Polychlorinated biphenyls – PROPOSED DECISION

[For incorporation in] Industrial Chemicals Environmental Management (Register) Instrument 2022

Schedule 7 – Relevant industrial chemicals that are likely to cause serious or irreversible harm to the environment with no essential uses

The risk management measures including prohibitions and restrictions apply to the relevant industrial chemical; and a mixture or article containing such a chemical.

The draft standards are based on control measures for the management of polychlorinated biphenyls (PCBs) as described in the Stockholm Convention on Persistent Organic Pollutants (and as ratified by Australia in 2004), as well as the Australian Polychlorinated Biphenyls Management Plan (Revised Edition; 2003). The department has also referred to the Canadian Regulations for PCB (amended in 2015), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Technical Guidelines Addendum May 2017) and PCB Decision Guidance Document for the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Please note that proposed standards apply only to industrial chemicals and industrial uses. Other chemical applications, such as for veterinary or medicinal uses, are outside the scope of the Industrial Chemicals Environmental Management Standard (IChEMS) and are managed under separate regulatory frameworks.

Relevant industrial chemical	**Intent and explanatory notes**
Chemical class name: 1,1'-Biphenyl, chloro derivatives (Polychlorinated biphenyls,PCBs) CAS number: 1336-36-3 (PCB unspecified congeners). All commercial mixtures and 209 congeners are included in the definition.	The department proposes to identify the chemical in this way for consistency with the Australian Inventory of Industrial Chemicals (AIIC) listing and the identifier used under international treaties. Polychlorinated biphenyls (PCBs) are mixtures of various chlorinated biphenyls, of which there are 209 possible chlorinated congeners. Polychlorinated biphenyls are listed in the AIIC as: *CAS number* 1336-36-3 *Chemical name* 1,1'-Biphenyl, chloro derivatives *Molecular formula* Unspecified *Associated names* Biphenyl, chlorinated

	The polychlorinated biphenyls chemical class is listed in Annex A of the Stockholm Convention on Persistent Organic Pollutants (POPs), without a CAS number, as: 'Polychlorinated biphenyls (PCB)' The national Polychlorinated Biphenyls Management Plan (Revised Edition; 2003) (the national plan) defines the chemical class as: '…a substance in which the biphenyl structure has chlorine atoms substituted for hydrogen atoms to varying degrees – PCB has the chemical formula $C_{12}H_{10-n}Cl_n$ where 'n' is 1-10' A significant number of national and international authorities refer to the chemical as polychlorinated biphenyls and/or use the abbreviation PCB or PCBs. Consequently, the department proposes to use the common name and abbreviation in the standard for ease of reference. The standard is proposed to also include the CAS number for the PCB category, and a note to specify that all 209 congeners and mixtures are included, so as not to have to list all available CAS RNs for the class as part of the decision. A representative list of applicable CAS RNs will be made available on the IChEMS Online Register.
Risk management measures including prohibitions and restrictions	**Intent and explanatory notes**
(a) This entry comes into effect on 1 July 2025.	The date of effect of 1 July 2025 is proposed for PCBs. This will allow approximately 6 months before the standards come into effect, assuming that standards are finalised in late 2024. This is expected to allow sufficient time for all required entities to take measures to adapt to the standard where required.

(b) The manufacture of the class of chemicals is prohibited except:	This measure sets out that the manufacture of PCBs will be prohibited, in line with the requirements of the Stockholm Convention (Article 3, paragraph 1(a)(i)) and the *Industrial Chemical Environmental Management (Register) Principles 2022* (ICEMR Principles; subsection 14(2)(a)). This measure is not expected to disrupt industries or trade, as it is believed that PCBs were never commercially manufactured in Australia. Further, the production of PCB is already prevented in Australia, either by specific prohibitions in state and/or territory statutory instruments, or by preclusion due to prohibitions on use, handling and storage. Please note that the term *manufacture* refers to the synthesis, or extraction, of the chemical congeners or mixtures of congeners. In this context, *manufacture* does not include production of PCB-containing products or articles, which is defined as *use*. The definitions of *manufacture* and *use* can be found in the definitions section, below.
(i) in circumstances where the class of chemicals is present as unintentional trace contamination at a level equal to or below 2 mg/kg as the sum of all congeners; or	Polychlorinated biphenyls may be unintentionally manufactured by various processes. Thus, this measure permits the manufacture of PCBs if they are present unintentionally and unavoidably in chemical mixtures and articles. The proposed 2mg/kg threshold aligns with the 'PCB-free' threshold as defined in the Australian Polychlorinated Biphenyls Management Plan. The threshold also aligns with the value set for prohibited activities in the Canadian PCB Regulations (most recently amended in 2015): 'Except as provided in [the] Regulations, no person shall: (a) manufacture, import or export PCBs or a product containing PCBs in a concentration of 2 mg/kg or more;…' Further, the *Industrial Chemicals Act 2019* does not apply to incidentally introduced chemicals.

