Assessment of regulatory needs

Authority: European Chemicals Agency - ECHA

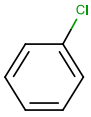
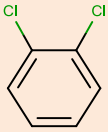
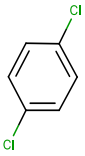
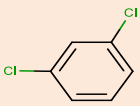
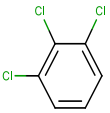
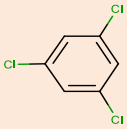
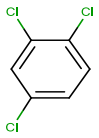
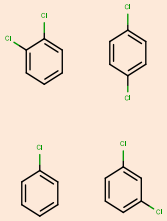
Date: 28/04/2022

Group Name: Chlorinated aromatic hydrocarbons

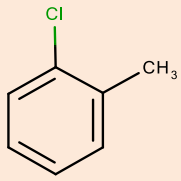
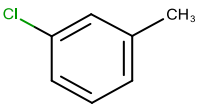
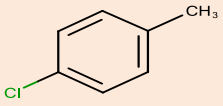
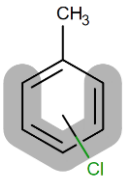
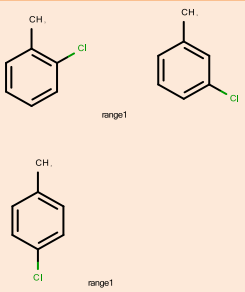
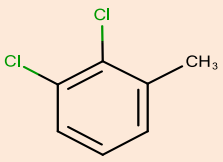
Revision history

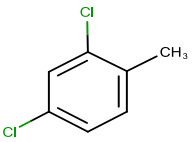
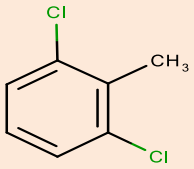
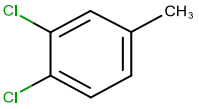
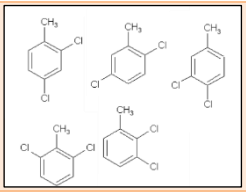
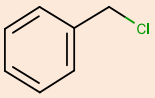
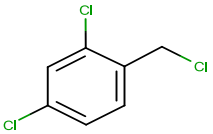
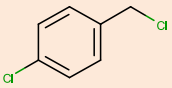
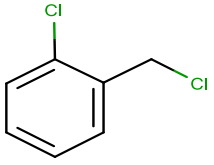
Version	*Date*	*Description*
1.0	25/05/2022	

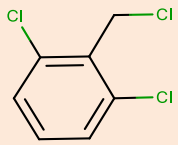
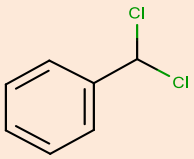
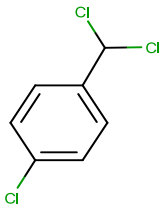
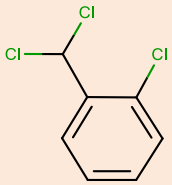
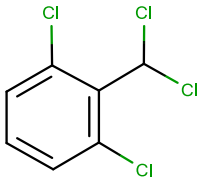
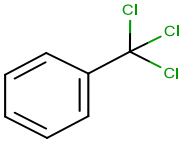
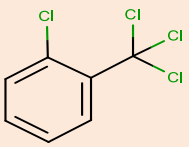
Substances within this group:

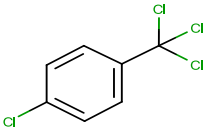
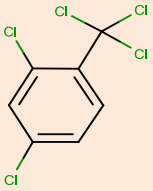
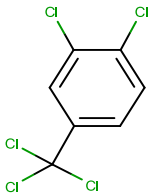
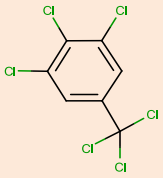
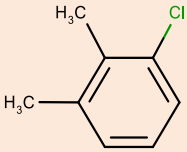
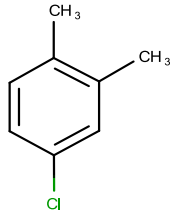
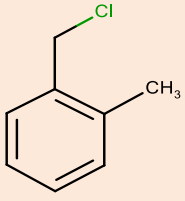
EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
Sub-Group (SG)1: Mono, Di and Tri Chloro-benzenes (#8 substances)				
203-628-5	108-90-7	Chlorobenzene		Full, >1000
202-425-9	95-50-1	1,2-dichlorobenzene		Full, >1000
203-400-5	106-46-7	1,4-dichlorobenzene		Full, >1000
208-792-1	541-73-1	1,3-dichlorobenzene		Full, not (publicly) available
201-757-1	87-61-6	1,2,3-trichlorobenzene		TII or OSII
203-608-6	108-70-3	1,3,5-trichlorobenzene		TII or OSII
204-428-0	120-82-1	1,2,4-trichlorobenzene		TII or OSII
945-571-5	-	Reaction mass of 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene		TII or OSII

