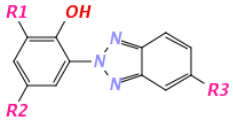
Assessment of regulatory needs

Authority: European Chemicals Agency (ECHA)

Group Name: Hydroxyphenyl Benzotriazoles

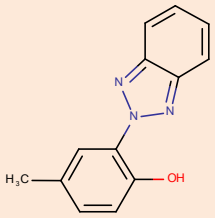
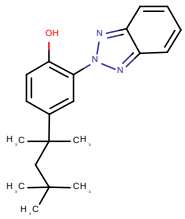
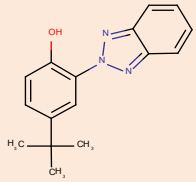
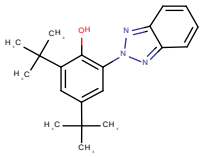
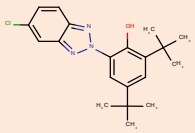
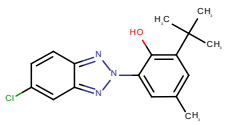
General structure:



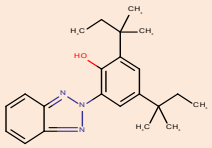
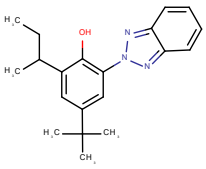
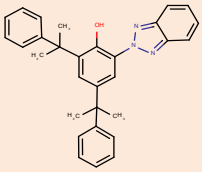
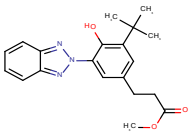
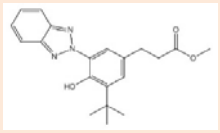
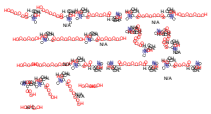
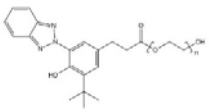
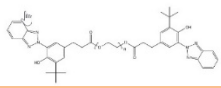
Revision history

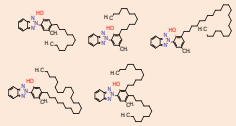
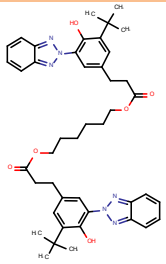
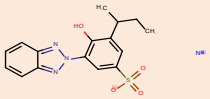
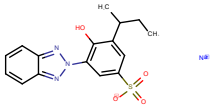
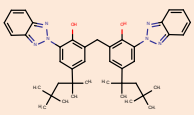
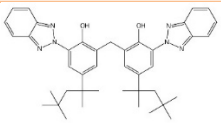
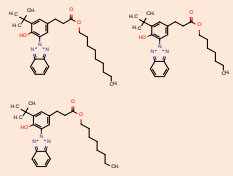
Version	Date	Description
1.0	24 May 2024	

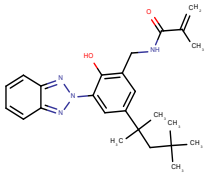
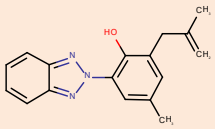
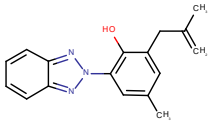
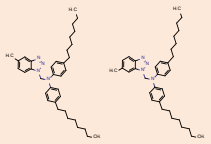
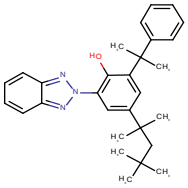
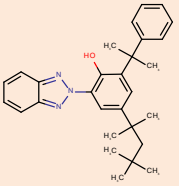
Substances within this group:

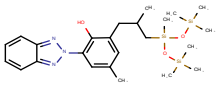
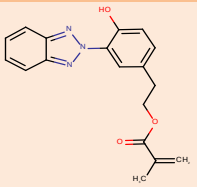
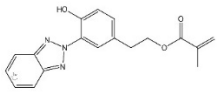
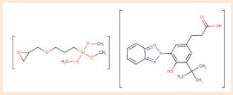
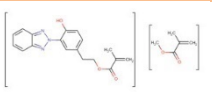
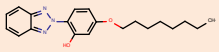
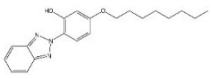
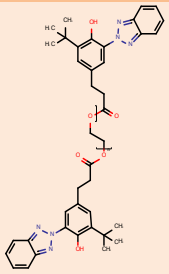
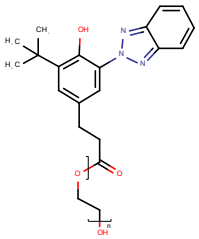
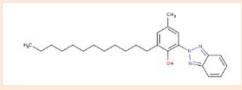
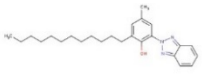
EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
219-470-5	2440-22-4	2-(2H-benzotriazol-2-yl)-p-cresol (UV-P)		Full, 100-1000
221-573-5	3147-75-9	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)		Full, 100-1000
221-574-0	3147-76-0	2-(2H-benzotriazol-2-yl)-4-tert-butylphenol		Full, not (publicly) available
223-346-6	3846-71-7	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)		C&L notification
223-383-8	3864-99-1	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)		C&L notification
223-445-4	3896-11-5	Bumetrizole (UV-326)		Full, 100-1000

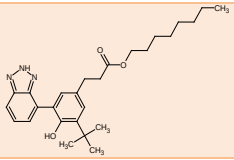
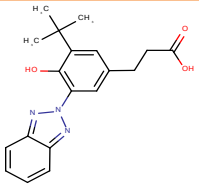
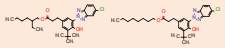
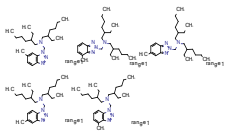
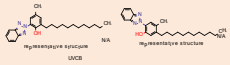
[1] Note that the total aggregated tonnage band may be available on ECHA's webpage at https://echa.europa.eu/information-on-chemicals/registered-substances

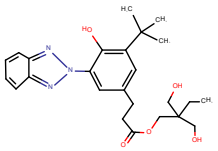
EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
247-384-8	25973-55-1	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)		Full, 100-1000
253-037-1	36437-37-3	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)		C&L notification
274-570-6	70321-86-7	2-(2H-benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)phenol (UV-234)		Full, 100-1000
400-820-2	84268-33-7	Methyl 3-[3-(2H-benzotriazol-2-yl)-4-hydroxy-5-(2-methyl-2-propanyl)phenyl]propanoate		Full, not (publicly) available
*672-710-4**	*84268-33-7*	2-(2H-benzotriazol-2-yl)-6-dodecyl-4-methyl-, branched and linear		C&L notification
400-830-7	104810-47-1	A mixture of: α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene); α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene) (UV-1130)	  	Full, not (publicly) available

