Islamic Republic of)	2018	-	-	-	-	248	-	-	-
Jordan	2016	-	-	7 500	15	-	-	30	-
	2018	-	-	619	12 124	-	-	1 368	-

<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>
Kazakhstan	2016	-	-	-	1	-	-	6	-
	2017	0	-	-	1	-	-	4	-
	2018	-	-	-	-	-	-	9	-
	2019	175	-	-	117	-	-	0	-
	2015	-	-	-	404	-	-	8 144	-
Kyrgyzstan	2016	-	-	-	11	-	-	1 926	-
	2018	-	-	-	1 342	-	-	876	-
	2019	-	-	-	1 266	-	-	516	-
	2016	-	-	240	1	-	-	-	-
Lebanon	2017	-	-	10	-	-	-	-	-
	2018	10	-	22	-	-	-	-	-
	2019	1	-	0	-	-	-	-	-
	2015	-	-	-	30	-	-	-	-
	2016	-	-	-	-	-	-	2 835	-
Pakistan	2017	975	-	-	4 130	130	-	50 595	580
	2018	8 819	-	-	1 737	-	-	20 586	44
	2019	20 173	-	-	2 931	-	-	6 300	-
	2016	-	-	-	-	-	-	20 064	-
Tajikistan	2017	-	-	-	-	-	-	300	-
	2018	-	-	-	-	-	-	17	-
	2019	-	-	-	4	-	-	-	-
	2018	-	-	-	5 250	-	-	540	40
	2015	10 500	-	-	-	-	-	7 800	-
United Arab Emirates	2016	2	-	-	-	-	-	-	-
	2017	23	-	-	-	-	-	-	-
	2019	-	-	-	30	-	-	-	-
	2015	10 500	0	0	435	0	0	31 844	363
	2016	504	0	7 740	297	0	0	24 909	450
Uzbekistan	2017	999	0	10	6 391	130	0	50 898	580
	2018	28 975	0	641	21 765	248	0	23 519	72 269
	2019	22 557	0	0	15 520	0	0	51 816	0
	2015	10 500	0	0	435	0	0	31 844	363
Regional total									
		10 500	0	7 740	297	130	0	24 909	450
		999	0	10	6 391	130	0	50 898	580
		28 975	0	641	21 765	248	0	23 519	72 269
		22 557	0	0	15 520	0	0	51 816	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>
EUROPE									
STATES NOT MEMBERS OF THE EUROPEAN UNION									
Bosnia and Herzegovina	2018	0	-	-	-	-	-	3	-
	2019	-	-	-	-	-	-	4	-
Belarus	2015	2 931	-	-	16 329	-	-	-	1 104
	2016	-	-	-	-	-	-	2 180	-
	2017	-	-	-	-	23 824	-	-	-
Republic of Moldova	2015	-	-	-	2	-	-	0	-
	2017	-	-	-	0	-	-	-	-
Norway	2015	-	-	-	-	-	-	-	0
	2018	2	-	-	-	-	-	6	3
Russian Federation	2015	-	-	-	1	-	-	14	-
	2017	17	-	-	143	-	-	4	-
	2018	-	-	-	515	-	-	-	-
	2019	-	-	-	112	-	-	0	-
Ukraine	2015	4 275	-	-	182	-	-	35	24 180
	2016	113	-	-	142	-	-	10	12 097
	2017	92	-	-	354	-	-	1 220	24
	2018	18 399	-	-	469	-	-	9 079	23
	2019	3 222	-	-	174	25	-	200	1 847
Regional total	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
	2018	18 401	0	0	984	0	0	9 088	26
	2019	3 222	0	0	285	25	0	204	1 847
STATES MEMBERS OF THE EUROPEAN UNION									
Austria	2015	7	-	-	9	-	-	5	4
	2016	1	-	-	1	-	-	0	4
	2017	1	-	-	12	-	-	0	4
	2018	1	-	1	2	-	-	2	12
	2019	2	-	-	2	-	-	5	3

<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>
Czechia ^b	2016	-	-	-	5	-	-	222	9
	2017	159	-	-	346	-	-	-	3 943
Estonia	2018	305	-	-	247	-	-	-	904
	2019	23	-	-	80	-	-	-	380
	2015	-	-	-	0	-	-	0	-
Germany	2016	0	-	-	0	-	-	1	-
	2017	3	-	-	0	-	-	-	-
	2018	7	-	-	1	-	-	32	-
	2019	11	-	-	13	-	-	4	-
	2015	18	-	-	6	-	-	32	2
Hungary	2016	20	-	-	11	-	-	4	-
	2018	3 249	-	-	3 097	10	-	2 122	169
	2019	6 323	-	0	3	16 942	-	5 951	-
	2015	26	-	-	-	-	-	-	23
Italy	2016	2	-	-	-	-	-	-	-
	2017	17	-	1	-	-	-	3	1
	2018	7	-	-	8	-	-	3	13
	2019	9	-	-	5	210	-	5	-
Latvia	2017	-	-	-	-	497	-	15	110
	2018	13	-	-	-	-	-	-	4 252
	2019	6 243	-	-	-	-	-	-	-
	2018	468	-	136	68	-	-	0	-
Lithuania	2019	35	-	-	118	-	-	218	23
	2015	-	-	2	-	-	-	-	-
Netherlands	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
	2018	21 226	-	45	36 066	6 602	-	8 386	1 310
Poland	2019	11 207	-	60	28 861	4 570	-	28 892	3 927
	2015	-	-	-	121	-	-	57	7
	2016	8	-	-	104	-	-	440	23
	2017	315	-	-	157	-	-	57	147
2018	8 031	-	9	-	-	-	-	88 508	158
	2019	450	-	-	243	-	-	11	570