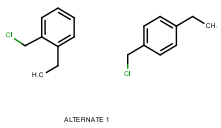
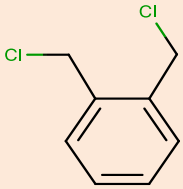
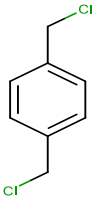
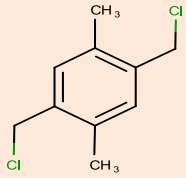
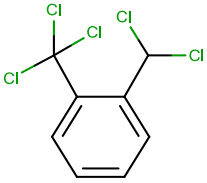
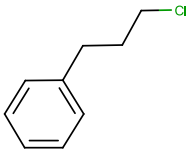
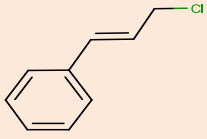
[1] Note that the total aggregated tonnage band may be available on ECHA's webpage at https://echa.europa.eu/information-on-chemicals/registered-substances

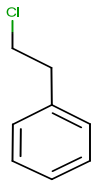
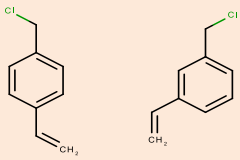
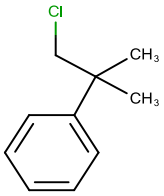
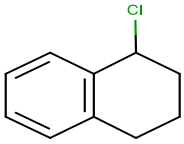
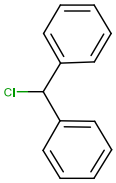
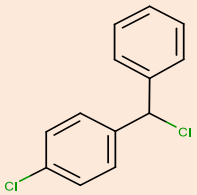
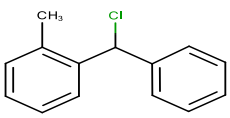
EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
Sub-Group 2: Mono Chloro-toluenes (#5 substances)				
202-424-3	95-49-8	2-chlorotoluene		Full, not (publicly) available
203-580-5	108-41-8	3-chlorotoluene		TII or OSII
203-397-0	106-43-4	4-chlorotoluene		Full, not (publicly) available
246-698-2	25168-05-2	Chlorotoluene		C&L notification
905-236-6	713127-22-1	4-(2-chlorophenyl)-9,9-diphenyl-9H-fluorene		TII or OSII
Sub-Group 3 : Di-chloro-toluenes (#5 substances)				
251-203-8	32768-54-0	2,3-dichlorotoluene		TII or OSII

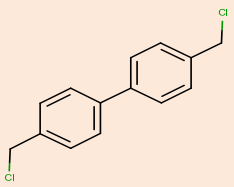
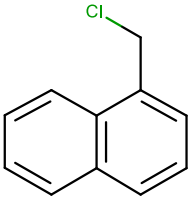
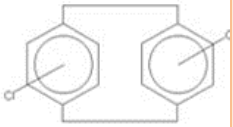
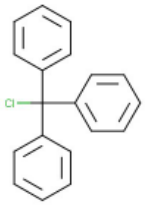
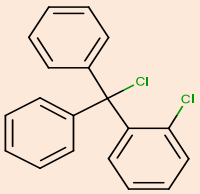
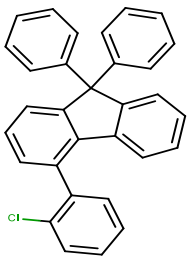
EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
202-445-8	95-73-8	2,4-dichlorotoluene		TII or OSII
204-269-7	118-69-4	2,6-dichlorotoluene		TII or OSII
202-447-9	95-75-0	3,4-dichlorotoluene		TII or OSII
249-854-8	29797-40-8	Dichloromethylbenzene		Full, not (publicly) available
Sub-Group: 4-Chloro-methyl benzenes (#5 substances)				
202-853-6	100-44-7	α-chlorotoluene		Full, 1-10
202-381-0	94-99-5	α,2,4-trichlorotoluene		TII or OSII
203-242-7	104-83-6	α,4-dichlorotoluene		TII or OSII
210-258-8	611-19-8	α,2-dichlorotoluene		TII or OSII