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
401-680-5	125304-04-3	A mixture of: isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-dodecylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-tetracosylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-5,6-didodecyl-phenol. n=5 or 6 (UV-571)		Full, 100-1000
402-930-6	84268-08-6	Hexane-1,6-diyl bis(3-(3-benzotriazol-2-yl-5-tert-butyl-4-hydroxyphenyl)propionate)		NONS
403-080-9	92484-48-5	Sodium 3-(2H-benzotriazol-2-yl)-5-sec-butyl-4-hydroxybenzenesulfonate		Full, not (publicly) available
*618-852-2**	*92484-48-5*	3-(2H-Benzotriazolyl)-5-(1,1-di-methylethyl)-4-hydroxy-benzenepropanoic acid octyl esters		Not registered
403-800-1	103597-45-1	2,2'-methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol) (UV-360)		Full, 100-1000
*600-456-6**	*103597-45-1*	2-(2-hydroxy-4-octyloxyphenyl)-2H-benzotriazole		C&L notification
407-000-3	127519-17-9	A mixture of branched and linear C7-C9 alkyl 3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]propionates (UV_BA82)		Full, 100-1000

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
418-470-4	107479-06-1	N-[3-benzotriazol-2-yl-2-hydroxy-5-(1,1,3,3-tetramethylbutyl)-benzyl]-2-methylacrylamide		NONS
419-750-9	98809-58-6	2-benzotriazol-2-yl-4-methyl-6-(2-methylallyl)phenol		NONS
*680-339-4**	*98809-58-6*	2-Methyl-2-propenoic acid, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester		OSII or TII
420-720-2	-	1-[di(4-octylphenyl)aminomethyl]-4-methyl-1H-benzotriazole;N-[(4-methyl-1H-benzotriazol-1-yl)methyl]-4-octyl-N-(4-octylphenyl)aniline;reaction mass of: 1-[di(4-octylphenyl)aminomethyl]-5-methyl-1H-benzotriazole;reaction mass of: N-[(5-methyl-1H-benzotriazol-1-yl)methyl]-4-octyl-N-(4-octylphenyl)aniline		Full, not (publicly) available
422-600-5	73936-91-1	2-(2H-Benzotriazol-2-yl)-6-(1-methyl-1-phenylethyl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-928)		Full, 100-1000
*686-647-5**	*73936-91-1*	methyl 3-[3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl]propanoate		C&L notification

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
422-940-4	-	SILATRIZOLE		Full, 100-1000
424-240-4	96478-09-0	2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester		Full, not (publicly) available
*640-057-4**	*96478-09-0*	Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxy-		C&L notification
442-500-5	-	2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester		NONS
443-470-6	-	LP 101		Full, not (publicly) available
448-630-9	3147-77-1	Copolymer of 3-(2H-1,2,3-benzotriazole-2-yl)-4-		NONS
*687-558-4**	*3147-77-1*	2-(2H-Benzotriazol-2-yl)-6-(1-methyl-1-phenylethyl)-4-(1,1,3,3-tetramethylbutyl) phenol		C&L notification
600-602-9	104810-47-1	EO bis(benztriazolyl)phenylpropionat		C&L notification
600-603-4	104810-48-2	Poly(oxy-1,2-ethanediyl), .alpha.-[3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropyl]-.omega.-hydroxy-		C&L notification
603-051-2	125304-04-3	Phenol, 2-(2H-benzotriazol-2-yl)-6-dodecyl-4-methyl-, branched and linear		C&L notification
*639-926-0**	*23328-53-2*	Reaction mass of Octyl-3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-		C&L notification

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
		benzotriazole-2-yl)phenyl]propionate and 2-Ethylhexyl-3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-benzotriazole-2-yl)phenyl]propionate		
603-204-3	127519-17-9	2,2'-Methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol)		C&L notification
630-348-4	84268-36-0	sodium 3-(2H-benzotriazol-2-yl)-5-sec-butyl-4-hydroxybenzenesulfonate (M1)		OSII or TII
916-914-6	-	Reaction mass of Octyl-3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-benzotriazole-2-yl)phenyl]propionate and 2-Ethylhexyl-3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-benzotriazole-2-yl)phenyl]propionate		Full, not (publicly) available
939-700-4	-	Reaction mass of 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl- and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl- and N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl- and N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine		Full, 100-1000
941-607-9	1689576-90-6	Phenol, 2-(2H-benzotriazol-2-yl)-5(or 6)-dodecyl-4-methyl-, branched and linear		Full, not (publicly) available

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full, OSII or TII, NONS), highest tonnage band among all the registrations (t/y) [1]
944-189-6	-	2-(2H-benzotriazol-2-yl)-p-cresol		Full, not (publicly) available

(*) When a dossier is submitted without using the existing EC/List number, REACH-IT automatically assigns a List number to the dossier. Sometimes, due to IT technical limitations, duplicate List numbers are created. In this group the following are considered duplicate entries: EC/List 400-820-2 and 672-710-4, 403-080-9 and 618-852-2, 403-800-1 and 600-456-6, 419-750-9 and 680-339-4, 422-600-5 and 686-647-5, 424-240-4 and 640-057-4, 448-630-9 and 687-558-4, 603-051-2 and 639-926-0. In general, EC numbers take precedence over List numbers.

This table also contains group members that are only notified under the CLP Regulation. However, the list is not necessarily exhaustive.

Contents

DISCLAIMER

The author does not accept any liability with regard to the use that may be made of the information contained in this document. Usage of the information remains under the sole responsibility of the user. Statements made or information contained in the document are without prejudice to any further regulatory work that ECHA, the Member States or other regulatory agencies may initiate at a later stage. Assessment of regulatory needs and their conclusions are compiled on the basis of available information and may change in light of newly available information or further assessment.

Foreword

The assessment of regulatory needs of a group of substances is an iterative, informal process to help authorities consider the most appropriate way to address an identified concern for a group of substances or a single substance and decide whether further regulatory risk management activities are necessary.

The grouping is mainly based on structural similarity and associations made by the registrants between substances through read-across and category approaches as well as category associations from external sources (e.g. OECD categories)[2]. These methods are different from grouping as defined in Section 1.5 of Annex XI to REACH because the scope and intended use of ECHA's grouping is different. Thus, in this context, grouping does not aim to validate read-across and category approaches according to the Annex XI requirements but rather to support a faster and more consistent approach for regulating chemicals and avoid regrettable substitution.

The focus of the assessment is largely based on information available in the registration dossiers and on properties requiring regulatory risk management action at EU level[3]. The information reported on uses is from the registration dossiers (IUCLID) and is used as a proxy for assessing how widespread uses are and whether potential for exposure to humans and releases to the environment can be expected. The chemical safety reports are not necessarily consulted and no quantitative exposure assessment is performed at this stage.

The outcome of these assessments are proposals for immediate (the first action) and subsequent regulatory action(s), including the foreseen ultimate regulatory action (last foreseen regulatory action) to address the identified concern(s) in case the potential hazards are confirmed. For example, further data generation through compliance check is suggested as a first action, to confirm the identified hazard.

Where hazards are confirmed, regulatory risk management actions could be considered for the whole group, for a subgroup or for individual substances within the group. The robustness of the group depends on the stage of assessment and the level of certainty this stage requires. For example, the needs for grouping under restriction may differ from the needs for grouping for the purpose of harmonised classification. Group membership is reconsidered accordingly throughout the iterative assessment of regulatory needs, for example, after further information is generated and the hazard has been clarified or when new insights on uses and risks are available.