<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>
Portugal	2015	64	-	5	9	-	-	-	-
	2016	-	-	-	0	-	-	-	-
	2017	3	-	-	1	-	-	-	-
	2018	-	-	-	-	18 713	-	-	-
	2019	0	-	-	0	-	-	-	-
Romania	2016	4	-	-	-	-	-	-	-
	2017	0	-	-	-	-	-	-	-
	2018	0	-	-	-	-	-	-	-
	2019	1	-	-	-	-	-	-	-
Slovakia	2015	-	-	-	1	-	-	-	43
	2016	-	-	-	4	-	-	-	83
	2017	-	-	-	61	-	-	-	19
	2018	-	-	-	6	-	-	0	53
	2019	2	-	-	8	-	-	0	45
	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
	2018	30 615	-	83	12 533	2 913	-	8 480	13
2019	314 125	0	17	41	39	-	106	50	
Sweden	2016	10	-	-	-	-	-	-	-
United Kingdom of Great Britain and Northern Ireland ^a	2016	-	0	-	-	-	-	-	-
	2017	-	-	42	-	3	-	-	-
Regional total	2015	21 943	0	897	24 824	1 470	0	28 803	5 459
	2016	29 729	0	278	42 137	101	0	9 984	1 217
	2017	9 819	0	237	29 618	4 446	0	4 617	4 715
	2018	63 922	0	273	52 028	28 735	0	107 548	6 884
	2019	338 431	0	77	29 374	21 761	0	35 192	4 998

<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>
OCEANIA									
Australia	2015	-	2	-	-	-	-	-	-
	2016	-	1	-	-	-	0	-	-
	2017	-	0	-	-	-	0	-	-
New Zealand	2015	45	-	-	313	-	-	46	140
	2016	71	-	-	167	-	-	6	77
	2017	117	-	-	118	-	-	32	27
	2018	37	-	-	144	-	-	0	19
	2019	18	-	-	21	-	-	-	-
Regional total	2015	45	2	0	313	0	0	46	140
	2016	71	1	0	167	0	0	6	77
	2017	117	1	0	118	0	0	32	27
	2018	37	0	0	144	0	0	0	19
	2019	18	0	0	21	0	0	0	0
World total	2015	989 699	9 575	26 367	1 472 640	2 597	0	930 290	151 419
	2016	1 316 921	2	26 644	986 119	30 347	0	810 858	690 637
	2017	1 184 850	1	1 084	364 871	47 023	121	544 865	207 423
	2018	1 833 841	2 100	226 393	2 770 364	54 010	0	1 247 556	690 153
	2019	2 051 399	3	28 711	207 619	60 568	552	844 854	421 542

^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.

^cThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

Country or territory	2015		2016		2017		2018		2019	
	Trade	Uses and/or requirements								
Bolivia (Plurinational State of)	X	X	X	X	X	X	X	X		
Bosnia and Herzegovina	X	X	X	X	X	X	X	X	X	X
Botswana					X					
Brazil	X	X	X	X	X	X	X	X	X	X
British Virgin Islands										
Brunei Darussalam	X	X	X	X	X	X	X	X	X	X
Bulgaria ^a	X	X	X	X	X	X	X	X	X	X
Burkina Faso										
Burundi	X	X								X
Cabo Verde	X	X	X	X	X	X	X	X		
Cambodia										
Cameroon									X	
Canada	X	X	X	X	X	X	X	X	X	X
Cayman Islands										
Central African Republic										
Chad										
Chile	X	X	X	X	X	X	X	X	X	X
China	X		X	X			X	X		
China, Hong Kong SAR			X	X			X	X	X	X
China, Macao SAR	X	X					X	X		
Christmas Island	X	X								
Cocos (Keeling) Islands	X	X								
Colombia	X	X	X	X	X	X	X	X	X	X
Comoros										
Congo										
Cook Islands										
Costa Rica	X	X	X	X	X	X	X	X	X	X
Côte d'Ivoire			X	X						
Croatia ^a	X	X	X	X	X	X	X	X	X	X
Cuba		X								
Curaçao	X	X	X	X	X	X				
Cyprus	X	X	X	X	X	X	X	X	X	X
Czechia ^{a,b}	X	X	X	X	X	X	X	X	X	X
Democratic People's Republic of Korea		X		X	X	X		X		
Democratic Republic of the Congo	X		X	X	X		X	X	X	X

Country or territory	2015		2016		2017		2018		2019	
	Trade	Uses and/or requirements								
Slovenia ^a	X	X	X	X	X	X	X	X	X	X
Solomon Islands										
Somalia										
South Africa	X	X	X	X	X	X	X	X	X	X
South Sudan					X	X	X	X		
Spain ^a	X	X	X	X	X	X	X	X	X	
Sri Lanka	X		X	X	X	X	X	X		
Sudan	X		X	X	X	X	X	X	X	X
Suriname							X	X		
Sweden ^a	X	X	X	X	X	X	X	X	X	X
Switzerland	X	X	X	X	X	X	X	X	X	X
Syrian Arab Republic	X		X		X	X	X	X	X	
Tajikistan	X	X	X	X	X	X	X	X		
Thailand	X	X	X	X	X	X	X	X	X	X
Timor-Leste									X	X
Togo										
Tonga										
Trinidad and Tobago	X	X	X	X	X	X	X	X	X	X
<i>Tristan da Cunha</i>										
Tunisia	X	X	X	X	X	X	X	X	X	X
Turkey	X	X	X	X	X	X	X	X	X	X
Turkmenistan	X	X	X	X						
<i>Turks and Caicos Islands</i>										
Tuvalu										
Uganda	X						X	X	X	X
Ukraine	X	X	X	X	X	X	X	X	X	X
United Arab Emirates			X	X	X	X	X	X	X	
United Kingdom of Great Britain and Northern Ireland ^b	X	X	X	X	X	X	X	X	X	
United Republic of Tanzania	X	X	X	X	X	X	X	X	X	X
United States of America	X	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
Viet Nam	X	X					X	X	X	X

Country or territory	2015		2016		2017		2018		2019	
	Trade	Uses and/or requirements								
Wallis and Futuna Islands										
Yemen							X	X	X	
Zambia										
Zimbabwe	X	X	X	X	X	X			X	X
Total number of Governments that submitted form D	128	124	124	120	117	113	117	111	112	101
Total number of Governments requested to provide information	213	213								

^aState member of the European Union.