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
217-940-4	2014-83-7	2,6-dichlorobenzyl chloride		TII or OSII
Sub-Group 5: Dichloro-methyl benzenes (#4 substances)				
202-709-2	98-87-3	α,α-dichlorotoluene		TII or OSII
237-721-7	13940-94-8	4-chloro-1-(dichloromethyl)benzene		TII or OSII
201-849-1	88-66-4	1-chloro-2-(dichloromethyl)benzene		TII or OSII
201-332-0	81-19-6	α,α,2,6-tetrachlorotoluene		TII or OSII
Sub-Group 6: Trichloro-methyl benzenes (#6 substances)				
202-634-5	98-07-7	α,α,α-trichlorotoluene		TII or OSII
218-377-7	2136-89-2	α,α,α,2-tetrachlorotoluene		Full, not (publicly) available

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
226-009-1	5216-25-1	α,α,α,4-tetrachlorotoluene		TII or OSII
235-868-1	13014-18-1	2,4-dichloro-1-(trichloromethyl)benzene		TII or OSII
235-869-7	13014-24-9	1,2-dichloro-4-(trichloromethyl)benzene		TII or OSII
700-556-0	-	Chloromethylbenzene		TII or OSII
Sub-Group 7: Chloro-Xylenes (#8 substances)				
480-880-4	608-23-1	Benzene, 1-chloro-2,3-dimethyl-		NONS
210-438-6	615-60-1	4-chloro-o-xylene		TII or OSII
209-013-8	552-45-4	α-chloro-o-xylene		TII or OSII

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
947-620-6	-	Reaction mass of 1-(chloromethyl)-2-ethylbenzene and 1-(chloromethyl)-4-ethylbenzene		TII or OSII
210-291-8	612-12-4	1,2-bis(chloromethyl)benzene		TII or OSII
210-782-7	623-25-6	α,α'-dichloro-p-xylene		Full, 1-10
228-575-5	6298-72-2	2,5-bis(chloromethyl)-p-xylene		TII or OSII
220-371-4	2741-57-3	1-(dichloromethyl)-2-(trichloromethyl)benzene		Ceased manufacture
Sub-Group 8: Other Chloro-alkyl aromatics (#7 substances)				
203-210-2	104-52-9	(3-chloropropyl)benzene		TII or OSII
220-246-4	2687-12-9	(3-chloroprop-1-enyl)benzene		Full, not (publicly) available

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
210-725-6	622-24-2	1-chloro-2-phenylethane		TII or OSII
250-005-9	30030-25-2	(chloromethyl)vinylbenzene		Full, not (publicly) available
208-197-7	515-40-2	(2-chloro-1,1-dimethylethyl)benzene		TII or OSII
434-580-5	-	EMBC	Not (publicly) available	NONS
611-664-1	58485-68-0	1-chloro-1,2,3,4-tetrahydronaphthalene		TII or OSII
Sub-Group 9: Di-aromatics, Tri-aromatics and Poly-aromatics (#9 substances)				
202-031-7	90-99-3	Chloro(diphenyl)methane		TII or OSII
205-158-6	134-83-8	α,4-dichloro-α-phenyltoluene		TII or OSII
431-450-1	41870-52-4	1-(chlorophenylmethyl)-2-methylbenzene		Full, not (publicly) available

EC/List number	CAS number	Substance name	Chemical structures	Registration type (full/TII or OSII /NONS), highest tonnage band among all the registrations (t/y) [1]
216-784-4	1667-10-3	4,4'-bis(chloromethyl)-1,1'-biphenyl		Full, not (publicly) available
201-678-2	86-52-2	1-(chloromethyl)naphthalene		TII or OSII
249-236-8	28804-46-8	Dichlorotricyclo[8.2.2.24,7]hexadeca-1(12),4,6,10,13,15-hexaene, mixed isomers		Full, not (publicly) available
200-986-4	76-83-5	Chlorotriphenylmethane		TII or OSII
255-647-3	42074-68-0	1-chloro-2-(chlorodiphenylmethyl)benzene		TII or OSII
812-055-5	66682-07-3	Benzene, 1,2,3-trichloro-5-(trichloromethyl)-		TII or OSII

This table contains also group members that are not registered (yet) but have a C&L notification under the CLP Regulation. However, the list is currently non-exhaustive. Once further regulatory risk management action on one or more registered substances is being considered, ECHA may make an extensive search for related C&L notified substances to be included in the group and develop a regulatory strategy for them.

