

## Format for submitting pursuant to Article 8 of the Stockholm Convention the information specified in Annex E of the Convention

Introductory information	
<b>Name of the submitting Party/observer</b>	Australia
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<b>Chemical name (as used by the POPS Review Committee (POPRC))</b>	Hexabromobiphenyl
<b>Date of submission</b>	(to be completed when submitted)

(a) Sources, including as appropriate (provide summary information and relevant references)	
<b>(i) Production data:</b>	Hexabromobiphenyl (HBB) is not listed in the Australian Inventory of Chemical Substances (AICS) and is not manufactured in Australia.  Regulations prohibit the manufacture and import of HBB without the prior written permission from the Director, National Industrial Chemicals Notification and Assessment Scheme (NICNAS) under the Rotterdam Convention implementation elements of Industrial Chemicals (Notification and Assessment) legislation.
<b>Quantity</b>	N/A
<b>Location</b>	N/A
<b>Other</b>	Imports: No imports into Australia.  HBB is not listed in the Australian Inventory of Chemical Substances (AICS). Regulations prohibit the manufacture and import of HBB without prior written permission from the Director (NICNAS).  No notification of its import has been received to date.
<b>(ii) Uses</b>	N/A
<b>(iii) Releases:</b>	
<b>Discharges</b>	N/A
<b>Losses</b>	N/A
<b>Emissions</b>	N/A
<b>Other</b>	N/A

(b) Hazard assessment for endpoints of concern, including consideration of toxicological interactions involving multiple chemicals (provide summary information and relevant references)

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The hazard of HBB was summarised under polybrominated biphenyls in the NICNAS Preliminary Priority Existing Chemical (PEC) report on Polybrominated Flame Retardants (No. 20). This assessment focused on use patterns and potential exposure from BFRs in Australia. The hazard was summarised from the Environmental Health Criteria 152 (EHC 152, 1994).

When treated orally with the HBB commercial product, FireMaster, the incidence of hepatocellular carcinoma was significantly increased in both male and female mice and rats. The lowest dose of FireMaster that produced tumours (mostly adenomas) in rodents was 0.5 mg/kg bw/day in a 2-year study. The rats receiving 0.15 mg/kg bw/day in addition to pre- and perinatal exposure did not suffer any adverse effects (EHC 152, 1994). A follow up nested case-control evaluation of the association between site-specific cancer risk and serum PBB levels was undertaken among the accidentally exposed Michigan population to FireMaster FF-1. This study revealed an increasing dose-response relationship between the risk of two cancer sites, namely digestive system and lymphoma, and serum PBB levels.

Thyroid effects were observed in rats at doses as low as 3 mg/kg bw/day (reduced serum levels of T<sub>4</sub> hormone), but not at 1 mg/kg bw/day (ATSDR, 2004). Doses of 1 mg/kg bw/d over a 6-month period affected liver weights. The thymus weight was decreased in female rats administered 0.3 mg/kg bw/d. Histopathological changes were also observed.

References

ATSDR (2004). Toxicological profile for polybrominated biphenyls and polybrominated diphenyl ethers. Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services.

EHC 152 (1994). Polybrominated biphenyls. International Programme on Chemical Safety (IPCS). Environmental Health Criteria 152.

NICNAS (2001). Preliminary Priority Existing Chemical (PEC) report on Polybrominated Flame Retardants (No. 20): <http://www.nicnas.gov.au/Publications/CAR/PEC/PEC20.asp>

<b>(c) Environmental fate (provide summary information and relevant references)</b>	
<b>Chemical/physical properties</b>	
<b>Persistence</b>	<b>Not aware of any Australian specific data.</b>
<b>How are chemical/physical properties and persistence linked to environmental transport, transfer within and between environmental compartments, degradation and transformation to other chemicals?</b>	<b>Not aware of any Australian specific data.</b>
<b>Bio-concentration or bio-accumulation factor, based on measured values (unless monitoring data are judged to meet this need)</b>	<b>Not aware of any Australian specific data.</b>

<b>(d) Monitoring data (provide summary information and relevant references)</b>
No Australian monitoring data is available.

<b>(e) Exposure in local areas (provide summary information and relevant references)</b>	
<p>- general</p> <p>- as a result of long-range environmental transport</p> <p>- information regarding bio-availability</p>	<p>Given that HBB is not used in Australia and since it is no longer manufactured as a technical grade elsewhere (EHC, 1994) exposure to this chemical is considered to be negligible.</p>

<b>(f) National and international risk evaluations, assessments or profiles and labelling information and hazard classifications, as available (provide summary information and relevant references)</b>
<p>HBB has not been classified in Australia (i.e. in Hazardous Substances Information System) or the European Union (Annex I of Directive 67/548/EEC).</p>

<b>(g) Status of the chemical under international conventions</b>
<p>Polybrominated biphenyls (including HBB) are listed in Annex III of the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. HBB has been identified as a persistent organic pollutant (POP) chemical under the Protocol to the Convention on Long-range Transboundary Air Pollution (CLRTAP) on POPs.</p>