The assessment of regulatory needs in itself does not represent a regulatory action, but rather a preparatory step to consider further possible regulatory actions at the level of individual substances or groups/subgroups of substances.

[2] Working with Groups - ECHA (europa.eu)

[3] Regarding hazard properties the focus is for instance on CMR (carcinogenic, mutagenic and/or toxic to reproduction), sensitiser, ED (endocrine disruptor), PBT/vPvB or equivalent (e.g. substances being persistent, mobile and toxic), aquatic toxicity hazard endpoints and therefore only those are reflected in the report. This does not mean that the substances do not have other known or potential hazards. In some specific cases, ECHA may consider additional hazards (e.g. neurotoxicity, STOT RE).

Publication of ARNs makes it easier for companies to follow the latest status of their substances of interest, anticipate potential regulatory actions and make strategic choices in their chemicals portfolio.

For more information on assessments of regulatory needs please consult ECHA's website[4].

[4] https://echa.europa.eu/understanding-assessment-regulatory-needs

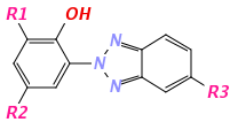
Glossary

ARN	Assessment of Regulatory Needs
CCH	Compliance Check
CLH	Harmonised classification and labelling
CMR	Carcinogenic, mutagenic and/or toxic to reproduction
Dev	Dossier evaluation
ED	Endocrine disruptor
NONS	Notified new substances
OEL	Occupational exposure limit
OSII or TII	On-site isolated intermediate or transported isolated intermediate
PBT/vPvB	Persistent, bioaccumulative and toxic/very persistent and very bioaccumulative
PMT/vPvM	Persistent, mobile and toxic/very persistent and very mobile
RDT	Repeated Dose Toxicity
RMOA	Regulatory management options analysis
RRM	Regulatory risk management
SEv	Substance evaluation
STOT RE	Specific target organ toxicity, repeated exposure
SVHC	Substance of very high concern

1 Overview of the group

Explanations on the scope of this assessment are available in the foreword to this document. Please read it carefully before going through the report.

ECHA has grouped together structurally similar substances based on the presence of the hydroxy phenyl benzotriazoles moiety shown in the figure below where variable substitution is possible on the phenol ring, in ortho/para positions (R1 and R2) and in benzotriazole (R3):



This group includes a broad variety of substitutes, such as (di)tertbutyl, (di)tertpentyl, Cl, tetramethylbutyl, sec-butyl, phenylethyl phenol, alkylchains of different lengths (up to $C_{24}H_{49}$), trimethylsilyl, methyl ester, hydroxypoly oxyethylene, 2-ethylhexyl, 2-methylacrylamide, aminomethyl, octyloxyphenyl, sodium salt of benzenesulfonic acid

The group includes 43 substances, of which 21 have full registrations, 3 are registered as intermediates, 1 is a not updated NONs, 3 have no active registrations and 15 other substances are not registered. Among the registered substances several are UVCBs, the rest are multi- and mono-constituents.

During the screening of the group, eight duplicates have been identified. Following these findings, the ultimate number of the substances in the group is 35.

Based on the information reported in the REACH registration dossiers, most substances with full registrations have widespread uses by consumers and professional workers leading to potential for environmental release and human exposure. The main wide dispersive uses cover uses as UV filters or stabilising agents in coatings and paints, polymer preparations, adhesives and sealants, ink and toners, cosmetics and personal care products, perfumes and fragrances, washing and cleaning products, etc. These applications cover also the main industrial use types. Other industrial applications cover uses in paper and board treatment products, fillers, putties and plasters, laboratory chemicals and intermediates.

Article service life is reported for 14 fully registered substances, mainly in polymer preparations, adhesives and sealants, coatings, paints, ink and toners. A few substances have reported article service life also in lubricants and greases, textile dyes and metal surface treatment products. Release to the environment can occur from processing plastic articles at industrial sites, the finishing of plastic articles by professionals indoor and outdoor and the use of rubber and plastic articles both indoor and outdoor by consumers or professionals.

Four of the group members (EC 223-346-6 (UV-320), 223-383-8 (UV-327), 247-384-8 (UV-328), 253-037-1 (UV-350)) are included in Annex XIV[5] and thus subject to authorisation. In addition, UV-328 has recently been identified as a POP

[5] Authorisation List - ECHA (europa.eu)

substance[6]. Several other group members have been identified as PBT/vPvB substances and are (intended to be) identified as SVHCs for eventual inclusion in the Candidate List (see Section 3). An RMOA (DE, 2022)[7] is available for 5 group members (EC 219-470-5 (UV-P), 221-573-5 (UV-329), 274-570-6 (UV-234), 422-600-5 (UV-928), 223-445-4 (UV-326)) with a proposal for CLH[8] for UV-P as hazardous to the aquatic environment and SVHC identification[9] (as PBT/vPvB) for UV-329, UV-234, UV-326 and potentially also for UV-928 as a first step towards authorisation or restriction. For some other substances, PBT assessments are still ongoing[10]. Detailed information on regulatory actions for substances in the group is available in Annex 3 to this report. In addition, several group members have an existing harmonised classification as hazardous to the aquatic environment.

[6] https://chm.pops.int/TheConvention/ThePOPs/AllPOPs/tabid/2509/Default.aspx and List of substances proposed as POPs - ECHA (europa.eu)

[7] RMOA_Conclusion_Doc_v2_20141010.docx (europa.eu)

[8] Registry of CLH intentions until outcome - ECHA (europa.eu)

[9] Substances of very high concern identification - ECHA (europa.eu)

[10] PBT Expert Group - ECHA (europa.eu)

2 Conclusions and proposed actions

The conclusions and actions proposed in the table below are based mainly on the REACH and CLP information available at the time of the assessment by ECHA. The conclusions are preliminary suggestions from a screening-level assessment done by ECHA with the aim to propose the next steps for further work (e.g., strengthening of the hazard conclusions, clarification of the uses and/or potential for exposure). The main source of information is the registration dossiers. Relevant public assessments may also be considered. When new information (e.g., on hazards through evaluation processes, or on uses) will become available, the document may be updated, and conclusions and actions revisited.