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

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

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

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

^fSince 14 February 2019, "North Macedonia" has replaced "the former Yugoslav Republic of Macedonia" as the short name used in the United Nations.

^gInformation was provided by Australia.

^hThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

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 2020; 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 2020

<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	50	100	300	300	0	0
Albania	40	3	10	3	0	0
Algeria	20		17 000		0	1
Argentina	60	0	19 600	150	0	0
Armenia	0	0	0	0	0	0
Ascension	0	0	0	0	0	0
Australia	1	9	7 332	2 413	0	1
Austria	298	190	1	1	1	1
Azerbaijan	20	18	10	250	0	0
Bahrain	1	10	1	1 000	0	0
Bangladesh	200		0		0	0
Barbados	200		200	58	0 ^c	
Belarus	0	25	10	10	0	0
Belgium	600	100	9 000	9 000	0	5
Belize			P	P	0 ^c	
Benin	2	5	8	35	0 ^c	
Bhutan	0	2	0	0	0	0
Bolivia	25	1	5 360	2 100	0	0
Bosnia and Herzegovina	1	0	2 600	528	0	0
Botswana	300				0 ^c	
Brazil	2 000 ^d	0	38 000 ^d	0	0	0
Brunei Darussalam	0	1	0	164	0	0
Bulgaria	500	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	1		8	1	0 ^c	
Canada	7 000	10 000	30 000	25 000	1	1
Chile	150	30	10 000	520	0	0
China	18 000		100 000		0 ^c	
<i>China, Hong Kong SAR</i>	2 200	0	9 906	0	0	0
<i>China, Macao SAR</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 ^f	4 663 ^e	P	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>
Cook Islands	0	0	0	1	0	0
Costa Rica	0	0	581	89	0	0
Côte d'Ivoire	30	1	0	400	0	0
Croatia	10	0	0	0	0	1
Cuba	200			6	0 ^c	
<i>Curaçao</i>	0		0		0	0
Cyprus	10	10	100	400	0	0
Czechia	255	6	379	340	0	1
Democratic People's Republic of Korea	50	1 200			4	
Democratic Republic of the Congo	150	150	720	720	0 ^c	
Denmark					0	400
Dominican Republic	100	10	500	800	0	0
Ecuador	1	11	1 200	1 695	0	0
Egypt	4 500	0	63 000	2 500	0	0
El Salvador	P 17 ^g	P 6 ^g	P	P	0	0
Eritrea	0	0	250	0	0	0
Estonia	3	1	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	
Finland	3	50	0	650	0	1
France	1 600	10	25 000	500	0	0
Gambia	0	0	0	0	0	0
Georgia	1	1	1	1	1	1
Germany	400 ^d		5 000 ^d		1	5
Ghana	4 500	300	3 000	200	0	0
Greece	0	0	2 000	0	0	0
Greenland	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	60	120	30	0	0
Haiti	200	1	350	11	0	0
Honduras	P	P 1 ^f	P	P	0	0
Hungary	1 000	0	40	0	1	1 600
Iceland	0	0	0	0	0	0
India	773 201	842 371	63 953	106 159	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>
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	1	19	1	1 743	0	0
Israel	28	0	5 000	350	0 ^c	
Italy	50	100	10 000	30 000	0	0
Jamaica	70	150	700	300	0	0
Japan	5 000		12 000		0 ^c	
Jordan	100		40 000		0	P
Kazakhstan	11	1	10	1	1	1
Kenya	1 500	2 000	1 500	2 000	0	0
Kyrgyzstan	0	1 000	0	5 000	0	0
Lao People's Democratic Republic	0	0	0	0	0	0
Latvia	15	12	45	450	0	0
Lebanon	2	25	800	800	0	0
Lithuania	0	2	0	800	0	1
Luxembourg	1	0	0	0	0	0
Madagascar	123	2	1	94	0	0
Malawi	1 000				0 ^c	
Malaysia	71	2	4 800	5 000	0	0
Maldives	0	1	0	0	0	0
Mali	P	P	P	P	P	P
Malta	0	200	0	200	0	0
Marshall Islands		1			0 ^c	
Mauritius	0	1	0	270	0	0
Mexico	P 231 ^g	P ^g	P 1 ⁱ	P	0	1
Monaco	0	0	0	0	0	0
Mongolia	0	0	0	0	0	0
Montenegro	0	2	0	220	0	0
<i>Montserrat</i>	0	0	0	1	0	0
Morocco	41	17	2 529	0	0	0
Mozambique	3				0 ^c	
Myanmar	32	0	0	0	0	0
Namibia	0	0	0	0	0	0
Nepal		1	5 000		0 ^c	
Netherlands	200	50	1 675	0	0	1
New Zealand	1	0	1 000		0	3
Nicaragua	P ⁱ	P ⁱ	P	P	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>
Nigeria	9 650	500	5 823	15 000	0	0
Norfolk Island	0	0	0	0	0	0
Norway	50		0	1	0	1
Oman	1	1	228	443	0 ^c	
Pakistan	8 400		58 080	500	0 ^c	
Panama	0	5	200	200	0	0
Papua New Guinea	1		200		0	0
Paraguay	0	0	2 500	0	0	0
Peru	8	0	1 439	1 078	0	0
Philippines	50	0	100	0	0	0
Poland	75	100	4 265	17 775	2	3
Portugal	27	0	972	0	0	0
Qatar	0	2	0	1 700	0	0
Republic of Korea	23 444		36 942		0	1
Republic of Moldova	0	1	326	199	0	0
Romania	646	10	2 525	0	0	0
Russian Federation	1 500				0 ^c	
Rwanda	0	165	0	343	0	0
Saint Helena	0	1	0	1	0	0
Saint Lucia	0	6	0	15	0	0
Saint Vincent and the Grenadines	0	2	0	3	0	0
Sao Tome and Principe	0	0	0	0	0	0
Saudi Arabia	1	0	40 000	0	0	0
Senegal	123	1	0	130	0	0
Serbia	2	1	2 214	627	0	1
Seychelles		1		1	0 ^c	
Sierra Leone	20	100		10	0 ^c	
Singapore	7 000	45	25 000	2 800	1	1
Slovakia	57	0	1	0	0	0
Slovenia	374	14	250	279	0	0
Solomon Islands	0	1	0	1	0	0
South Africa	1 544	22	10 554	681	0	0
South Sudan	750		1 500		0 ^c	
Spain	234		10 198		0	3 193
Sri Lanka	0	0	0	0	0	0
Sudan	500	1 000	2 000	3 500	0	0
Suriname		1			0 ^c	
Sweden	203	175	2	1	1	11