(ii) for research or laboratory purposes.	The listing of PCBs in Annex A of the Stockholm Convention prohibits the production of PCB for all purposes. However, the convention does not apply to quantities of a chemical to be used for laboratory-scale research or as a reference standard (Article 3, paragraph 5). Manufacture for research or laboratory purposes is also permitted under the ICEMR Principles (subsection 14(2)(a)(i)).
(c) The import and export of the class of chemicals (whether on its own or in mixtures or in articles) are prohibited except:	The import and export of PCBs will be prohibited, in line with the requirements of the Stockholm Convention (Article 3, paragraph 1(a)(ii)) and the ICEMR Principles (subsection 14(2)(a)). The ICEMR Principles require Schedule 7 listings to prohibit export and import of the chemicals except in specified circumstances. Import of goods and substances containing PCBs is prohibited under regulation 4AB of the *Customs (Prohibited Import) Regulations 1956*, unless written permission to import has been granted from the Minister of Home Affairs. Export of PCBs must be approved, in writing, by the Executive Director of the Australian Industrial Chemicals Introduction Scheme (AICIS), as described in section 73 of the *Industrial Chemicals (General) Rules 2019*, which relates to chemicals which are the subject of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
(i) in circumstances where the class of chemicals is present as unintentional trace contamination at a level equal to or below 2 mg/kg as the sum of all congeners; or	The Stockholm Convention requires that parties take measures to eliminate import, export and use of chemicals listed in Annex A, quantities of a chemical occurring as unintentional trace contaminants in products and articles are not considered to be controlled under the convention, unless otherwise specified (Annex A, Part I, note (i)).

	Thus, this measure permits the import and export of PCBs if they are present unintentionally and unavoidably in chemical mixtures and articles. The UTC level is proposed to be equal to or less than 2mg/kg. The considerations underpinning this threshold are the same as those set out for b(i) above.
(ii) for research or laboratory purposes; or	The Stockholm Convention requires the prohibition of import and export of chemicals listed in Annex A (Article 3, paragraph 1(a)(ii)). However, the prohibition does not apply to quantities of a chemical to be used for laboratory-scale research or as a reference standard (Article 3, item 5). Import or export for research or laboratory purposes is permitted under the ICEMR Principles (subsection 14(2)(a)(i)). In Australia, the importation without permission of substances or goods containing PCBs is prohibited under Regulation 4AB of the *Customs (Prohibited Import) Regulations 1956* (which was amended in 1973 to include PCBs). Permission may be granted for the purposes of laboratory scale research or for environmentally sound disposal. Export must be approved, in writing, by the Executive Director of AICIS before the industrial chemical is exported under section 73 of the *Industrial Chemicals (General) Rules 2019* (the Rules). However, under section 73(1A) of the Rules, there is an exemption to this requirement when (a) the industrial chemical is to be exported solely for use in research or analysis; and (b) the total volume of the industrial chemical exported by the person in the registration year does not exceed 100 kg.
(iii) if a hazardous waste permit authorises the import or export of the class of chemicals.	The Stockholm Convention requires the prohibition of import and export of chemicals listed in Annex A unless for the purpose of environmentally sound disposal (Article 3, paragraph 2(a) and (b)).

