



Annex 15 report

Proposal for identification of a substance of very high concern (SVHC) under UK REACH

Substance Name(s): 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol

EC Number(s): 201-236-9

CAS Number(s): 79-94-7

March 2026

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1. Proposal

Substance name(s): 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol

EC number(s): 201-236-9

CAS number(s): 79-94-7

The substance is proposed to be identified as a substance meeting the criteria of Article 57 (a) of UK REACH owing to its classification in the hazard class carcinogenicity category 1B¹.

Summary of how the substance meets the criteria set out in Article 57 of UK REACH

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol is included in the GB Mandatory Classification and Labelling (MCL) list. It is covered by the entry with index number 604-074-00-0 and classified in the hazard class carcinogenicity category 1B (H350; May cause cancer).

¹ Classification in accordance with section 3.6 of Annex 1 to the retained Regulation (EC) No 1272/2008 as amended for Great Britain (hereinafter referred to as GB CLP).

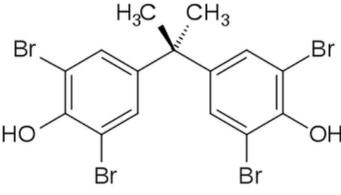
2. Justification

2.1 Identity of the substance and physical and chemical properties

2.1.1 Name and other identifiers of the substance

Table 1: Substance identity

EC number:	201-236-9
EC name:	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
CAS number (in the EC inventory):	79-94-7
IUPAC name:	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
Index number in GB MCL List:	604-074-00-0
Molecular formula:	C ₁₅ H ₁₂ Br ₄ O ₂
Molecular weight range:	543.9 g/mol
Synonyms:	Tetrabromobisphenol A; 2,2-Bis(3,5-dibromo-4-hydroxyphenyl)propane; 2,2-bis(4-hydroxy-3,5-dibromophenyl)propane; 4,4'-isopropylidenebis(2,6- dibromophenol); 4,4'-(1-methylethylidene)bis(2,6- dibromophenol); 2,2',6,6'-tetrabromobisphenol A; 3,3',5,5'-tetrabromobisphenol A; 2,2',6,6'- tetrabromo-4,4'-isopropylidenediphenol; Tetrabromodiphenylpropane; TBBPA; TBBP-A

Structural formula:	
Substance type:	Mono-constituent

Data source: EU Annex 15 report [ECHA \(2022a\)](#)

2.1.2 Composition of the substance

Impurities and/or additives are not relevant for SVHC identification of the substance.

2.1.3 Identity and composition of degradation products/metabolites relevant for the SVHC assessment

Not relevant for the identification of the substance as a SVHC in accordance with Article 57 (a) of UK REACH.

2.1.4 Identity and composition of structurally related substances (used in grouping or read-across approach)

Not relevant for the identification of the substance as a SVHC in accordance with Article 57 (a) of UK REACH.

2.1.5 Physicochemical properties

Not relevant for the identification of the substance as a SVHC in accordance with Article 57 (a) of UK REACH.

2.2 Mandatory classification and labelling

Table 2: Mandatory classification in the GB MCL list

Index No	International Chemical Identification	EC No	CAS No	GB MCL list Classification		Aligned with EU CLH ^a
				Hazard Class and Category Code(s)	Hazard statement code(s)	Y/N
604-074-00-0	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	201-236-9	79-94-7	Carc. 1B Aquatic Acute 1 Aquatic Chronic 1	H350 H400 H410	Y

^a EU CLH is harmonised classification and labelling in accordance with Regulation (EC) 1272/2008

2.3 Human health hazard assessment

Please see Section 2.2 (mandatory classification and labelling).

2.4 Conclusions on the SVHC properties

2.4.1 CMR assessment

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol is covered by the entry with index number 604-074-00-0 in the GB MCL list (HSE, 2025) and is classified in the hazard class carcinogenicity category 1B (H350; May cause cancer).

Therefore, the substance satisfies the criterion in Article 57(a) of UK REACH.

3. Information on use, exposure and alternatives

3.1 UK and EU REACH registration status and tonnage

The substance is registered under UK REACH with an aggregated tonnage of >1000 tonnes per annum (tpa). In addition, 81 Downstream User Import Notifications (DUINs²) have been submitted.

Under EU REACH, the substance is registered with an aggregated tonnage of $\geq 10,000$ to $< 100,000$ tpa³ (15 active EU registrants).

3.2 General description of uses and exposure

TBBPA is an aromatic brominated flame retardant commonly used in epoxy coated circuit boards, printed circuit boards, paper, and textiles. The EU Annex 15 SVHC report ([ECHA 2022a](#)) noted that TBBPA had the largest worldwide production of any brominated flame retardant, with a global production volume over 100,000 tons per year.