Table 1: Conclusions and proposed actions

Subgroup name, EC/List no, substance name*	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
219-470-5 (UV-P) **221-574-0** **221-573-5 (UV-329)** **223-445-4 (UV-326)** **274-570-6 (UV 234)** **422-600-5 (UV-928)** (same as List *686-647-5*) **401-680-5 (UV-571)** **941-607-9**	Known or potential hazard for reproductive toxicity (EC 247-384-8 only) Known or potential hazard for STOT RE (EC 219-470-5, 274-570-6, 223-346-6 and 247-384-8)	Known or potential hazard **for PBT/vPvB** Known or potential hazard for PMT/vPvM (EC 219-470-5)	Industrial, widespread professional and consumer uses in washing and cleaning products, perfumes, cosmetics, adhesives, sealants, coatings, ink and toners, etc., as well as article service life in adhesives, sealants, polymer preparations, coatings, paints, ink and toners, giving rise to the potential for exposure and release.	**First step:** CCH (219-470-5, 221-574-0, 221-573-5, 274-570-6) PBT EG consultation for possibility of read-across Substance evaluation (if not possible to rea-across) (PBT/vPvB) (EC/List 221-574-0, 401-680-5, 941-607-9) **Potential next steps (if hazard confirmed after data generation):** CLH/SVHC **Potential last action:** **Restriction** (except for EC 247-384-8, which is identified as POP substance and therefore considered to be sufficiently regulated under Regulation (EU) 2019/1021. No further measures under REACH are therefore proposed). Justification:

Subgroup name, EC/List no, substance name*	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
223-346-6 (UV-320) 223-383-8 (UV-327) 253-037-1 (UV-350) 603-051-2 (same as *639-926-0*) **247-384-8 (UV-328)**				Releases to the environment from consumer and widespread professional uses cannot be avoided. Widespread professional uses are typically non-contained and non-automated leading to releases to the environment. Restriction of professional uses is preferred over authorisation as it is considered to be more efficient and effective to introduce controls at the level of placing on the market rather than at the level of uses. Industrial uses to be considered as part of the restriction. Specific restriction for use in articles is proposed as potential exposure from articles is likely.
400-830-7 (UV-1130) **407-000-3 (UV_BA82)** **400-820-2** (same as 672-710-4) **403-080-9 (same as 618-852-2)** **424-240-4** (same as 640-057-4) **944-189-6** 402-930-6	Known or potential hazard for reproductive toxicity (EC 400-830-7 only) Known or potential hazard for STOT RE (EC/List 400-820-2, 400-830-7, 407-000-3, 424-240-4)	Known or potential hazard **for PMT/vPvM**	Industrial, widespread professional and consumer uses as well as article service life in adhesives, sealants, coatings, paints, ink and toners and polymer preparations, giving rise to the potential for exposure and release. For EC 403-080-9 also consumer uses in washing and cleaning products, perfumes, cosmetics and personal care products, professional uses and	**First step:** CCH 400-830-7, 424-240-4, 916-914-6, 944-189-6 Substance evaluation (PMT/vPvM): 403-080-9 and 407-000-3 **Potential next steps (if hazard confirmed after data generation):** CLH (for 400-830-7, 407-000-3, 403-080-9, 944-189-6 and 916-914-6) Justification: Since there is high release potential to surface waters, soil and ground water due to the use in e.g. washing and cleaning products, perfumes and fragrances, cosmetics and personal care

Subgroup name, EC/List no, substance name*	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
603-204-3 **630-348-4** (M1, also common degradation product) 442-500-5 **443-470-6** 600-602-9 600-603-4 **916-914-6**			article service life in textile dyes and impregnating products are reported.	products, adhesives and sealants, coatings and paints, CLH is proposed to confirm the potential PMT/vPvM hazards. However, for the time being no conclusions are drawn regarding possible additional EU regulatory risk management until more clarity is available on how to regulate PMT/vPvM substances.
422-940-4 **939-700-4**	Inconclusive hazard for reproductive toxicity (List 939-700-4)	Inconclusive hazard for PBT/vPvB for PMT/vPvM (for List 939-700-4)	Professional and consumer uses in lubricants and greases (for EC 939-700-4 also article service life), metal working and hydraulic fluids. For EC 422-940-4 also consumer uses in perfumes and fragrances, cosmetics and personal care products giving rise to the potential for exposure and release.	CCH **Potential last action:** **Currently not possible to assess the regulatory needs** Justification: The needs for regulatory risk management actions will be assessed once generation of data is completed (CCH).
420-720-2	Inconclusive hazard for reproductive toxicity	Inconclusive hazard for PBT/vPvB	For EC 420-720-2 industrial, widespread professional and	No action **Potential last action:**

Subgroup name, EC/List no, substance name*	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
418-470-4 448-630-9 (same as 687-558-4)			consumer uses in lubricants and greases, hydraulic fluids giving rise to the potential for exposure and release.	**Currently no need for EU RRM** Justification: Due to NONS, not registered, no data generation is possible to clarify the hazards currently. Actions (including data generation) will be re-considered when the assessment will be revisited if the registration status and/or uses change.
403-800-1 (same as 600-456-6) 419-750-9 (same as 680-339-4)	No hazard or unlikely hazard for reproductive toxicity	No hazard or unlikely hazard for PBT/vPvB for PMT/vPvM	For EC 403-800-1 industrial, widespread professional and consumer uses are reported giving rise to the potential for exposure and release. Professional uses and article service life in coatings and paints, ink and toners, adhesives, and polymer preparations and sealants. Reported consumer uses in cosmetics and personal care products.	CCH EC 403-800-1 **Potential last action:** **Currently no need for EU RRM** Justification: Overall, no or unlikely hazard that would lead to concern for the reported uses. The need for EU RRM will be re-assessed if the results from data generation support the PBT properties.

*NB: EC/List numbers in **bold** indicate substances with full registrations

3 Justification for the need for regulatory risk management action at EU level (if hazards confirmed)

Suggested regulatory risk management action for substances EC/List 219-470-5 (UV-P), 221-574-0, 221-573-5 (UV-329), 223-445-4 (UV-326), 274-570-6 (UV-234), 422-600-5 (UV-928), 401-680-5 (UV-571), 941-607-9, 603-051-2, 223-346-6 (UV-320), 223-383-8 (UV-327), 253-037-1 (UV-350)) if the PBT and/or vPvB hazards are confirmed

PBT and/or vPvB hazards

Four substances have been identified as SVHC due to PBT and/or vPvB properties and are included in Annex XIV: UV-320 (EC 223-346-6), UV-327 (EC 223-383-8), UV-328 (EC 247-384-8) and UV-350 (EC 253-037-1)[11]. Two out of these substances, namely UV-320 and UV-328, were concluded PBT and vPvB as the T criterion was fulfilled based on the classification as STOT RE 2[12]. UV-327 and UV-350 have been concluded as vPvB substances. UV-328 (EC 247-384-8) has also been identified as a POP substance under the Stockholm Convention on persistent organic pollutants.

Based on ECHA's assessment of currently available hazard information, the following substances could fulfil the PBT/vPvB criteria[13]: EC/List 219-470-5 (UV-P)[14], 221-574-0, 221-573-5 (UV-329), 223-445-4 (UV-326), 274-570-6 (UV-234), 422-600-5 (UV-928), 401-680-5, 603-051-2 and 941-607-9.