	Import or export for the purposes of environmentally sound disposal is permitted under the ICEMR Principles (subsection 14(2)(a)(ii)). Import or export of PCB is proposed to be permitted for the purposes of environmentally sound disposal in accordance with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, subject to approval under the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*.
(d) The use of the class of chemical (whether on its own or in mixtures or in articles) is prohibited except:	This measure sets out that use of the chemical, including in the production of articles, or the use of an article containing the chemical, is prohibited except for specified purposes. The Stockholm Convention prohibits all uses of PCBs, with exemptions for articles in use in accordance with the provisions set out in Part II of Annex A. The exempted articles (i.e. equipment such as transformers, capacitors or other receptacles containing liquid stocks at concentrations above 0.005 percent PCB *and* volumes greater than 0.05 L) are to be phased out by 2025 (subject to review by the Conference of Parties). Please note that the term *use* includes handling, transporting and storing. The definition of *use* and *end use* can be found in the definitions section, below.
(i) in circumstances where the class of chemicals is present as unintentional trace contamination at a level equal to or below 2mg/kg as the sum of all congeners; or	Same considerations as (b)(i) above.
(ii) for research or laboratory purposes; or	Use of the chemical for research or laboratory purposes is permitted under the ICEMR Principles (subsection 14(2)(b)(i)).

(iii)	for the purposes of environmentally sound disposal; or	Use of the chemical for the purposes of environmentally sound disposal is permitted under the ICEMR Principles (section 14(2)(b)(ii)).
(iv)	in circumstances in which articles containing the class of chemicals at a concentration less than 50 mg/kg (as the sum of all congeners), that are already in use on or before 1 July 2025	The Stockholm Convention requires that parties take measures to eliminate use of chemicals listed in Annex A. However, quantities of a chemical occurring as constituents of articles manufactured or already in use are not considered to be controlled under the convention (Annex A, Part I, note (ii)). Instead parties to the convention are required to identify articles containing more than 0.005% PCB and manage them to reduce or eliminate releases from stockpiles and wastes (Annex A, Part II, paragraph (f)). The Australian PCB Management Plan, which commenced in 1996, included requirements to remove from service all equipment containing 'scheduled PCB material' by 2009. Scheduled PCB material (or waste) means any material (or waste) which contains PCBs at, or in excess of, the threshold concentration (50 mg/kg) *and* the threshold quantity (50 g). As such, the Australian PCB Management Plan has already set measures to remove articles from service corresponding to the most stringent of priorities of the Stockholm Convention. The Australian PCB Management Plan also had provision for small volume materials (*i.e.* < 50 g of PCBs at a concentration > 50 mg/kg) to be used until the end of their useful life. As legacy articles containing high levels of PCBs (> 50 mg/kg) were either identified for removal from service (by 2009), or to be disposed of at end of their useful life, the department proposes to now set the threshold limit of 50 mg/kg for articles in use.

(e) The import, export and manufacture of the class of chemicals (whether on its own or in mixtures or in articles) must adhere to applicable laws of the Commonwealth for the control of industrial chemicals.	This measure is included to ensure that introducers (manufacturers and importers) and exporters adhere to all other relevant Commonwealth legislation. As described in sections (b) and (c) above, the manufacture, import and export are proposed to be permitted for excepted purposes only.
(f) The use of the class of chemicals (whether on its own or in mixtures or in articles) must adhere to:	As described in section (d) above, use is proposed to be permitted for excepted purposes only.
(i) the specifications for management, transportation, storage, treatment and disposal in accordance with the Polychlorinated Biphenyls Management Plan; and	The Australian PCB Management Plan, published by the Australian and New Zealand Environment and Conservation Council and as updated from time to time, sets out an evidence-based framework for the management of PCB-containing materials in Australia. The national plan has historically been given effect through the statutory instruments of state and territories, and the Australian government.
(ii) applicable laws of the Commonwealth or of the relevant State for the control of industrial chemicals.	This measure is included to ensure that users adhere to all other relevant Commonwealth, state and territory legislation, and that states and territories have control within their jurisdiction.
(g) Producers and holders of waste must undertake all reasonably practicable measures to avoid contamination of waste not already containing the class of chemicals with these substances and must not dilute waste containing the chemical to lower the concentration below relevant waste handling and disposal thresholds.	This measure is included to avoid contamination of other waste with PCBs, and dilution of PCB-containing waste to meet the limit specified.
(h) Waste consisting of, containing or contaminated with the class of chemicals at a concentration that is equal to, or greater than 50 mg/kg, must not go to landfill and must be either:	The Stockholm Convention requires parties to: '[m]ake determined efforts designed to lead to environmentally sound waste management of liquids containing polychlorinated