Contents

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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 purpose of the assessment of regulatory needs of a group of substances is to help authorities conclude on the most appropriate way to address the identified concerns for a group of substances or a single substance, i.e. the combination of the regulatory risk management instruments to be used and any intermediate steps, such as data generation, needed to initiate and introduce these regulatory measures.

An assessment of regulatory needs can conclude that regulatory risk management at EU level is required for a (group of) substance(s) (e.g. harmonised classification and labelling, Candidate List inclusion, restriction, other EU legislation) or that no regulatory action is required at EU level. While the assessment is done for a group of substances, the (no) need for regulatory action can be identified for the whole group, a subgroup or for single substance(s).

The assessment of regulatory needs is an important step under ECHA's Integrated Regulatory Strategy. However, it is not part of the formal processes defined in the legislation but aims to support them.

The assessment of regulatory needs can be applied to any group of substances or single substance, i.e., any type of hazards or uses and regardless of the previous regulatory history or lack of such. It can be done based on different level of information. A Member State or ECHA can carry out this case-by-case analysis. The starting point is available information in the REACH registrations and any other REACH and CLP information. However, more extensive set of information can be available, e.g. assessment done under REACH/CLP or other EU legislation, or can be generated in some cases (e.g. further hazard information under dossier evaluation). Uncertainties associated to the level of information used should be reflected in the documentation. It will be revisited when necessary. For example, after further information is generated and the hazard has been clarified or when new insights on uses are available. It can be revisited by the same or another authority.

The responsibility for the content of this assessment rests with the authority that developed it. It is possible that other authorities do not have the same view and may develop further assessment of regulatory needs. The assessment of regulatory needs does not yet initiate any regulatory process but any authority can consequently do so and should indicate this by appropriate means, such as the Registry of Intentions.

For more information on Assessment of regulatory needs please ECHA website[2].

[2] 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
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

ECHA has grouped together structurally similar substances based on the presence of chlorinated aromatic hydrocarbon structures where:

- the degree of chlorination is undefined;
- the chlorine atom(s) might or might not be connected directly to the aromatic ring(s); and
- the hydrocarbyl moiety can include, besides the aromatic ring, saturated or unsaturated moieties.

The substances were further sub-grouped as follows:

- Sub-Group 1 (SG1)-Mono, Di and Tri Chloro-benzenes
- SG2-Mono chloro-toluenes
- SG3-Di-chloro-toluenes
- SG4-Chloro-methyl benzenes
- SG5-Dichloro-methyl benzenes
- SG6-Trichloro-methyl benzenes
- SG7-Chloro-xylenes
- SG8-Other Chloro-alkyl aromatics
- SG9-Di-aromatics, Tri-aromatics and Poly-aromatics

The large majority of group members are only registered as intermediates. As such, use as intermediates, precursors or monomers (for polymers, biocides, pharmaceuticals, veterinary ingredients, paints) is most common. Based on information reported in the REACH registration dossiers, other uses are as e.g., solvents and processing aids, photochemicals, metal surface treating agent (e.g., in the production of grinding wheels), sealing liquid in vacuum pumps, waste air treatment chemical (used in exhaust air scrubbers) and cleaning agent.

Uses are almost exclusively industrial with a few professional applications (air care products and heat transfer fluids), one consumer use (air care products) and service life of a limited range of articles (equipment containing heat transfer fluids, polyphenylene sulphide (PPS) polymers used in heat stress applications in the automotive and aircraft sector, and epoxy resins used as adhesives/sealants in vehicles and electronic equipment (semiconductors)). The professional and consumer use of air care products (specifically air fresheners made of 1,4-dichlorobenzene) would appear to contravene REACH Restriction entry No 64 which bans the use of the substance in air fresheners for indoor use.

Note on the scope of ECHA's assessment of regulatory needs

Regarding hazards, the focus of ECHA's assessment is 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 table in section 3. This does not mean that the substances do not have other known or potential hazards. In some specific cases, where ECHA identifies a need for regulatory risk management action at EU level for other hazards (e.g. neurotoxicity, STOT RE), such additional hazards may be addressed in the assessment. An overview of classification is presented in Annex 1.

On the exposure side, ECHA is mainly using the information on uses reported in the registration dossiers (IUCLID) as a proxy for assessing the potential for exposure to humans and releases to the environment. The potential for release / exposure is generally considered high for "widespread" uses, i.e. professional and consumer uses and uses in articles. For these uses, normally happening at many places, the expected level of control is *à priori* considered limited. The chemical safety reports are not necessarily consulted and no quantitative exposure assessment is performed at this stage.

