



Decabromodiphenyl ethane (DBDPE) – PROPOSED STANDARD

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

Schedule 6 – Relevant industrial chemicals that are likely to cause serious or irreversible harm with essential uses

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

The proposed standard for decabromodiphenyl ethane (DBDPE) aligns with control measures for the management of other chemicals listed in Schedule 6 of the IChEMS Register. The department has referred to risk assessments conducted by the Australian Industrial Chemical Introduction Scheme (AICIS; [2021a](#), [2021b](#), [2022](#)) for supporting information on DBDPE.

Please note that this proposed standard applies only to chemicals with 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.

Definitions for terms contained in this proposed standard may be found in the [Industrial Chemicals Environmental Management \(Register\) Act 2021](#), the [Industrial Chemicals Environmental Management \(Register\) Instrument 2022](#), the [Industrial Chemicals Environmental Management \(Register\) Principles 2022](#), or in the [Glossary of IChEMS terms](#).

Relevant industrial chemical	Intent and explanatory notes
<p>Chemical name: Benzene, 1,1'-(1,2-ethanediyl)bis[2,3,4,5,6-pentabromo- (Decabromodiphenyl ethane, DBDPE)</p> <p>CAS number: 84852-53-9. In addition, chemical substances which contain a proportion of DBDPE such as the following CAS number: 1092834-40-6</p>	<p>For consistency with the naming convention used by the Australian Industrial Chemical Introduction Scheme (AICIS) for this chemical (AICIS 2021a, 2021b, 2022), the department proposes to identify the chemical as:</p> <p style="text-align: center;">Benzene, 1,1'-(1,2-ethanediyl)bis[2,3,4,5,6-pentabromo-</p> <p>A significant number of international authorities refer to the chemical by its synonym, decabromodiphenyl ethane, and/or use the abbreviation DBDPE. Consequently, the department proposes to also use the commonly used name and abbreviation in the standard for ease of reference.</p>

	<p>The standard is proposed to also include the Chemical Abstracts Service (CAS) number as an unambiguous identifier for the chemical:</p> <p>84852-53-9</p> <p>Chemical substances that contain a proportion of DBDPE as a constituent are also proposed for inclusion in the standard, such as <i>1,1'-ethan-1,2- diylbisbenzene, brominated</i> (CAS number 1092834-40-6).</p>
Risk management measures including prohibitions and restrictions	Intent and explanatory notes
(a) This entry comes into effect on 1 January 2027	<p>The date of effect of 1 January 2027 is proposed for DBDPE. This will allow approximately 18 months before the standards come into effect, assuming that standards are finalised in mid-2025.</p> <p>Given current severe restrictions on use in Australia and when coupled with proposed phase out dates for essential uses in articles, the proposed commencement date is expected to allow sufficient time for all required entities to take measures to adapt to the standard where required.</p>
(b) The chemical has the following essential uses in Australia:	<p>A relevant industrial chemical that is likely to cause serious or irreversible harm to the environment is listed in Schedule 6 if it is determined to have one or more essential uses in Australia (refer Industrial Chemical Environmental Management (Register) Principles 2022 (ICEMR Principles) subsection 8(1)).</p>
<p>(i) Articles that are required to comply with fire retardancy standards, and where no viable alternative is available, with end uses in the following:</p> <p>a. aerospace applications (until 1 July 2033); or</p>	<p>The matters that are taken into account when determining essential use(s) for a chemical include, but are not limited to, current use in Australia and if that use is necessary for security, safety, economic or environmental purposes, and whether there are viable alternatives for those uses (ICEMR Principles subsection 8(2)).</p> <p>In Australia, DBDPE is currently severely restricted and is not permitted to be introduced and/or used as a chemical on its own or in mixtures such as unset/uncured resins, adhesives or sealants, or extrusion plastics. The proposed essential uses only include articles in which DPDBE has been incorporated for the purposes of compliance with fire retardancy standards in cases where no viable alternative is available.</p>

<ul style="list-style-type: none"> b. automotive and transport applications (until 1 July 2033); or c. defence applications (to be reviewed by the department after 1 July 2033); or d. electrical and electronic equipment (until 1 July 2033); or e. buildings and construction (until 1 July 2033); or f. replacement parts, for the above applications (until the end of the service life of the articles or 1 July 2048). 	
<p>(c) The manufacture of this chemical is prohibited except:</p>	<p>This measure sets out that the manufacture of DBDPE will be prohibited except in limited circumstances, in line with the requirements of the ICEMR Principles (subsection 15(2)(a)).</p> <p>The ICEMR Principles require Schedule 6 listings to prohibit manufacture of the chemical except in specified circumstances.</p> <p>This measure is not expected to disrupt industries or trade, as DBDPE is not known to be manufactured in Australia. Further, the introduction of the chemical substance DBDPE into Australia is severely restricted under AICIS.</p> <p>Please note that the term <i>manufacture</i> refers to the synthesis, or extraction, of the chemical substance. In this context, <i>manufacture</i> does not include production of DBDPE-containing products or articles, which is defined as <i>use</i>.</p>