(i) treated in such a way as to ensure that the chemical is destroyed or irreversibly transformed so that the remaining waste and environmental releases do not contain chemicals that exhibit Schedule 6 or Schedule 7 risk characteristics, or (ii) managed or disposed of in an environmentally sound manner as authorised under a law of the Commonwealth or a law of a State, where treatment in accordance with subparagraph (i) is not the environmentally preferable option.	biphenyls and equipment contaminated with polychlorinated biphenyls having a polychlorinated biphenyls content above 0.005 per cent, in accordance with paragraph 1 of Article 6, as soon as possible but no later than 2028, subject to review by the Conference of the Parties;' (Annex A, Part II, paragraph (f)) Article 6, paragraph 1, of the convention sets out how parties are to reduce or eliminate releases from stockpiles and wastes: wastes, including products and articles, must be disposed so that the persistent organic pollutant (POP) content is destroyed or irreversibly transformed, or otherwise disposed of in an environmentally sound manner if destruction is not the environmentally preferable option or if the POP content is low (Article 6, paragraph 1(d)(ii)). The low POP content is established along with the appropriate bodies of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The low POP content for PCBs, as defined by the provisions on hazardous waste under the Basel Convention, is 50 mg/kg (UNEP/CHW.13/6/Add.4/Rev.1). The Australian PCB Management Plan sets out the requirements for the management of PCB-containing waste in Australia. In line with the low POP content threshold, it sets out that waste containing PCBs at or in excess of the threshold concentration (50 mg/kg) must be treated as scheduled waste. This measure allows for decisions on waste management to be made by jurisdictions. Where treatment is not the environmentally preferable option, the chemical may be managed or disposed of in an environmentally sound manner. 'Environmentally sound manner' can include state and territory regulations/policies, for example end of waste codes, clean fill codes, or nationally agreed guidance.

	More information regarding the disposal of low POP content waste is available in Part IV, Section G, subsection 4 of the General Technical Guidelines published by the Basel Convention: UNEP/CHW.15/6/Add.1/Rev.1
(i) Waste consisting of, containing or contaminated with the class of chemicals at a concentration less than 50 mg/kg must be managed or disposed of in an environmentally sound manner as authorised under a law of the Commonwealth or a law of a State.	This measure allows for decisions on waste management to be made by jurisdictions. 'Environmentally sound manner' can include state and territory regulations/policies, for example end of waste codes, clean fill codes, or nationally agreed guidance. More information regarding the disposal of low POP content waste is available in Part IV, Section G, subsection 4 of the General Technical Guidelines published by the Basel Convention: UNEP/CHW.15/6/Add.1/Rev.1
(j) Disposal must not lead to recovery, recycling, reclamation or re-use of the class of chemicals, subject to paragraph (k).	Any disposal must not involve recovering the chemical and using it elsewhere.
(k) In carrying out disposal, the class of chemicals may be isolated from the waste, provided that it is subsequently disposed of in accordance with paragraphs (h) and (i).	The chemical may be removed from contaminated waste so that the waste may, for example, be reused. The removed chemicals must then be disposed of appropriately.
(l) If an activity in relation to the class of chemicals (whether on its own or in mixtures or in articles, is not permitted under paragraph (b), (c), or (d) a holder of a stockpile of the chemical must: (i) notify the relevant agency responsible for environmental protection of the nature and size of the stockpile; and (ii) manage that stockpile as waste in accordance with paragraphs (h) and (i); and	Any user of the chemical, if the use is no longer permitted, must inform their jurisdiction and appropriately manage the chemical as waste.

(iii) comply with all relevant laws that apply in the relevant jurisdiction.	
(m) The chemical (whether on its own or in mixtures or articles) must be managed according to the IChEMS Minimum Standards.	Available online. As agreed 4 November 2022 by Commonwealth, State and Territory environmental regulators. STANDARD 1 – INFORMATION AND AWARENESS Obtain, share, and use information on the environmental risks of industrial chemicals to ensure that any persons handling the chemical throughout the supply chain are aware of these risks, and enabled to undertake activities using industrial chemicals in an environmentally safe manner. For introducers (importers and manufacturers) and reformulators, this includes a requirement to develop and provide information to the supply chain about the environmental risks of the industrial chemical, when used for the purpose for which it was manufactured. STANDARD 2 – RISK MANAGEMENT PLANNING Identify risks and develop, assess, evaluate and monitor control measures. STANDARD 3 – HARM MINIMISATION CONTROLS Apply practicable control measures to eliminate risks, then reduce risks that cannot be eliminated, then manage residual risks using best available techniques and best environmental practices. STANDARD 4 – ENVIRONMENTALLY SAFE STORAGE Store and contain industrial chemicals in an environmentally safe manner. STANDARD 5 – EFFECTIVE RESPONSES TO INCIDENTS Plan for and respond effectively and promptly to industrial chemical incidents. STANDARD 6 – ENVIRONMENTALLY RESPONSIBLE WASTE MANAGEMENT

	Implement waste management for industrial chemicals in an environmentally safe manner in line with the waste hierarchy and local requirements.