They have been concluded as potential PBT/vPvBs based on the following:

Germany has undertaken the PBT assessment for UV-P, UV-234, UV-326, UV-329 and UV-928. UV-326 and UV-329 have recently been identified as SVHCs by ECHA's Member State Committee (MSC-84, December 2023)[15]. The PBT assessments in the PBT EG are on-going for UV-P, UV-234 and UV-928. The outcome of the PBT assessment so far is:

- these substances are likely persistent or very persistent (P/vP) as:
  - they meet the criteria [P/vP] as set out in Annex XIII [degradation half-life >120 or > 180 days in fresh or estuarine sediment and in soil];
  - weight-of-evidence assessments based on field sediment and soil simulation studies, detections of hydroxyphenyl benzotriazoles in sediment cores, read-across to similar substances for which there is water-sediment simulation studies (OECD 308) conclude these

[11] UV-320: https://echa.europa.eu/documents/10162/ee1effd6-6a4e-cb08-b236-4dcd470f933b
UV-327: https://echa.europa.eu/documents/10162/fe2f4a9a-e333-850d-310a-8237bdc12fbe
UV-358: https://echa.europa.eu/documents/10162/78b46a52-7b7c-c7ae-d5d7-2df3d2ef3a21
UV-350: https://echa.europa.eu/documents/10162/09b09448-daf5-6fd2-0eec-a5dc6e63f9ed

[12] As adopted by RAC (10 June 2013) based on an ECHA request according to Article 77(3) of REACH (supdoc_uv-328 (europa.eu), page 46).

[13] As defined in REACH Annex XIII and R11 Guidance on PBT assessment (https://echa.europa.eu/documents/10162/17224/information_requirements_r11_en.pdf/a8cce23f-a65a-46d2-ac68-92fee1f9e54f)

[14] UV-P also screens as potentially mobile, which is to be further investigated. CCH is suggested to clarify the identified concern.

[15] Meetings of the Member State Committee - ECHA (europa.eu)

substances as P and/or vP;

- these substances are likely bioaccumulative or very bioaccumulative (B/vB)[16] as:
    - UV-326, UV-329 and UV-234 meet the criteria [B/vB] as set out in Annex XIII (*i.e.* BCF > 5 000);
    - weight-of-evidence assessments based on bioaccumulation in fish (OECD 305) and/or BCF determined from *Hyalella azteca* studies, benchmarking of depuration rates in fish (k2), grouping approach and read-across to similar substances conclude these substances as bioaccumulative or very bioaccumulative.
- UV-P and UV-234 may meet the T criterion if the hazard for STOT RE and/or reproductive toxicity is confirmed via data generation. The current data on these hazards shows toxicity but at doses below the classification limits and there are no fertility data for UV-234. UV-234 currently does not meet the T-criterion based on aquatic toxicity. For UV-P available data on toxicity to aquatic invertebrates show a possible fulfilment of the T-criterion. This is currently under discussion as part of a proposal for a harmonised classification.

EC/List 221-574-0, EC 401-680-5 (UV-571), 603-051-2 and 941-607-9 are structurally similar to the ones above which screen as potential PBT/vPvB:

- these substances are potentially persistent or very persistent (P/vP) as:
    - they are not readily biodegradable;
- these substances are potentially bioaccumulative or very bioaccumulative (B/vB) as:
    - they have a high potential to partition to lipid storage (e.g., log Kow > 4.5).
- Furthermore, based on the structural similarity with the other known or potential PBT/vPvB substances in the group (for which there is higher-tier data and for some of which read-across has been applied), these substances are concluded as potential PBT/vPvB substances.

For EC/List 221-574-0 and 941-607-9 there is not sufficient hazard information available to conclude on the PBT/vPvB hazard but as explained above, the potential PBT/vPvB conclusion was extrapolated from close structural analogues in the group. A need to further investigate the PBT properties of EC 401-680-5 (UV-571) and/or its degradation products has also been identified following CCH and follow-up. Read-across assessment including consulting the PBT expert group is proposed as a first step for EC/List 221-574-0, 401-680-5 and 941-607-9to clarify their environmental hazard properties and conclude in particular on their potential PBT/vPvB properties, based on their structural similarities and expected behaviour. In the case that read-across would prove not to be plausible Substance Evaluation (SEv) is proposed as an alternative.

Human health hazard

Known or potential hazard for *STOT RE*: EC/List 223-346-6 (UV-320), 247-384-8 (UV-328), 219-470-5 (UV-P) and 274-570-6 (UV-234)

Both UV-320 and UV-328 are consistently self-classified as STOT RE 2 by the registrants or notifiers, respectively, which is not the case for UV-P and UV-234. However, OECD 408 studies for the latter two substances showed liver effects at

[16] UV-P has been concluded not B in aquatic organisms, but the bioaccumulation assessment is still on-going.

doses above classification limits. CCH is proposed for these two substances to clarify the potential hazard for STOT RE. Provided the data generated under CCH clarify the hazardous properties as STOT RE, it is recommended addressing this hazard in the regulatory action suggested overleaf (i.e. CLH).

Suggested regulatory risk management actions

The first step of the regulatory risk management action proposed, should the hazards exist, is to confirm via SVHC identification under REACH or via CLH under CLP[17] the potential PBT/vPvB properties.

SVHC identification and CLH are highly recommended as a step prior to restriction. In addition, SVHC identification brings immediate obligations for suppliers of the substances such as (i) supplying a safety data sheet and communicating on the safe use of the substances, (ii) responding to consumer requests within 45 days and (iii) notifying ECHA if the article they produce contains the substance above regulatory threshold.

The harmonised classification/SVHC identification as PBT/vPvB will require company level risk management measures (RMM) for environment to be in place. It will require manufacturers and importers of the substance to recommend, to downstream users, risk management measures that minimise exposure and emissions to humans and the environment throughout the lifecycle of the substances.

Confirmation of the hazard properties as PBT/vPvB via SVHC identification/CLH is not considered sufficient to minimise potential releases of the substances in the environment. Potential for release is expected from consumer uses (e.g. washing and cleaning products, cosmetics and personal care products, perfumes and fragrances, adhesives and sealants, coatings and paints, etc.) where releases to the environment cannot be avoided.

The professional uses in polymer preparations, as coatings and paints, adhesives and sealants, ink and toners, cosmetics and personal care products, washing and cleaning products are expected to be widespread (at many sites and by many users). Professional use is often widespread with relatively low levels of operational controls and risk management measures but with often frequent exposures with a long duration. In addition, professional users may be self-employed and therefore not covered by occupational safety and health (OSH) legislation.

Consumers may be co-exposed to the substances used by professionals *(*coatings and paints, adhesives and sealants, ink and toners, cosmetics and personal care products, washing and cleaning products*)*.

Therefore, a restriction of the substances as such or in mixtures (concentration limit in mixtures) used by consumers, professional and industrial workers is suggested after SVHC identification and CLH, with the aim to minimise exposures and emissions to humans and the environment.

In addition, the use of the most harmful substances (e.g. PBT/vPvB, CMR) by consumers and professional workers has been recognised as an area of concern

[17] The hazard classes PBT/vPvB, PMT/vPvM, ED have been introduced in CLP: CLP Delegated Act (europa.eu). Therefore, instead of SVHC identification under REACH, these hazards may be confirmed via CLH. It is not clear when to use which legal route (SVHC under REACH or CLH under CLP) during the period that both legal options are available.

under the European Commission's Chemicals Strategy for Sustainability[18] which aims to extend to professional users under REACH the level of protection granted to consumers.