<p>(i) in circumstances where the chemical is present as unintentional trace contamination at a level equal to or below 10 mg/kg; or</p>	<p>This measure allows for unintentional manufacture of DBDPE in circumstances where it is present unavoidably in chemical substances, mixtures or articles.</p> <p>The unintentional trace contamination (UTC) level for chemical substances and mixtures is proposed to be equal to or less than 10 mg/kg, to align with the threshold set for decabromodiphenyl ether (decaBDE).</p>
<p>(ii) for research or laboratory purposes.</p>	<p>Manufacture for research or laboratory purposes is permitted under the ICEMR Principles (subsection 15(2)(a)(i)).</p>
<p>(d) The import and export of the chemical (whether on its own or in mixtures or in articles) is prohibited except:</p>	<p>The import and export of DBDPE will be prohibited in line with the requirements of the ICEMR Principles (subsection 15(2)(a)).</p> <p>The ICEMR Principles require Schedule 6 listings to prohibit import and export of the chemical except in specified circumstances.</p> <p>Decabromodiphenyl ethane is not listed on the Australian Inventory of Industrial Chemicals, which means the chemical substance cannot be introduced (imported or manufactured) or used in Australia without prior authorisation. Further, the chemical is not eligible for introduction into Australia under AICIS's exempted or reported categories.</p>
<p>(i) for chemical substances or mixtures - in circumstances where the chemical is present as unintentional trace contamination at a level equal to or below 10 mg/kg; or</p>	<p>This measure permits the import and export of DBDPE if it is present unintentionally and unavoidably in chemical substances or mixtures.</p> <p>The UTC level for chemical substances and mixtures is proposed to be equal to or less than 10 mg/kg, to align with the threshold set for decabromodiphenyl ether (decaBDE).</p>
<p>(ii) for articles - in circumstances where the chemical is present as unintentional trace contamination at a level equal to or below 500 mg/kg; or</p>	<p>This measure permits the import and export of DBDPE if it is present unintentionally and unavoidably in articles.</p> <p>The UTC level for DBDPE-containing articles is proposed to be equal to or less than 500 mg/kg, to align with the threshold set for decabromodiphenyl ether (decaBDE).</p>

(iii) for research or laboratory purposes; or	Import or export for research or laboratory purposes is permitted under the ICEMR Principles (subsection 15(2)(a)(i)).
(iv) if a hazardous waste permit authorises the import or export of the chemical; or	Import or export for the purposes of environmentally sound disposal is permitted under the ICEMR Principles (section 15(2)(a)(ii)).
(v) for articles - the purpose of an essential use.	Import or export for the purposes of a specified essential use is permitted under the ICEMR Principles (section 15(2)(a)(iii)).
(e) The use of the chemical (whether on its own or in mixtures or in articles) is prohibited except:	<p>The ICEMR Principles (subsection 15(2)(b)) require Schedule 6 listings to prohibit all end uses of the chemical except for limited exceptions.</p> <p>This measure sets out that use of DBDPE, including in the production of articles, or the use of an article containing the chemical, is prohibited except for specified purposes.</p> <p>Please note that the term <i>use</i> includes handling, transporting and storing. The definition of <i>use</i> and <i>end use</i> can be found in the definitions section, below.</p>
(i) for chemical substances or mixtures - in circumstances where the chemical is present as unintentional trace contamination at a level equal to or below 10 mg/kg; or	The UTC level for chemical substances and mixtures is proposed to be equal to or less than 10 mg/kg, to align with the threshold set for decabromodiphenyl ether (decaBDE).
(ii) for articles - in circumstances where the chemical is present as unintentional trace contamination at a level equal to or below 500 mg/kg; or	The UTC level for DBDPE-containing articles is proposed to be equal to or less than 500 mg/kg, to align with the threshold set for decabromodiphenyl ether (decaBDE).

