



Annex 15 report

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

Substance Name: Barium diboron tetraoxide

EC Number: 237-222-4

CAS Number: 13701-59-2

March 2026

Contents

1. Proposal	2
2. Justification	3
2.1 Identity of the substance and physical and chemical properties	3
2.2 Mandatory classification and labelling	5
2.3 Human health hazard assessment	5
2.4 Conclusions on the SVHC properties	5
3. Information on use, exposure and alternatives	6
3.1 UK and EU REACH registration status and tonnage	6
3.2 General description of uses and exposure	6
3.3 Alternatives	6
3.4 Additional information	6
References	7
Glossary of terms used in Agency Annex 15 report	8

1. Proposal

Substance name: Barium diboron tetraoxide

EC number: 237-22-4

CAS number: 13701-59-2

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

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

Barium diboron tetraoxide is included in the GB Mandatory Classification and Labelling (MCL) list. It is covered by the entry with index number 056-005-00-3 and classified in the hazard class toxic for reproduction category 1B (H360FD: May damage fertility. May damage the unborn child).

¹ Classification in accordance with section 3.7 of Annex I 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:	237-222-4
EC name:	Barium diboron tetraoxide
CAS number:	13701-59-2
IUPAC name:	Barium diboron tetraoxide
Index number in GB MCL List	056-005-00-3
Molecular formula:	BaB ₂ O ₄
Molecular weight range:	222.95 g/mol
Synonyms:	Barium metaborate Boric acid (HBO ₂) Barium salt (2:1) Boric acid (HBO ₂) Barium salt Barium borate Barium boron oxide Barium(2+);oxido(oxo)borane Barium(2+) ion boronato

Structural formula:	
Substance Type:	Mono-constituent

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

2.1.2 Composition of the substance

Information on impurities and additives is not relevant for the identification of the substance as a SVHC.

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 (c) 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 (c) of UK REACH.

2.1.5 Physicochemical properties

Not relevant for the identification of the substance as a SVHC in accordance with Article 57 (c) 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
056-005-00-3	Barium diboron tetraoxide	237-222-4	13701-59-2	Repr. 1B Acute Tox. 4 Acute Tox. 3	H360FD H332 H301	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

Barium diboron tetraoxide is covered by the entry with index number 056-005-00-3 in the GB MCL list and is classified in the hazard class toxic for reproduction category 1B (H360FD: May damage fertility. May damage the unborn child).

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

3. Information on use, exposure and alternatives

3.1 UK and EU REACH registration status and tonnage

The substance is not registered under UK REACH. However, 13 Downstream User Import Notifications (DUINs²) have been submitted.

Under EU REACH, the substance is registered with an aggregated tonnage of 10 – 100 tonnes per annum (tpa)³.

3.2 General description of uses and exposure

The substance is reportedly used in coatings and paints, thinners, paint removers as well as polymer preparations and compounds. There is potential for consumer use e.g., in paint ([ECHA, 2022](#)).

3.3 Alternatives

The EU Annex 15 report ([ECHA, 2022](#)) states the following as possible alternatives: calcium phosphate, calcium molybdate, aluminium hydroxide and magnesium hydroxide.

3.4 Additional information

Several other borates are already included on the Candidate List under UK and EU REACH due to their classification for reproductive toxicity. [ECHA \(2022\)](#) notes that there is potential for barium diboron tetraoxide to be used as an alternative to these other borates, given the chemical similarities and the overlap in their uses/functions.

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/>

References

ECHA (2022) PROPOSAL FOR IDENTIFICATION OF A SUBSTANCE OF VERY HIGH CONCERN ON THE BASIS OF THE CRITERIA SET OUT IN REACH ARTICLE 57.

Available at: <https://echa.europa.eu/documents/10162/a1643f51-bfb7-7b80-80ad-1dfe70ac6796> [Accessed: 09/2025]

ECHA Chemicals database; ECHA CHEM. Available at: <https://chem.echa.europa.eu/> [Accessed: 09/2025]

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance). Available at: <https://www.legislation.gov.uk/eur/2008/1272/contents> [Accessed 09/2025]

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance). Available at: <https://www.legislation.gov.uk/eur/2006/1907/contents> [Accessed 09/2025]

Glossary of terms used in Agency Annex 15 report

Agency, the HSE

CLP	Classification, labelling and packaging
DUIN	Downstream User Import Notifications
ECHA	European Chemicals Agency
EU	European Union
HSE	Health and Safety Executive
MCL	Mandatory Classification and Labelling
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals regulation
SVHC	Substance of very high concern
tpa	Tonnage per annum



Further information

This publication is available on the HSE website [here](#).

© *Crown copyright* If you wish to reuse this information visit [the HSE website](#) for details. First published 03/26.

Published by the Health and Safety Executive 03/26.