<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>
Switzerland	2 000	5	95 000	200	10	5
Syrian Arab Republic	1 000		50 000		0 ^c	
Tajikistan	38				0 ^c	
Thailand	60	0	3 600	0	0	5
Timor Leste		1			0 ^c	
Trinidad and Tobago					0 ^c	0
<i>Tristan da Cunha</i>	0	0	0	0	0	0
Tunisia	2	12	3 000	1	0	30
Turkey	250	0	50 000	100	0	0
Turkmenistan	0	0	0	0	0	0
Uganda	1 000	35	5 500	800	0 ^c	0
Ukraine	0	67	23	0	0	0
United Arab Emirates	0	0	1 533	3 894	0	0
United Kingdom of Great Britain and Northern Ireland	1 503	27	37 690	20 002	0	2
United Republic of Tanzania	100	1 500	2 000	200	0 ^c	
United States of America	4 136		174 247		0 ^c	83 486
Uruguay	21 200	0	1	0	0	0
Uzbekistan	0	0	0	0	0	0
Venezuela (Bolivarian Republic of)	20	0	2 075	0	0	0
Vietnam		35			0 ^c	
Yemen	200	200	5 000	1 000	0 ^c	
Zambia	50	25	50	100	0 ^c	
Zimbabwe	25	100	250	50	0	0

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.

^a 3,4-Methylenedioxyphenyl-2-propanone.

^b 1-Phenyl-2-propanone.

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

^d Including the licit requirements for pharmaceutical preparations containing the substance.

^e The 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.

^f In the form of injectable ephedrine sulfate solution.

^g Imports 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.

^h Includes products containing P-2-P.

ⁱ Imports of the substance are prohibited, with the exception of small amounts for reference and analytical purposes.

^j Imports 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 import 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 2020.

<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	5 May 2000
Argentina	All substances included in Table I	19 November 1999
Armenia ^a	All substances included in Tables I and II ^{b,c}	4 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 ^d
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 ^{b,c}	24 October 2013
Belarus ^e	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	4 February 2000
Bhutan ^a	All substances included in Tables I and II	6 July 2018