2 Justification for the need for regulatory risk management action at EU level

Based on currently available information, there is a need for (further) EU regulatory risk management – restriction for potential reproductive toxicity and ED and the potential for release/exposure of one member of subgroup 1, chlorobenzene (EC 203-628-5).

Based on ECHA's assessment of currently available hazard information, potential hazards were identified for human health and aquatic toxicity. The available registration information indicates potential for reproductive toxicity and ED due to findings in available studies showing adverse effects of bilateral degeneration of the testicular germinal epithelium; effects on liver, kidney, spleen, thymus and bone marrow were noted. In addition, there seems to be an indication of immunotoxicity in particular in relation to bone marrow. Toxcast assays give positive results for RXR (retinoid X receptor) antagonism, and therefore also indicates potential ED properties. Moreover, the potential of chlorobenzene to cause DNA damage should be further investigated. Furthermore, this substance is potentially very persistent based on the reported long biodegradation half-life values and it is expected to be (very) mobile in the environment. There are also monitoring data in the registration dossier indicating presence in surface and drinking waters. The substance shows aquatic toxicity, as confirmed by its harmonised classification and existing self-classification. The substance is unlikely to fulfil the PBT/vPvB screening criteria, because of its log Kow being less than 4.5 and based on available bioconcentration data (BCF of 3.9-40 and supporting studies).

Chlorobenzene is an Annex X substance which finds industrial uses as an intermediate, solvent and heat transferring agent and also professional use as a

heat transferring agent[3].

The analysis of available hazard information confirms the need for further data generation to clarify the potential hazards (ED, toxicity to reproduction and aquatic toxicity) and fate properties (persistency and mobility). Compliance check (CCH) is proposed to be initiated on the substance for the environmental endpoints, to assess the data on persistency and long-term fish toxicity.

To clarify human health hazards and any remaining uncertainties regarding endocrine disrupting properties of the substance on non-target organisms (ENV ED), substance evaluation is proposed. SEv will focus on reproductive parameters, the missing haematology parameters alongside endocrine parameters and could evaluate in detail what additional information should be requested, also regarding immunotoxicity/STOT RE target bone marrow and the potential to cause DNA damage.

After data generation, the first step of the regulatory risk management action proposed, should the hazard exist, is the confirmation of hazard via harmonised classification (CLH) as Repr./STOT RE and via SVHC identification and inclusion on the Candidate List as ED and Repr. (depending on the results of data generation)[4].

The CLH will require company level risk management measures (RMM) under the OSH legislation for workers to be in place and is needed or highly recommended for further regulatory processes under REACH. When preparing the CLH for the human health endpoints it may be considered to add the classification for aquatic toxicity as well, in particular if registrants have not adequately self-classified the substance.

SVHC identification is required (authorisation) or highly recommended for further regulatory processes under REACH (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.

Professional use, in this case as a heat transferring agent, is expected to be widespread (at many sites and many users) in light of the substance's high registration tonnage band (>1000 tpa), and with relatively low levels of operational controls and risk management measures but with often frequent exposures with a long duration. Widespread professional uses are typically non-contained and non-automated leading to releases to the environment. Potential for release to surface waters is expected as confirmed by monitoring data in the registration dossier.

In addition, professional users may be self-employed and therefore not covered by occupational safety and health (OSH) legislation and confirmation of the hazard properties via SVHC identification is not considered sufficient to minimise potential releases of the substances in the environment. Therefore, a restriction of the substance as such or in mixtures (concentration limit in mixtures) used by

[3] Notably, the substance is listed in the BfR Recommendations LI (Temperature Resistant Polymer Coating Systems for Frying, Cooking and Baking Utensils) and in the German Printing Ink Ordinance, as a monomer or other starting material.

[4] Persistency as well as mobility could also be considered as part of the SVHC identification if considered relevant after generation of data.

professionals is suggested after SVHC identification, with the aim to minimise exposures and emissions to humans and 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. In addition, the use of the most harmful substances by professional workers has been recognised as an area of concern under the European Commission's Chemicals Strategy for Sustainability[5] which aims to extend to professional users under REACH the level of protection granted to consumers.

It is suggested to cover possibly also industrial uses as part of the restriction in particular to limit releases to the environment as the endocrine disruption effect (if confirmed) might be of relevance to the environment too. However, the need for authorisation might be considered for industrial uses excluded from the scope of the restriction as it may not be proportionate to restrict all uses (NB. authorisation would be more effective in controlling releases and exposure than the existing EU-wide Occupational Exposure Limit (OEL) for the substance).