Restriction of professional uses is preferred over authorisation as it is considered to be more efficient and effective to introduce controls at the level of placing on the market rather than at the level of uses. Moreover, restricting substances in articles used by professionals or consumers should be considered in the context of the restriction as potential exposure from articles cannot be excluded. Release to the environment can occur from processing plastic articles at industrial sites, the finishing of plastic articles by professionals indoor and outdoor and the use of rubber and plastic articles both indoor and outdoor by consumers or professionals. Further emissions might occur during service life of textiles both indoor and outdoor, and service life of coatings, adhesives and sealants both indoor and outdoor in articles like vehicles, metal articles and rubber articles for furniture.

EC/List 221-574-0 and 941-607-9 are only used in industrial settings in coatings, paints and polymer preparations. Some other group members (EC/List 223-346-6 (UV-320), 223-383-8 (UV-327), 253-037-1 (UV-350) and 603-051-2) with known and/or potential PBT/vPvB hazards are currently not registered.

Moreover, UV-320, UV-327 and UV-350 are included in Annex XIV and thus subject to authorisation with a sunset date that passed on 27 November 2023. No applications for authorisation have been submitted by the sunset date and the use of these substances in the European market would therefore be no longer allowed. Moreover, a possible restriction under REACH Article 69(2) on the use of this substances in imported articles is currently also under investigation. EC 247-384-8 (UV-328) is also included in Annex XIV of REACH, and has recently been identified as POP substance[19,20] and is therefore considered to be sufficiently regulated under Regulation (EU) 2019/1021. No further measures under REACH are therefore proposed for this substance.

The proposed restriction should cover all registered and non-registered substances, if the PBT/vPvB hazard is confirmed, to minimise release to the evironment and to address potential substitution.

EC 219-470-5 (UV-P), 223-383-8 (UV-327), 223-445-4 (UV-326), 274-570-6 (UV-234) are included in the Union list of monomers and other substances authorised to be used in the manufacture of food contact plastics (EU No 10/2011, Annex I). UV-327 is currently not registered, however it may be present in imported food contact materials and may in small amounts be used in food contact material produced in the European Union (the registration requirement does not apply <1 tpa and the Authorisation requirement does not apply to food contact materials). As said before UV-P, UV-234 and UV 236 are potentially PBT/vPvB. If those substances are confirmed PBT/vPvB after SVHC identification the possible impact on the actual use of these substances in plastic materials to be intended to come into contact with food would need to be further investigated under the food contact material regulation.

[18] European Commission, *Chemical Strategy for Sustainability Towards a Toxic-Free Environment*, available at https://ec.europa.eu/environment/pdf/chemicals/2020/10/Strategy.pdf

[19] List of substances proposed as POPs - ECHA (europa.eu)

[20] COP.11 (pops.int)

Suggested regulatory risk management action for EC/List 400-830-7 (UV-1130), 407-000-3 (UV_BA82), 403-080-9, 944-189-6, 630-348-4 (M1), 916-914-6 if the PMT/vPvM hazards are confirmed

PMT/vPvM

Potential PMT/vPvM properties have been identified for 400-820-2, 400-830-7 (UV-1130), 402-930-6, 403-080-9, 407-00-3 (UV_BA82), 424-240-4, 442-500-5, 443-470-6, 600-602-9, 600-603-4, 603-204-3, 630-348-4 (M1), 916-914-6 and 944-189-6.

All substances, except EC 403-080-9, are expected to degrade to M1 (List 630-348-4, also a group member) by hydrolysis of the ester bond and therefore they have been concluded as potential PMT/vPvM. Spain has undertaken a PBT assessment of EC 400-820-2, 400-830-7, 407-000-3 (UV_BA82) and List 630-348-4 (M1)[21], in which the formation of the degradation product M1 through primary degradation of the ester bond is demonstrated and discussed, leading to the conclusion that the the three parent substances are not persistent . The PBT assessment for M1 concluded that the substance is vP, not (v)B and that it screens for mobility as the log Koc of the ionised form is expected to be low. The majority of the parent substances are unlikely M/vM due to relatively high log Koc and/ or log Kow. Compliance check (CCH) for EC 400-830-7 (UV-1130), and Substance evaluation (SEV) for 407-000-3 (UV_BA82) is proposed to clarify the potential mobility of its degradation product M1 (List 630-348-4). Would (v)P(v)MT properties be confirmed for M1, a grouping approach may be considered later to assess the rest of the substance forming into M1. For EC 403-080-9, Substance Evaluation (SEv) by Spain is on-going to clarify the potential persistency and mobility of the substance.

Human health hazards

For EC 400-830-7 (UV-1130) an OECD 414 study shows a minor developmental delay in ossification at 150 mg/kg bw/d. A screening study showed a clear increase in perinatal mortality at 100 and 50 mg/kg, and at 100 mg/kg bw/d also increased prenatal loss, decreased pup survival to day 4 post partum (p.p.) reduced birth weight, slightly reduced mean pup weight (11%) during lactation and slight delay in physical development (eye opening, tooth eruption). CCH is proposed to clarify the potential hazard for reproductive toxicity.

Known or potential hazard for *STOT RE*: EC 400-820-2, 424-240-4, 400-830-7 (UV-1130) and 407-000-3 (UV_BA82)

An OECD 407 study for EC 400-820-2 showed liver toxicity at 50 mg/kg bw/day and above, based on liver weights, liver enzymes and the macroscopical and microscopical (necrosis) findings. The liver effects were very similar to those found after repeated administration of known peroxisome proliferators to rats. Due to the apparent lack of relevance to humans of rat peroxisome proliferation (doi: 10.1007/s00204-017-2094-7), no conclusion on further regulatory measures can be taken for this substance. For EC 424-240-4 an OECD 408 revealed liver effects but at doses above classification limits.

For UV-1130 an OECD 408 showed haematologcaly and clinical chemistry liver effects at 10 mg/kg bw/d and slight hepatic cell hypertrophy in 3/10 animals and chronic necrosis in 1/10 at 50 mg/kg bw. EC 400-830-7 is notified as STOT RE 1 for liver.

[21] Hazard assessment outcome document: https://echa.europa.eu/pbt/-/dislist/details/0b0236e181d17a80

An OECD 407 with UV_BA82 showed liver enlargement and liver histopathology at 50 mg and more for female and at 500 mg for male. As the substance accumulation in the body is suggested by the high Log Kow (above 5.6) and a 90d study is missing, a lower dose level for effects is expected after longer exposure leading to a potential classification as STOT RE 1.

The first step of the regulatory risk management action proposed, should the hazard exist, is to confirm via CLH under CLP the potential PMT/vPvM properties for EC/List 400-830-7 (UV-1130)), 407-000-3 (UV_BA82), 403-080-9, 944-189-6, 916-914-6 and 630-348-4 (M1). When preparing the proposals, it may be considered what would be the best way to develop them, for instance whether to make a proposal for the group of substances that degrade into M1, to submit them individually or jointly.

UV_BA82 and UV-1130 have potential hazardous properties as toxic to reproduction and/or STOT RE, provided the data generated under CCH clarifies those properties the CLH could also cover those hazards. There is high release potential to surface waters, soil and ground water due to the use of these substances in e.g. washing and cleaning products, perfumes and fragrances, cosmetics and personal care products, adhesives and sealants, coatings and paints.