<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>
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 ^d
Canada ^a	All substances included in Tables I and II	31 October 2005
<i>Cayman Islands</i> ^a	All substances included in Tables I and II	7 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 SAR</i> ^a	All substances included in Tables I and II	28 December 2012
<i>China, Macao SAR</i> ^a	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 ^a	All substances included in Tables I and II	26 June 2013
Croatia	All substances included in Table I	19 May 2000 ^d
Cyprus	All substances included in Table I	19 May 2000 ^d
Czechia ^f	All substances included in Table I	19 May 2000 ^d
Denmark	All substances included in Table I	19 May 2000 ^d
Dominican Republic ^a	All substances included in Tables I and II	11 September 2002
Ecuador ^a	All substances included in Tables I and II	1 August 1996
Egypt ^a	All substances included in Table I and acetone	3 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 member States) ^g	All substances included in Table I	19 May 2000 ^d
Finland	All substances included in Table I	19 May 2000 ^d
France	All substances included in Table I	19 May 2000 ^d
Georgia ^a	All substances included in Tables I and II	7 September 2016
Germany	All substances included in Table I	19 May 2000 ^d
Ghana ^a	All substances included in Tables I and II	26 February 2010
Greece	All substances included in Table I	19 May 2000 ^d
Haiti ^a	All substances included in Tables I and II	20 June 2002
Honduras	Acetic anhydride, <i>N</i> -acetylanthranilic acid, 4-anilino- <i>N</i> -phenethylpiperidine (ANPP), ephedrine, ergometrine, ergotamine, isosafrole, lysergic acid, 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P), norephedrine, <i>N</i> -phenethyl-4-piperidone (NPP), phenylacetic acid, <i>alpha</i> -phenylacetoacetonitrile (APAAN), 1-phenyl-2-propanone (P-2-P), piperonal, potassium permanganate, pseudoephedrine and safrole	18 June 2020
Hungary	All substances included in Table I	19 May 2000 ^d
India ^a	All substances included in Tables I and II	23 March 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>
Indonesia ^a	Acetic anhydride, <i>N</i> -acetylthranilic acid, anthranilic acid, ephedrine, ergometrine, ergotamine, 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 ^{b,c}	31 July 2013
Ireland	All substances included in Table I	19 May 2000 ^d
Italy	All substances included in Table I	19 May 2000 ^d
Jamaica	All substances included in Table I ^{b,c}	4 July 2013
Japan	All substances included in Table I	17 December 1999
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 ^{b,c}	10 October 2013
Kyrgyzstan ^a	All substances included in Tables I and II ^{b,c}	21 October 2013
Latvia	All substances included in Table I	19 May 2000 ^d
Lebanon ^a	All substances included in Tables I and II	14 June 2002
Lithuania	All substances included in Table I	19 May 2000 ^d
Luxembourg	All substances included in Table I	19 May 2000 ^d
Libya ^a	All substances included in Tables I and II ^{b,c}	21 August 2013
Madagascar ^a	All substances included in Tables I and II	31 March 2003
Malaysia ^a	All substances included in Table I, ^b anthranilic acid, ethyl ether, piperidine	21 August 1998
Maldives ^a	All substances included in Tables I and II	6 April 2005
Malta	All substances included in Table I	19 May 2000 ^d
Mexico ^a	All substances included in Tables I and II	6 April 2005
Micronesia (Federated States of) ^a	All substances included in Tables I and II ^{b,c}	11 February 2014
Myanmar ^a	All substances included in Tables I and II	4 November 2016
Netherlands	All substances included in Table I	19 May 2000 ^d
New Zealand ^a	All substances included in Tables I and II ^{b,c}	3 April 2014
Nicaragua ^a	All substances included in Tables I and II	8 January 2014
Nigeria ^a	All substances included in Tables I and II	28 February 2000
Norway ^a	All substances included in Table I, ^c and anthranilic acid, ethyl ether and 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 6 March 2013
Panama	Ephedrine, ergometrine, ergotamine, norephedrine, pseudoephedrine	14 August 2013
Paraguay ^a	All substances included in Tables I and II	3 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

<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>
Philippines ^a	All substances included in Tables I and II	16 April 1999
Poland	All substances included in Table I	19 May 2000 ^d
Portugal	All substances included in Table I	19 May 2000 ^d
Qatar ^a	All substances included in Tables I and II ^{b,c}	16 July 2013
Republic of Korea ^a	All substances included in Table I, and acetone	3 June 2008
Republic of Moldova ^a	All substances included in Tables I and II ^{b,c}	29 December 1998 and 8 November 2013
Romania	All substances included in Table I	19 May 2000 ^d
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
Saint Vincent and the Grenadines ^a	All substances included in Tables I and II ^{b,c}	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 ^{b,c}	5 July 2013
Singapore	All substances included in Table I	5 May 2000
Slovakia	All substances included in Table I	19 May 2000 ^d
Slovenia	All substances included in Table I	19 May 2000 ^d
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 ^d
Sri Lanka	All substances included in Table I	19 November 1999
Sudan ^a	All substances included in Tables I and II	6 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 ^d
Switzerland	All substances included in Table I	25 March 2013
Tajikistan ^a	All substances included in Tables I and II	7 February 2000
Thailand ^a	All substances included in Table I (except potassium permanganate), and anthranilic acid ^b	18 October 2010
Togo ^a	All substances included in Tables I and II	6 August 2013
Tonga ^a	All substances included in Tables I and II ^{b,c}	4 July 2013
Trinidad and Tobago ^a	All substances included in Tables I and II ^{b,c}	15 August 2013
Tunisia ^a	Acetic anhydride, <i>N</i> -acetylanthranilic acid, 4-anilino- <i>N</i> -phenethylpiperidine (ANPP), ephedrine, ergometrine, ergotamine, isosafrole, lysergic acid, 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P), norephedrine, <i>N</i> -phenethyl-4-piperidone (NPP), phenylacetic acid, <i>alpha</i> -phenylacetoacetonitrile (APAAN), 1-phenyl-2-propanone (P-2-P), piperonal, potassium permanganate, pseudoephedrine, safrole and all substances included in Table II	22 June 2020
Turkey ^a	All substances included in Tables I and II	2 November 1995
Uganda ^a	All substances included in Tables I and II ^{b,c}	6 May 2014
United Arab Emirates ^a	All substances included in Tables I ^b and II	26 September 1995

<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>
United Kingdom of Great Britain and Northern Ireland ^{dh}	All substances included in Table I	19 May 2000
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	6 May 2014
Zimbabwe ^a	All substances included in Tables I and II ^{b,c}	4 July 2013

Note: The names of territories are in italics.

^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.

^bThe Government requested to also receive pre-export notifications for pharmaceutical preparations containing ephedrine and pseudoephedrine.

^cThe Governments requested to also receive pre-export notifications for safrole-rich oils.

^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 was established.

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

^gAustria, 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 and Sweden.

^hThe United Kingdom has left the European Union and is in a transition period until the end of 2020.

Annex VII

Substances in Tables I and II of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988

<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 ^d
Ergometrine	Methyl ethyl ketone
Ergotamine	Piperidine
Isosafrole	Sulphuric acid ^d
Lysergic acid	Toluene
3,4-MDP-2-P methyl glycidate (“PMK glycidate”) ^b	
3,4-MDP-2-P methyl glycidic acid (“PMK glycidic acid”) ^b	
3,4-Methylenedioxyphenyl-2-propanone (3,4-MDP-2-P)	
Methyl <i>alpha</i> -phenylacetoacetate (MAPA) ^c	
Norephedrine	
<i>N</i> -Phenethyl-4-piperidone (NPP) ^a	
Phenylacetic acid	
<i>alpha</i> -Phenylacetoacetamide (APAA) ^b	
<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.