Based on currently available information, it is not possible to assess the need for regulatory risk management as information on hazard is not sufficient to conclude on genotoxicity of one substance in subgroup 7, EC 210-782-7.

Based on information in the registration dossiers, there is a positive in vitro gene mutation in bacteria study for the substance as well as unequivocal/incomplete results for other members in subgroup 7. The needs for regulatory risk management actions will be assessed once generation of data (CCH) is completed.

EC 210-782-7 is potentially persistent as indicated by ready biodegradation studies, it is expected to be mobile in the environment based on its logKow value of 3 and has a high toxicity in aquatic organisms (self-classification for acute and chronic aquatic toxicity cat 1). The substance has exclusively industrial use as an intermediate, including monomer, and a resin (prepolymer) used in the computer and electronics industries. It is registered at low tonnage (Annex VII).

Due to the low tonnage, it is not possible to clarify further the potential environmental hazards of the substance. Therefore, it is proposed that there is currently no need for EU RRM action. If the registration status changes, data generation and potentially follow up actions will be re-considered when the assessment will be revisited.

Based on currently available information, there is currently no need for regulatory risk management for the remaining substances in the group. This sub-set comprises:

- Five substances with exclusively industrial uses for which it is expected that following data generation (CCH) registrants will adequately self-classify the substances and implement necessary RMMs to ensure safe use at the

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

workplace: EC 202-425-9 and 208-792-1 (subgroup 1), EC 202-424-3 (subgroup 2), EC 249-854-8 (subgroup 3) and EC 220-246-4 (subgroup 8).

EC 202-425-9 has self-classification for skin sensitisation (cat 1B) and a harmonised classification for aquatic toxicity; it also has a harmonised classification for STOT SE cat 3, although a recent SEv (2020) proposed the adoption of a harmonised classification of STOT SE cat 2 for hepatotoxicity. There is an existing EU-wide OEL for this substance. Based on available biodegradability data, logKoc values and volatility properties, the substance has the potential to be persistent and mobile in the environment. It is proposed that its persistence be clarified through data generation in a CCH.

EC 208-792-1 has harmonised classification for chronic aquatic toxicity (cat 2) and is self-classified for skin sensitisation (1/1B). CCH is proposed to confirm its chronic aquatic toxicity, for which available data would indicate a classification as Chronic 1 might be warranted and its persistence, in light of studies showing it is not readily biodegradable and its potential to be very mobile in the environment based on logKoc and volatility data. The CCH will also verify the data and potential data gaps for the reproductive toxicity and mutagenicity hazards of the substance.

EC 202-424-3 has a self-classification for Repr. cat 2, however it is accompanied by non-guideline reproductive toxicity data which indicate a need for further data generation. Also, the substance has a skin sensitisation hazard, based on its self-classification as Skin Sens 1B. The substance is potentially persistent or very persistent based on biodegradation screening studies and very mobile due to its volatility and logKoc below 3. It also shows aquatic toxicity, as confirmed by its existing harmonised classification (Aquatic Chronic 2). It is proposed that data generation be undertaken in a CCH to address reproductive toxicity, repeated dose toxicity and persistence.

EC 220-246-4 has self-classification as Muta cat 2, Repr. cat 2, STOT RE 2 and Skin Sens 1. Further data generation is required to verify its reproductive toxicity and mutagenicity data.

EC 249-854-8 does not have data showing skin sensitisation but hazard profiling suggests that this endpoint requires clarification and thus data generation on skin sensitisation via CCH is proposed. The substance also shows aquatic toxicity as confirmed by its self-classification for chronic effects. Based on available biodegradability data, logKoc values and volatility properties, the substance has the potential to be persistent and mobile in the environment.

These substances are used as intermediates, heat transferring agent, process aid/solvent, exhaust air scrubber, sealing liquid in vacuum pumps, and cleaning solvent at high tonnages (except EC 220-246-4 the registration tonnage of which is relatively lower). In addition to their existing hazard classification, additional harmonised classification as Aquatic Chronic 1 (if confirmed, for EC 208-792-1), Repr cat 1B (if confirmed, for EC 202-424-3), STOT SE cat 2 (for EC 202-425-9) or skin sensitiser (for EC 249-854-8) would not impact any known legislations based on their uses. Therefore, it is proposed that appropriate self-classification by registrants would be sufficient and there is currently no need for EU-wide regulatory risk management;

- Nine substances for which one or several (potential) hazards (skin sensitisation, aquatic toxicity, carcinogenicity cat 1B or 2, STOT RE cat 1 or