For the other potential PMT/vPvM substances in the group, data generation is either currently not possible since the substances are not registered (EC/List 402-930-6, 442-500-5, 603-204-3, 600-602-9, 600-603-4) or the reported uses are not widespread and subsequently not giving rise for potential release to the environment (EC 400-820-2, 443-470-6 and 424-240-2). Actions (including data generation) will be re-considered when the assessment will be revisited if the registration status and/or uses change.

Currently not possible to suggest regulatory risk management actions for EC/List 422-940-4 and 939-700-4

It is not possible to assess the needs for regulatory risk management for EC/List 422-940-4 and 939-700-4 as information on hazard is not sufficient to conclude on potential PBT/vPvB. The needs for regulatory risk management actions will be assessed once generation of data is completed (CCH).

EC 422-940-4 is listed in Annex VI to the Cosmetic Products Regulation (EC No 1223/2009) as UV filter allowed in cosmetic products. Based on the information in the registration dossier, widespread consumer uses in cosmetics and personal care products, as well as in perfumes and fragrances are reported, giving rise to the concern of potential release to the environment.

In addition to inconclusive PBT/vPvB hazards, List 939-700-4 has been also screened for inconclusive reproductive toxicity. CCH is currently ongoing for List 939-700-4 to clarify the hazard. The substance has reported industrial and widespread consumer and professional uses as well as article service life in several applications, with potential exposure of consumers and workers, such as coatings and paints, ink and toners, adhesives and sealants.

Currently no need to suggest (further) regulatory risk management actions for EC 420-720-2, 418-470-4, 448-630-9, 403-800-1 and 419-750-9.

Due to not registered substance, NONS it is not possible to clarify the potential hazards of substances EC 420-720-2, 418-470-4, 448-630-9. Therefore, it is proposed that there is currently no need for EU RRM action on these substances. If

the registration status changes, data generation and potentially follow up actions will be re-considered when the assessment will be revisited.

For EC 403-800-1 and 419-750-9 no or unlikely hazards for PBT/vPvB, PMT/vPvM and/or reproductive toxicity have been identified. EC 403-800-1 is used in industrial settings, by professional workers as well as in articles in coatings, paints, ink and toners, sealants, adhesives and polymer preparations as well as by consumer uses in cosmetics and personal care products. No uses are reported for EC 419-750-9. For both substances no or unlikely hazard has been identified for bioaccumulation and toxicity based on a toxicokinetic study for the first substance and one on bioaccumulation for the second substance that would lead to a concern for the reported uses. However, they are potentially persistent as they are not readily biodegradable and do not show aquatic toxicity based on data available.

In addition, EC 403-800-1 is listed in Annex VI to the Cosmetic Products Regulation (EC No 1223/2009) as UV filter allowed in cosmetic products. The information in the registration dossier indicates consumer uses in cosmetics and personal care products giving rise to the concern for potential release to the environment. However, no hazards were identified and subsequently no need for EU RRM is concluded. Compliance check (CCH) is proposed for EC 403-800-1 to clarify the bioaccumulation potential.

Annex 1: Overview of classifications

Data extracted on 26 January 2023

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
219-470-5	2440-22-4	2-(2H-benzotriazol-2-yl)-p-cresol	-	Skin Sens. 1B H317 Aquatic Chronic 1 H410
221-573-5	3147-75-9	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol	-	-
221-574-0	3147-76-0	2-(2H-benzotriazol-2-yl)-4-tert-butylphenol	-	-
223-346-6	3846-71-7	2-benzotriazol-2-yl-4,6-di-tert-butylphenol	-	-
223-383-8	3864-99-1	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol	-	-
223-445-4	3896-11-5	Bumetrizole	-	-
247-384-8	25973-55-1	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	-	STOT RE 2 H373, affected organs: liver and kidney Aquatic Chronic 4 H413
253-037-1	36437-37-3	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol	-	-
274-570-6	70321-86-7	2-(2H-benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)phenol	-	-
400-820-2	-	400-820-2	Index number: 616-134-00-3	Aquatic Chronic 4 H413

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
			Aquatic Chronic 3 H412	
400-830-7	-	A mixture of: α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene); α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)		Skin Sens. 1 H317 Skin Sens. 1A H317 Aquatic Chronic 2 H411
401-680-5	-	A mixture of: isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-dodecylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-tetracosylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-5,6-didodecyl-phenol. n=5 or 6	Index number: 604-057-00-8 Aquatic Chronic 4 H413	Aquatic Chronic 2 H411 [Article 10 (inactive)] Aquatic Chronic 4 H413
403-080-9	92484-48-5	sodium 3-(2H-benzotriazol-2-yl)-5-sec-butyl-4-hydroxybenzenesulfonate	Index number: 613-095-00-4 Eye Dam. 1 H318	Eye Damage 1 H318 Aquatic Chronic 3 H412
403-800-1	-	2,2'-methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol)	Index number: 604-052-00-0 Aquatic Chronic 4 H413	Aquatic Chronic 4 H413
407-000-3	127519-17-9	A mixture of branched and linear C7-C9 alkyl 3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxyphenyl]propionates	Index number: 607-281-00-4 Aquatic Chronic 2 H411	STOT RE 2 H373, affected organs: liver Aquatic Chronic 2 H411
419-750-9	-	419-750-9	Index number: 604-077-00-7 Aquatic Chronic 4 H413	Aquatic Chronic 4 H413 [intermediate (active)]
420-720-2	-	420-720-2	Index number: 612-269-00-7 Aquatic Chronic 4 H413	Aquatic Chronic 4 H413
422-600-5	-	422-600-5	-	-

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
422-940-4	-	422-940-4	-	-
424-240-4	-	424-240-4	-	Aquatic Chronic 4 H413
443-470-6	-	443-470-6	-	-
600-456-6	103597-45-1	600-456-6	Index number: 604-052-00-0 Aquatic Chronic 4 H413	-
600-602-9	104810-47-1	600-602-9	-	-
600-603-4	104810-48-2	600-603-4	-	-
603-051-2	125304-04-3	603-051-2	-	-
603-204-3	-	603-204-3	Index number: 607-281-00-4 Aquatic Chronic 2 H411	-
630-348-4	84268-36-0	3-[3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl]propanoic acid	-	Aquatic Chronic 4 H413 [intermediate (active)]
639-926-0	23328-53-2	639-926-0	-	-
640-057-4	96478-09-0	640-057-4	-	-
672-710-4	84268-33-7	672-710-4	-	-