(iii) for research or laboratory purposes; or	Use of the chemical for research or laboratory purposes is permitted under the ICEMR Principles (subsection 15(2)(b)(i)).
(iv) 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 (subsection 15(2)(b)(ii)). Please note that the term <i>use</i> includes handling, transporting and storing.
(v) in circumstances in which the article is already in use on or before 1 July 2028; or	The prohibition on use will not apply to articles containing DBDPE that are already in circulation.
(vi) for articles - for the purpose of an essential use.	Use of the chemical for the purposes of an essential use is permitted under the ICEMR Principles (subsection 15(2)(b)(iii)).
(f) The import, export and manufacture of the chemical (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 (c) and (d) above, the manufacture, import and export are permitted for excepted purposes only.
(g) The use of the chemical (whether on its own or in mixtures or in articles) must adhere to applicable laws of the Commonwealth or 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 so that states and territories have control within their jurisdiction. As described in section (e) above, use is proposed to be permitted for excepted purposes only.
(h) Importers must determine and provide information on the concentration by weight of the chemical in an article to the supply chain.	Importers must share information on what they are putting on the market. This provides public awareness and transparency and supports objectives for better information sharing.

<p>(i) Importers and users must keep the following information up-to-date and must produce this information if requested by a relevant agency:</p> <ul style="list-style-type: none"> (i) information on the identity of the chemical, the concentration by weight, and articles it is used in; and (ii) a justification for the use; and (iii) details on the conditions of use and safe disposal. 	<p>Introducers and users must provide information on introduction or use to their jurisdictional regulator when requested. This may be required as part of a permit application or other compliance activity.</p> <p>This is not intended to include consumers that may use an article containing DBDPE.</p>
<p>(j) Producers and holders of waste must undertake all reasonably practicable measures to avoid contamination of waste not already containing the chemical; and must not dilute waste containing the chemical to lower the concentration below relevant waste handling and disposal thresholds.</p>	<p>This measure is included to avoid contamination of other waste with DBDPE, and dilution of DBDPE-containing waste to meet the limit specified.</p>
<p>(k) Waste consisting of, containing or contaminated with the chemical at a concentration that is equal to, or greater than 500 mg/kg must be either:</p> <ul style="list-style-type: none"> (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 	<p>This measure allows for decisions on waste management to be made by jurisdictions.</p> <p>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.</p>

<p>(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.</p>	
<p>(l) Waste consisting of, containing or contaminated with the chemical at a concentration that is less than 500 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.</p>	<p>This measure allows for decisions on waste management to be made by jurisdictions.</p> <p>‘Environmentally sound manner’ can include state and territory regulations/policies, for example end of waste codes, clean fill codes, or nationally agreed guidance.</p>
<p>(m) Disposal must not lead to recovery, recycling, reclamation or re-use of the chemical, subject to paragraph (n).</p>	<p>Any disposal must not involve recovering the chemical and using it elsewhere.</p>
<p>(n) In carrying out disposal, the chemical may be isolated from the waste, provided that it is subsequently disposed of in accordance with paragraphs (k) and (l).</p>	<p>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.</p>
<p>(o) If an activity in relation to the chemical (whether on its own or in mixtures or in articles) is not permitted under paragraph (c), (d) or (e), a holder of a stockpile of the chemical must:</p>	<p>Any user of the chemical, if the use is no longer permitted, must inform their jurisdiction and appropriately manage the chemical as waste.</p>

<ul style="list-style-type: none"> (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 (l) and (m); and (iii) comply with all relevant laws that apply in the relevant jurisdiction. 	
<p>(p) The chemical (whether on its own or in mixtures or articles) must be managed according to the IChEMS Minimum Standards.</p>	<p>Available online. As agreed on 4 November 2022 by Commonwealth, State and Territory environmental regulators.</p> <p>STANDARD 1 – INFORMATION AND AWARENESS</p> <p>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.</p> <p>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.</p> <p>STANDARD 2 – RISK MANAGEMENT PLANNING</p> <p>Identify risks and develop, assess, evaluate and monitor control measures.</p> <p>STANDARD 3 – HARM MINIMISATION CONTROLS</p> <p>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.</p> <p>STANDARD 4 – ENVIRONMENTALLY SAFE STORAGE</p> <p>Store and contain industrial chemicals in an environmentally safe manner.</p> <p>STANDARD 5 – EFFECTIVE RESPONSES TO INCIDENTS</p>

	<p>Plan for and respond effectively and promptly to industrial chemical incidents.</p> <p>STANDARD 6 – ENVIRONMENTALLY RESPONSIBLE WASTE MANAGEMENT</p> <p>Implement waste management for industrial chemicals in an environmentally safe manner in line with the waste hierarchy and local requirements.</p>
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