^a Included in Table I, effective 18 October 2017.

^b Included in Table I, effective 19 November 2019.

^c Included in Table I, effective 3 November 2020.

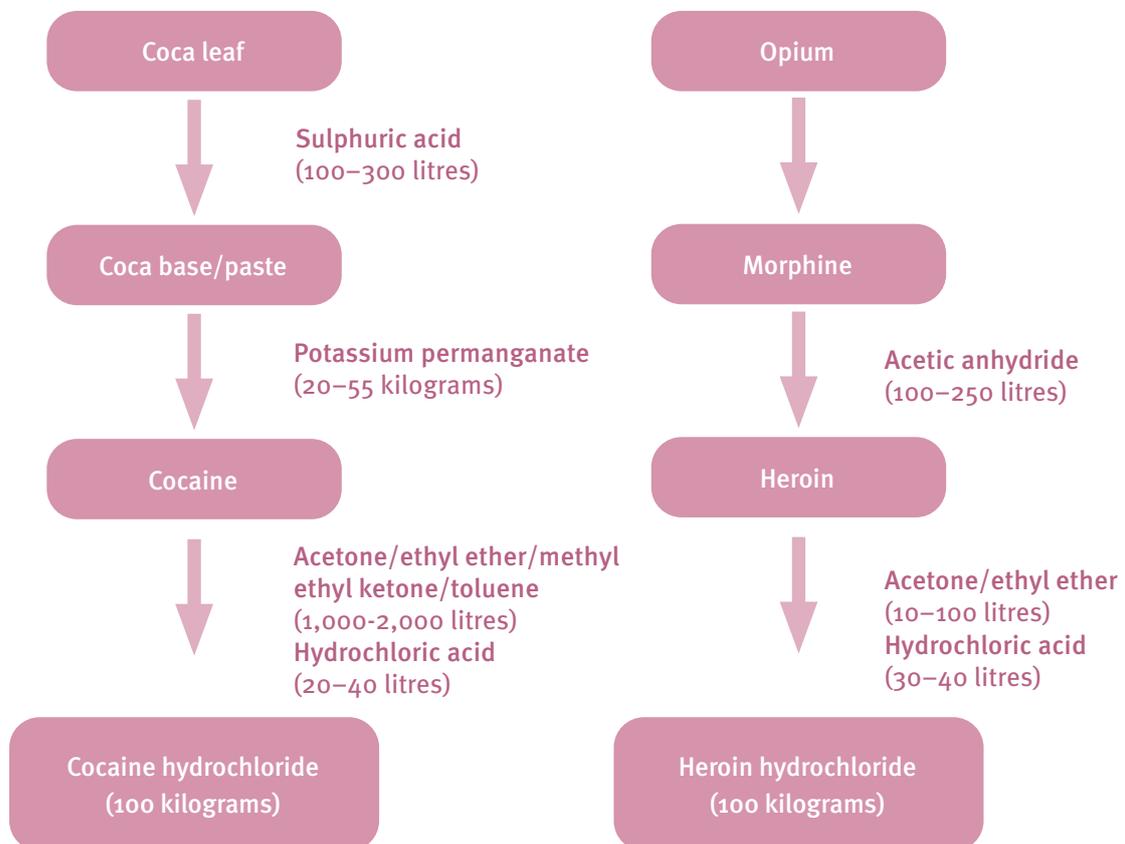
^d The salts of hydrochloric acid and sulphuric acid are specifically excluded from Table II.

Annex VIII

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

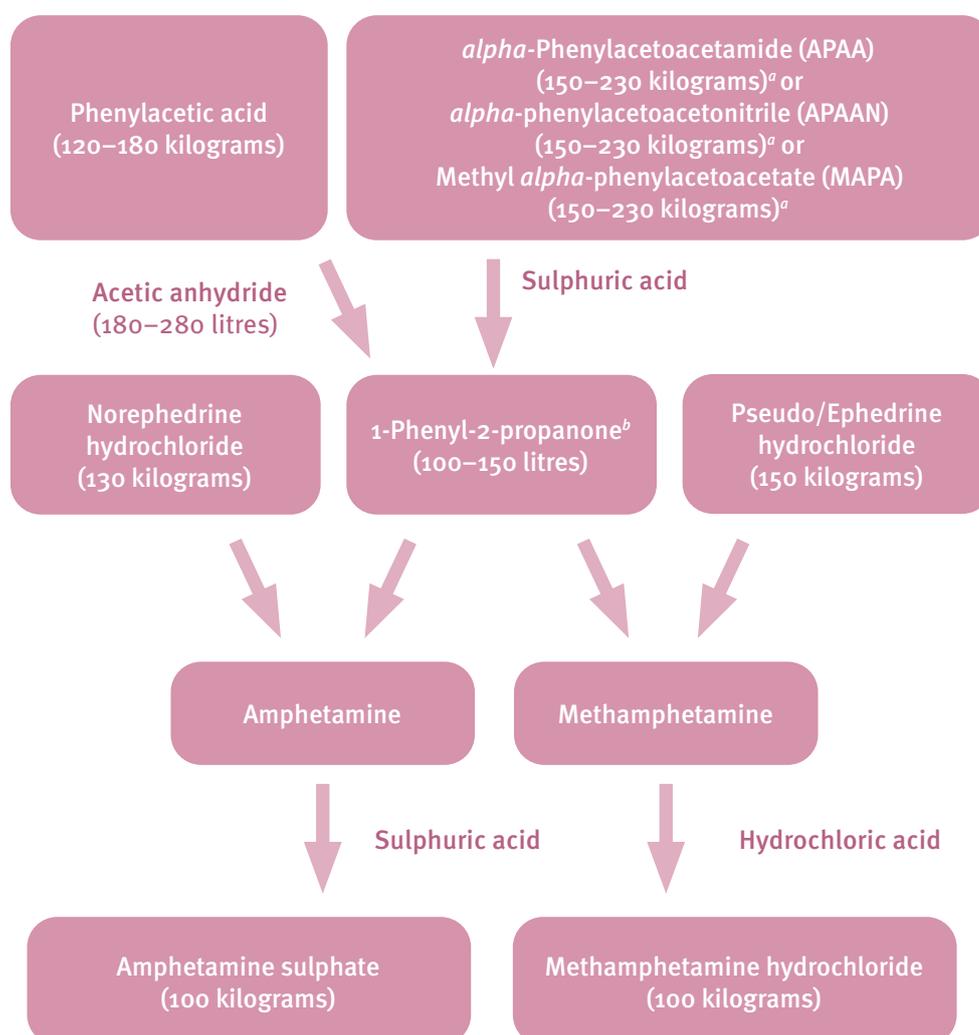
Figures I–V below depict the use of scheduled substances in the illicit manufacture of narcotic drugs and psychotropic substances. The approximate quantities provided are based on common manufacturing methods. Other manufacturing methods using scheduled substances – or even non-scheduled substances instead 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