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
680-339-4	98809-58-6	680-339-4	Index number: 604-077-00-7 Aquatic Chronic 4 H413	Aquatic Chronic 4 H413 [intermediate (active)]
686-647-5	73936-91-1	Duplicate of EC 422-600-5.	-	-
687-558-4	3147-77-1	687-558-4	Index number: 613-305-00-4 Aquatic Chronic 4 H413	-
916-914-6	-	Reaction mass of 2-ethylhexyl 3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-benzotriazol-2-yl)phenyl]propionate and octyl 3-[3-tert-butyl-4-hydroxy-5-(5-chloro-2H-benzotriazol-2-yl)phenyl]propionate	-	Aquatic Chronic 4 H413
939-700-4	-	Reaction mass of 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl- and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl- and N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl- and N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine	-	Skin Irrit. 2 H315 Skin Sens. 1B H317 Aquatic Acute 1 H400 Aquatic Chronic 2 H411
941-607-9	-	2-(2H-benzotriazol-2-yl)-5 or 6-C12-sec-alkyl (linear and branched)-4-methylphenol	-	Aquatic Chronic 2 H411
944-189-6	-	2,2-bis(hydroxymethyl)butyl 3-[3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl]propanoate	-	-

Annex 2: Overview of uses based on information available in registration dossiers

Data extracted on 26 January 2023

Main types of applications structured by product or article types	219-470-5 (UV-P)	221-573-5 (UV-329)	221-574-0	223-445-4 (UV-326)	247-384-8 (UV-328)	274-570-6 (UV-234)	401-680-5 (UV-571)	422-600-5 (UV-928)	400-830-7 (UV-1130)	403-080-9	407-000-3 (UV_BA82)	916-914-6	944-189-6	403-800-1	420-720-2	422-940-4	939-700-4
PC 27: Plant protection products				**P**													
PC 4: Anti-freeze and de-icing products		**C**			**C**												
PC 35: Washing and cleaning products		F, **C**		I, **P**, **C**	F, **C**		F, I, **P**, **C**			I, **P**, **C**							F
PC 8: Biocidal products (e.g. disinfectants, pest control)		**C**		**C**	**C**												
PC 28: Perfumes, fragrances		F, **C**		F, **C**	F, **C**		F, I, **C**			**C**						F, **C**	
PC 3: Air care products		**C**		**C**	**C**												
PC 39: Cosmetics, personal care products		**C**		F, **C**	**C**		F, I, **C**			F, **C**				F, **C**		F, **C**	
PC 31: Polishes and wax blends		**C**		**C**	**C**												
PC 15: Non-metal-surface treatment products		**C**		**C**	**C**						I						

Main types of applications structured by product or article types	219-470-5 (UV-P)	221-573-5 (UV-329)	221-574-0	223-445-4 (UV-326)	247-384-8 (UV-328)	274-570-6 (UV-234)	401-680-5 (UV-571)	422-600-5 (UV-928)	400-830-7 (UV-1130)	403-080-9	407-000-3 (UV_BA82)	916-914-6	944-189-6	403-800-1	420-720-2	422-940-4	939-700-4
PC 24: Lubricants, greases, release products		C		F, I	C										F, I, P, C		F, I, P, C, A
PC 25: Metal working fluids				F													F, I, P
PC 17: Hydraulic fluids				F											F, I, P, C		F, P
PC 32: Polymer preparations and compounds	F, I, P, C, A	F, I, P, A		F, I, P, C, A	F, I, P, A	F, I, P, C, A	F, I, P, C, A	F, I, P, C, A	F, I, P, C		I, P, C		F, I, P, A	F, I, P, A			
PC 1: Adhesives, sealants	F, I, P, C, A	F, I, P, C		F, I, P, C, A	F, I, P, C, A	I, P, C	F, I, P, C	F, I, P, C, A	F, I, P, C		F, I, P, C	F, I, P, A		F, I, P, A			
PC 9c: Finger paint		C			C												
PC 9b: Fillers, putties, plasters, modelling clay		I, C		C	I, C						F, I, P						
PC 9a: Coatings and paints, thinners, paint removes	F, I, P, C, A	F, I, P, C	I, A	F, I, P, C, A	F, I, P, C, A	F, I, P, C	F, I, P, C	F, I, P, C, A	F, I, P, C, A		F, I, P, C	F, I, P, A	F, I, P	F, I, P, A			F

Main types of applications structured by product or article types	219-470-5 (UV-P)	221-573-5 (UV-329)	221-574-0	223-445-4 (UV-326)	247-384-8 (UV-328)	274-570-6 (UV-234)	401-680-5 (UV-571)	422-600-5 (UV-928)	400-830-7 (UV-1130)	403-080-9	407-000-3 (UV_BA82)	916-914-6	944-189-6	403-800-1	420-720-2	422-940-4	939-700-4
PC 18: Ink and toners	F, I, **P**, **C**	F, I, **P**, **C**		F, I, **P**, **C**	F, I, **P**, **C**, **A**	I, **P**, **C**	F, I, **P**, **C**	F, I, **P**, **C**, **A**	F, I, **C**		F, I, **P**			F, I, **P**, **A**			
PC 26: Paper and board treatment products	I	I		I	I		I										
PC 34: Textile dyes, and impregnating products		**C**		F, I, **P**, **C**, **A**	**C**					I, **P**, **A**							
PC 23: Leather treatment products		**C**			**C**												
PC 14: Metal surface treatment products				**C**		**A**					I						
PC 21: Laboratory chemicals				F, I			I			F, I					F		F
PC 19: Intermediate	I	I		I													
PC 30: Photo-chemicals				I, **C**													

F: formulation, I: industrial use, P: professional use, C: consumer use, A: article service life; P, C and A are highlighted in red to indicate widespread use with potential for exposure/release

Substances not listed in the uses overview table:
EC 400-820-2 (VII) - PC19 (Intermediates) I

EC 419-750-9 (<VII) - no reported uses
EC 424-240-4 (VII) – PC39 (Cosmetics, personal care products) F
EC 443-470-6 (VII) – PC30 (Photochemicals) I
EC 630-348-4 (<VII) - PC32 (Polymer preparations and compounds) I
EC 630-339-4 (<VII) - PC19 (Intermediates) I
List 941-607-9 (VII) - PC32 (Polymer preparations and compounds) F,I

Annex 3: Overview of completed or ongoing regulatory risk management activities

Data extracted on 2 February 2023

EC/List number	RMOA /ARN	Authorisation		Restriction *	CLH	Actions not under REACH/ CLP
		Candidate list	Annex XIV	Annex XVII	Annex VI (CLP)	
219-470-5	YES					Food contact material
221-573-5	YES					
223-346-6	YES	YES	YES			
223-383-8	YES	YES	YES			Food contact material
223-445-4	YES					Food contact material
247-384-8	YES	YES	YES			POPs
253-037-1	YES	YES	YES			
274-570-6	YES					Food contact material
400-830-7					YES	
401-680-5					YES	
403-080-9					YES	Cosmetics
403-800-1	YES				YES	Cosmetics
407-000-3					YES	
419-750-9					YES	
420-720-2					YES	
422-600-5	YES					
422-940-4						Cosmetics
448-630-9					YES	

*Some of the broad restriction entries in the Annex XVII of REACH are not represented in the overview, e.g. when the scope of the restriction is defined by its classification or the substance identification is broad (e.g. entries 3, 28-30, 40 and 75).

There are no relevant completed or ongoing regulatory risk management activities for the other substances.