Available information suggests widespread uses as an intermediate, as an additive in polymer resins and in the production of flame retardant polymer articles. However, ECHA's more recent Investigation Report on aromatic brominated flame retardants, [ECHA 2024](#), notes that the EU REACH registrants no longer support the additive uses in the registration dossiers.

3.3 Alternatives

During the public consultation on the EU SVHC identification ([ECHA, 2022b](#)), it was noted that TBBPA is used in product design to meet flammability standards for electronic equipment and a variety of engineered materials essential to protect lives and property. It

² GB-based companies who imported substances from EU-based suppliers before UK REACH became law on 1 January 2021 had no EU REACH registration obligations as they were classed as Downstream Users (DUs). As they are now importers from outside of GB, they may have registration obligations under UK REACH. However, a transitional measure allows former DUs to suspend the registration until one of three deadlines (depending on tonnage and hazard). Where the identity of these imported substances was known, they could be included in a Downstream User Import Notification (DUIN) submitted to the Agency.

³ ECHA Chemicals database; ECHA CHEM <https://chem.echa.europa.eu/>

was implied that, in some cases, it is the only possible choice for meeting the necessary ignition resistance to comply with stringent fire safety standards.

The EU Annex 15 SVHC report ([ECHA 2022a](#)) refers to the section on alternatives in a report developed under RoHS (RoHS Annex II Dossier for TBBPA Restriction proposal for substances in electrical and electronic equipment under RoHS - [European Commission, 2021](#)). This notes that for certain applications (reactive use in printed wiring boards) industry is actively investigating substitution strategies for brominated flame retardants, but difficulties identifying concrete alternatives remain given concerns regarding necessary safety approvals, the higher percentages of the substitutes required within the products and their ability to perform sufficiently well in 'high-stress' environments. Reference to some potential alternatives for this application included phosphorus compounds like DOPO (9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide), polyphosphates or metal phosphinates in combination with inorganic synergists like aluminium trihydroxide or silica, bound to epoxy resins

The EU Annex 15 SVHC report ([ECHA 2022a](#)) also stated that tetrabromobisphenol S (TBBPS), EC 254-551-9 was introduced into the market as a substitute to TBBPA, although it is noted that TBBPS is not registered under EU or UK REACH currently. TBBPS does not have a (GB) mandatory or (EU) harmonised classification and is not listed on the EU registry of intentions for CLH.

The recent ECHA Investigation Report on aromatic brominated flame retardants ([ECHA 2024](#)) contains further information on potential alternatives to TBBPA.

3.4 Additional information

Monitoring data are available for 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol (TBBPA) in air, water, sediment, sludge, and biota.

In a study by Kotthoff et al. (2017), TBBPA levels were observed in river estuaries with values of 1.19 µg/kg ww (62.6 µg/kg lipid weight (lw)) in 2012 and 1.02 µg/kg ww (53.7 µg/kg lw) in 2010 in bream samples from the rivers Mersey and Tees, respectively.

Regarding sediment particulate matter, the river Mersey had concentrations of 9.44 µg/kg dw, and the river Tees ranged from 2.28-3.97 µg/kg dw. TBBPA has been detected in air samples at levels of 0.8 pg/m³ (Abdallah et al., 2008), as well as lake water (1x10⁻⁴ to 3x10⁻³ µg/L), sediment (0.3-3.8 µg/kg dw [Harrad et al., 2009]; < 2.4–9750 µg/kg dw [Morris et al., 2004]; < 1.07–2.3 µg/kg ww [CEFAS, 2002]), and sludge (0.0026 to 112 µg/kg dw [Morris et al., 2004]; < 0.015 to 112 µg/kg dw [de Boer et al., 2002]).

Worldwide monitoring data indicates that TBBPA is detected at low levels in the water, air, soil, and sediment in distant and urban localities. However, higher concentrations can persist in sediments and soils close to the manufacturing facilities and e-waste recycling facilities of brominated flame retardants.

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Glossary of terms used in Agency Annex 15 report

Agency, the HSE

CLH	Harmonised Classification and Labelling
CLP	Classification, labelling and packaging
DBMC	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol
DUIN	Downstream User Import Notifications
ECHA	European Chemicals Agency
EU	European Union
HSE	Health and Safety Executive
MCL	Mandatory Classification and Labelling
RAC	Committee for Risk Assessment
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals regulation
RMOA	Risk management options analysis
SVHC	Substance of very high concern
TBBPA	2,2',6,6'-TETRABROMO-4,4'- ISOPROPYLIDENEDIPHENOL
TBBPS	tetrabromobisphenol S



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