2, reproductive toxicity cat 2) have been identified (EC 201-757-1, 945-571-5, subgroup 1; EC 202-853-6, subgroup 4; EC 202-709-2, 237-721-7, subgroup 5; EC 202-634-5, 226-009-1, subgroup 6; EC 210-438-6, subgroup 7; EC 250-005-9, subgroup 8); however, all of them already have self-classification or harmonised classification in place and they are exclusively used as intermediates, except EC 202-853-6 which is used in the formulation of photo-initiators. It is expected that based on the harmonised or self-classification registrants have implemented necessary RMMs to ensure safe use. Therefore, no EU regulatory risk management action is currently proposed for these substances due to low exposure potential. It is noted that based on available biodegradability data, logKoc values and volatility properties the subgroup 1, 7 and 8 substances have the potential to be persistent and mobile in the environment;

- Two substances in subgroup 1 for which skin sensitisation and aquatic toxicity have been identified, EC 203-400-5, 204-428-0, plus carcinogenicity cat 2 for the former substance; however, existing harmonised classification for these endpoints, existing restrictions and an existing OEL for EC 204-428-0 are considered to offer adequate protection for workers and the environment. The likely skin sensitisation hazard has been concluded on the basis of structural similarity of these two substances to other subgroup 1 substances which are self-classified for this endpoint. It is proposed that CCH be conducted for the substance with the full REACH registration (EC 203-400-5) to verify the currently available inconclusive skin sensitisation data. Both substances are used as intermediates and EC 203-400-5 (an Annex X substance) also finds industrial use as a heat transferring agent, a processing aid and a metal surface treating agent (production of grinding wheels). EC 203-400-5 has registration data showing professional and consumer use in air fresheners. REACH Annex XVII restricts the use of this substance on its own or as a constituent of mixtures in a concentration equal to or greater than 1% by weight as an air freshener or deodoriser in toilets, homes, offices or other indoor public areas (Restriction entry No 64). Such a consumer and professional use is reported in a registration dossier that has not been updated since before the adoption of the Annex XVII restriction in 2015, even though the manufacturer had an obligation to update their dossier and Safety Data Sheets[6]. On the contrary, the substance is currently shown on the manufacturer's website as being marketed as an air care product but also as an alternative to naphthalene mothballs (i.e., a biocide, Product Type 19); that use is equally no longer permitted in the EU under Commission Decision 2007/565/EC. It is theoretically possible that the product is currently exported out of the EU for these uses. Also, the REACH restriction referred to above is not a total ban as it only covers indoor areas; in the past, less typical applications of the substance as an air freshener had been identified, albeit those were not believed to be relevant neither to consumers nor to the EU as a whole[7]. Registration data for EC 203-400-0 also indicate article service life for polymers (NB. the substance is listed in Regulation (EU) No 10/2011 as a monomer for plastic food contact materials

[6] See relevant Q&A on ECHA's website: https://echa.europa.eu/support/qas-support/browse/-/qa/70Qx/view/ids/1303

[7] An analysis published by the European Commission in 2010 mentions the theoretical use of 1,4-dichlorobenzene as a coffin hygiene agent and also, in large size blocks, as deodoriser/odour masking agent for sewer systems, industrial waste collection containers and water treatment facilities, or lift shafts. This 2010 analysis suggests that such non-consumer uses were not relevant to the EU https://ec.europa.eu/docsroom/documents/13036/attachments/1/translations/en/renditions/native.

with a Specific Migration Limit of 12 mg/kg) and grinding wheels; however, available literature does not confirm significant presence of the substance.

It is expected that based on the harmonised classification of both substances, Restriction entry No 64 for EC 203-400-5, Restriction entry No 49 which restricts the uses of EC 204-428-0 on account of its aquatic toxicity, and the existing OEL for the latter substance (under Commission Directive 2000/39/EC), registrants and users of these substances have implemented necessary RMMs to ensure safe use. Therefore, no EU regulatory risk management action is currently proposed due to low exposure potential. For EC 203-400-0, industry should update their registration dossiers and clarify whether or not the uses reported for this substance (air fresheners) are supported. In the next iteration to this assessment of regulatory needs, if no update of the registration dossiers has been submitted, those uses will be considered to be of relevance and if the potential hazard properties confirmed, then further regulatory risk management will be considered.