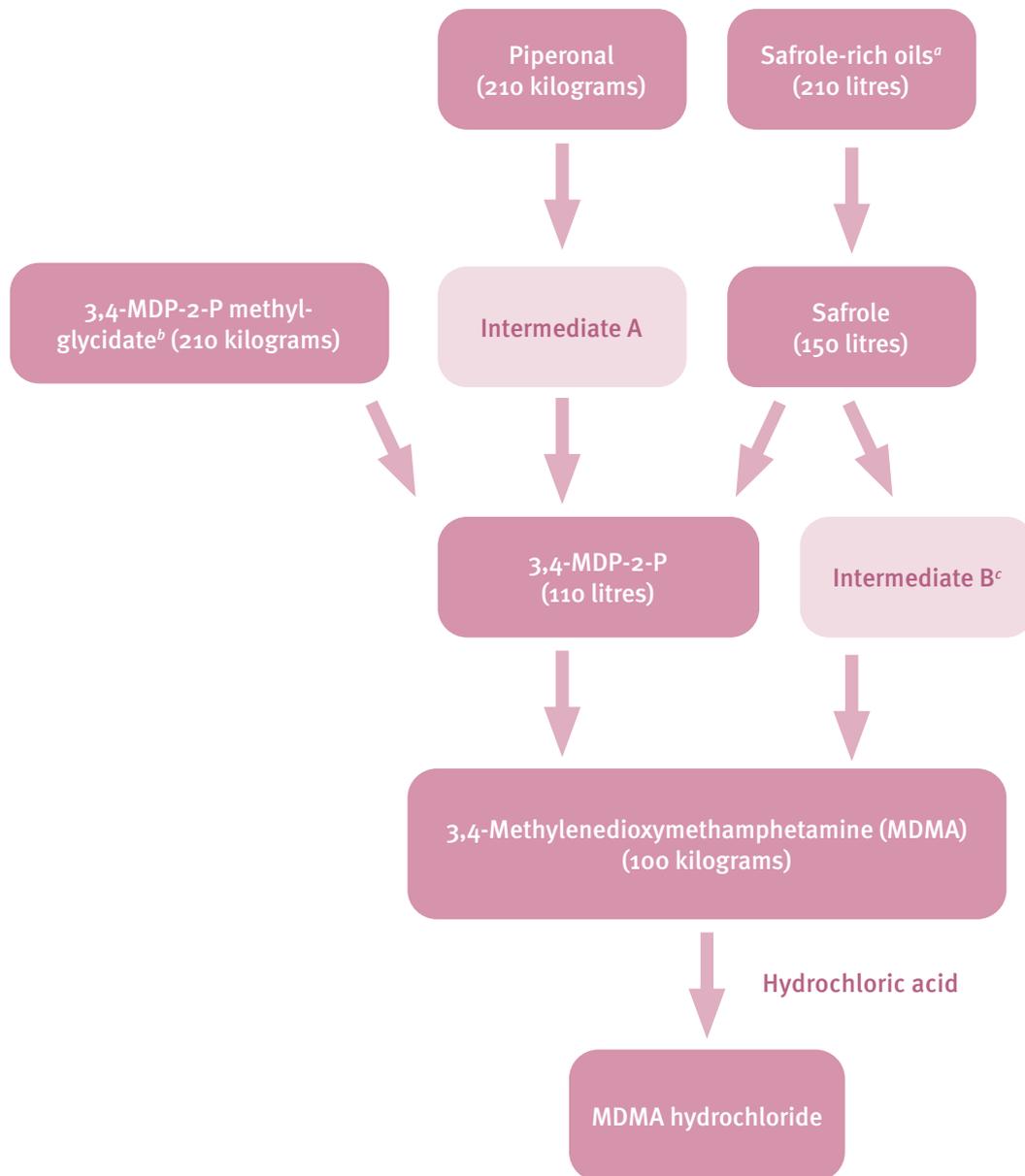


Note: Methcathinone, a less commonly encountered amphetamine-type stimulant, can be manufactured from pseudo/ephedrine hydrochloride, requiring the same approximate quantities as methamphetamine to yield 100 kilograms of hydrochloride salt.