Terms defined in the Register instrument
disposal has the same meaning as in the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*. Note: Other grammatical forms of "disposal" (such as "disposed of") have a corresponding meaning (see section 18A of the *Acts Interpretation Act 1901*). ***environmental release*** means any introduction of pollutants into the environment as a result of any human activity, whether deliberate or accidental, routine or nonroutine. ***hazardous waste export permit*** means an export permit within the meaning of the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*. ***hazardous waste import permit*** means an import permit within the meaning of the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*. ***hazardous waste permit*** means a permit granted under the *Hazardous Waste (Regulation of Exports and Imports) Act 1989* or the *Hazardous Waste (Regulation of Export and Imports) (OECD Decision) Regulations 1996*. ***IChEMS Minimum Standards*** means the minimum standards agreed to by Commonwealth, State and Territory environmental regulators as published by the [Environment] Department and as existing from time to time. ***industrial use*** has the same meaning as in the *Industrial Chemicals Act 2019*. ***Polychlorinated Biphenyls Management Plan*** means the national plan for the management of polychlorinated biphenyls published by the Australian and New Zealand Environment and Conservation Council in November 1996, as amended from time to time or republished by ANZECC. ***relevant agency*** includes: (a) a department, agency or authority of the Commonwealth; and (b) a State government body. ***Schedule 6 risk characteristics*** has the same meaning as in the *Industrial Chemicals Environmental Management (Register) Principles 2022*.

Schedule 7 risk characteristics has the same meaning as in the *Industrial Chemicals Environmental Management (Register) Principles 2022*.

stockpile of a relevant industrial chemical means an accumulation of substances, mixtures or articles that contains, or consists of, the chemical.

unintentional trace contamination means circumstances where a chemical is present unintentionally and unavoidably below a set level at which the chemical cannot be meaningfully used.

waste has the same meaning as in the *Hazardous Waste (Regulation of Exports and Imports) Act 1989*.

Terms defined in the *Industrial Chemicals Environmental Management (Register) Act 2021*

CAS number for an industrial chemical has the same meaning as in the Industrial Chemicals Act

end use for an industrial chemical has the same meaning as in the Industrial Chemicals Act.

Environment Department means the Department administered by the Minister administering this Act.

relevant industrial chemical means:

(a) a particular industrial chemical; or

(b) a particular class of industrial chemicals.

State includes the Northern Territory and the Australian Capital Territory.

Terms defined in the *Industrial Chemicals Act 2019*

article means an object that:

(a) is produced for use for a particular purpose, being a purpose that requires that the object have a particular shape, surface or design; and

(b) is formed to that shape, surface or design during production; and

(c) undergoes no change of chemical composition when used for that purpose except as an intrinsic aspect of that use;

but does not include an object of a kind prescribed by the rules for the purposes of this definition.

end use, for an industrial chemical, means a purpose to which the industrial chemical can be applied.

manufacture an industrial chemical means do any of the following:

(a) produce the industrial chemical in the course of a chemical reaction;

(b) extract the industrial chemical from a natural environment, with or without chemical change;

(c) extract the industrial chemical from a UVCB substance;

(d) produce or extract the industrial chemical in circumstances prescribed by the rules for the purposes of this paragraph;

but does not include producing or extracting the industrial chemical as described in paragraphs (a), (b) or (c) in circumstances prescribed by the rules for the purposes of this definition.

use, for an industrial chemical, includes any of the following activities involving the industrial chemical:

(a) processing;

(b) formulating;

(c) storing;

(d) transporting;

(e) filling into containers;

(f) transferring from a container to another container;

(g) handling;

(h) mixing;

(i) sampling and testing;

(j) producing an article;

(k) releasing into the environment (with or without prior treatment);

(l) activities relating to an end use for the industrial chemical;

(m) any other activity prescribed by the rules for the purposes of this paragraph;

but does not include an activity prescribed by the rules for the purposes of this definition.