^aThe weight range reflects the fact that APAA, APAAN and MAPA are purpose-made designer precursors without recognized legitimate uses and are therefore often impure (street-level quality).

^bMethods 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. In a subsequent step, racemic d,l-meth/amphetamine can be – and actually is – separated in illicit laboratories to also produce 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 Refers, for the purpose of this scheme, to the methyl ester and salts of 3,4-MDP-2-P methyl glycidic acid (i.e., purpose-made designer precursors without recognized legitimate uses that are therefore often impure (street-level quality)).

^c The manufacture of 100 kilograms of MDMA via intermediates 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

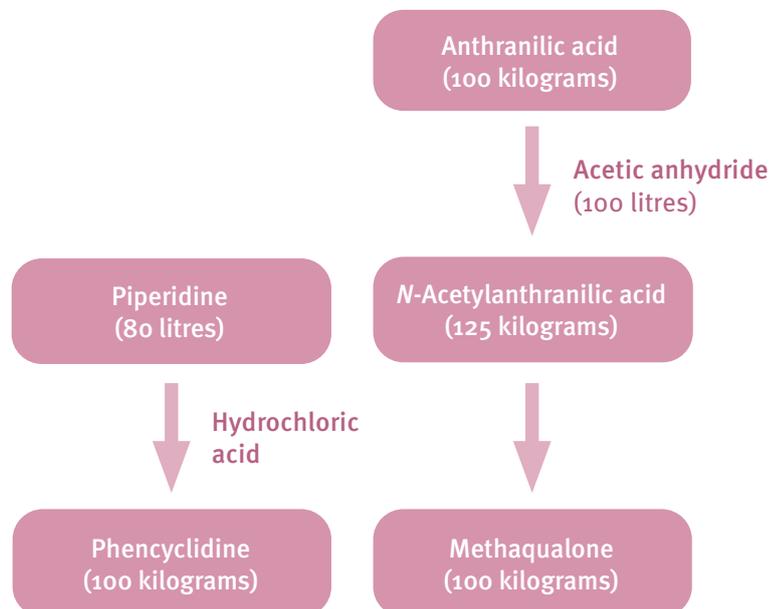
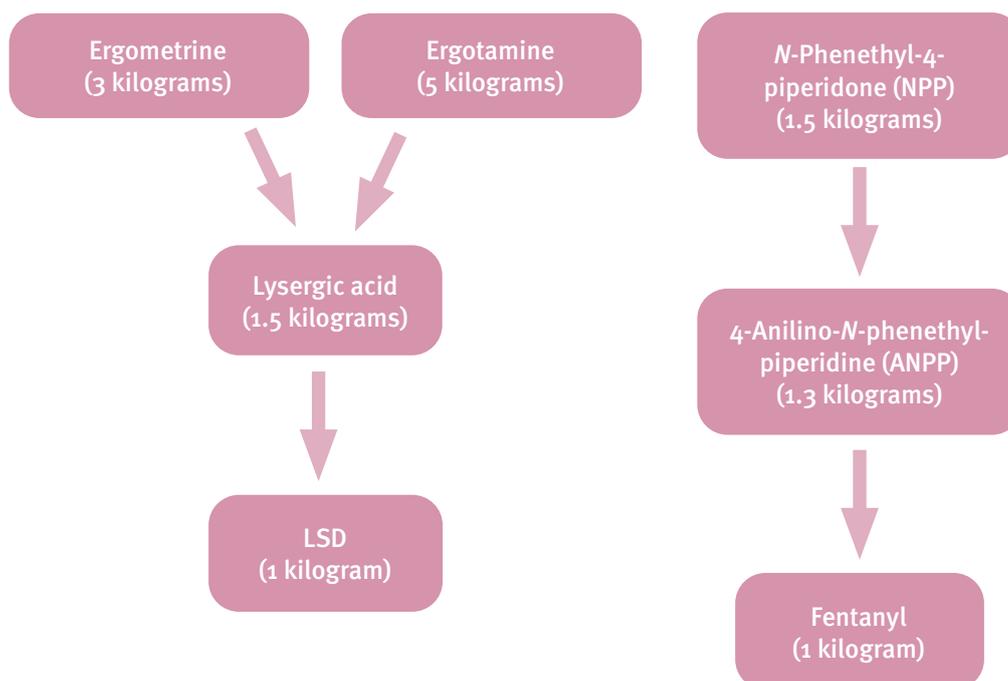


Figure V. Illicit manufacture of lysergic acid diethylamide (LSD) and fentanyl: scheduled substances and the approximate quantities thereof required for the illicit manufacture of 1 kilogram of LSD or fentanyl



Annex IX

Licit uses of the substances in Tables I and 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
Methyl <i>alpha</i> -phenylacetoacetate (MAPA)	None, except — in small amounts — for research, development and laboratory analytical purposes
3,4-Methylenedioxyphenyl-2-propanone	Used in the manufacture of piperonal and other perfume components
3,4-MDP-2-P methyl glycidate	None, except — in small amounts — for research, development and laboratory analytical purposes
3,4-MDP-2-P methyl glycidic acid	None, except — in small amounts — for research, development and laboratory analytical purposes
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>Substance</i>	<i>Licit uses</i>
<i>N</i> -Phenethyl-4-piperidone (NPP)	Used in the pharmaceutical industry, mainly for the manufacture of fentanyl and carfentanil
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> -Phenyl-acetoacetamide (APAA)	None, except — in small amounts — for research, development and laboratory analytical purposes
<i>alpha</i> -Phenyl-acetoacetonitrile (APAAN)	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 1954 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 licence, require permits for manufacture or distribution of substances in Tables I and 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, 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, North Macedonia, Romania and Serbia;

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.

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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