- For four substances, for which hazards of skin sensitisation, toxicity to reproduction, carcinogenicity, STOT RE and PBT/vPvB have been identified, however, the exposure potential is low. The substances include:

    - EC 203-397-0 (subgroup 2) has a self-classification for Repr. cat 2 and Skin Sens 1B and acute aquatic toxicity (cat 1) as well as a harmonised classification for chronic aquatic toxicity (cat 2). It shows structural similarity to another subgroup 2 substance (EC 202-424-3) for which a proposed CCH will investigate reproductive toxicity, repeated dose toxicity and persistence;

    - EC 218-377-7 (subgroup 6) has a self-classification for Carc cat 1B or cat 2, depending on the concentration of the respective impurity. It shows structural similarity to other substances in subgroup 6 which are self-classified as Skin Sens 1/1A. It is also potentially persistent or very persistent based on biodegradation screening studies and it has ability to hydrolyse into mobile products;

    - EC 216-784-4 and 249-236-8 (subgroup 9) have self-classification for Skin Sens 1/1B and STOT RE 2 (EC 249-236-8 only) and may have PBT/vPvB properties, based on screening level information. CCH is suggested for these substances to generate missing aquatic chronic toxicity data, and to verify the mutagenicity and reproductive toxicity data, respectively.

    These substances are used as intermediates, a monomer (with relevant article service life in epoxy resins), a raw material in coatings manufacture and a process regulator, and are registered at low tonnages (up to 100 tpa). No EU regulatory risk management action is currently proposed due to low exposure potential; this low exposure potential also means that data generation beyond CCH (e.g. via SEv) to investigate the PBT/vPvB hazard of the two subgroup 9 substances cannot currently be prioritised;

- Thirty-five substances for which due to only intermediate registrations, NONS registration status or lack of registration, it is not possible to clarify further their potential hazards. Therefore, there is currently no need for EU RRM action on these substances. It is noted that based on available biodegradability data, modelling results, logKoc values and volatility

properties, several of these the substances have the potential to be (very) persistent, (very) bioaccumulative and mobile in the environment.

The strategy may need to be revisited and need for further regulatory action reconsidered if there is a change in the registration status or reported uses for any of these substances. Also, in relation to persistence and mobility to the environment properties, for the time being no EU regulatory risk management is proposed for these substances until confirmation of the hazard properties which should help identifying what the main protection goals are for them.

3 Conclusions and actions

The conclusions and actions proposed in the table below are based on the REACH and CLP information available at the time of the assessment by ECHA. 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 will be updated and conclusions and actions revisited.

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
203-628-5 (SG1)	Known or potential hazard for reproductive toxicity Known or potential hazard for ED Known or potential hazard for immunotoxicity Known or potential hazard for mutagenicity Known or potential hazard for STOT RE Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential hazard for ED Known or potential persistence and mobility in the environment	Industrial use as intermediate, solvent and heat transferring agent. Professional use as a heat transferring agent. Exposure potential is high due to professional use and high tonnage.	**Need for EU RRM: Restriction** Justification: Endocrine disruption concerns are high priority for action. Restriction of professional uses is preferred over authorisation or OEL 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. Restriction might also apply to industrial uses	**First step:** CCH then SEv **Next steps (if hazard confirmed):** CLH SVHC identification Restriction

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
210-782-7 (SG7)	Known or potential hazard for skin sensitisation Inconclusive hazard for mutagenicity	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	Industrial use intermediates, incl. monomer, resin (prepolymer) used in the computer and electronics industries. Exposure potential is low due to exclusively industrial uses and relatively low tonnage.	**No hypothesis yet** Justification: It is not possible to assess the needs for regulatory risk management for the substance as information on hazard is not sufficient to conclude on genotoxicity, and aquatic toxicity. The needs for regulatory risk management actions will be assessed after generation of data is completed (CCH).	**First step:** CCH

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
202-425-9 (SG1) **208-792-1 (SG1)**	Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	<u>Industrial uses</u> as intermediates, heat transferring agent, laboratory chemical, processing aid, solvent in polymer production and synthesis of chemical intermediates, sealing liquid in vacuum pumps; waste air treatment chemical, cleaning agent <u>Exposure potential</u> is overall low due to exclusively industrial uses however, registration tonnages are high and some uses could result in releases (cleaning agent).	**Currently no need for EU RRM (self-classification after data generation)** Justification: Self-classification (after data generation) followed by implementation of necessary RRMs should be sufficient to ensure safe use by workers at industrial settings and the environment.	**CCH**
202-424-3 (SG2)	Known or potential hazard for reproductive toxicity Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment			
249-854-8 (SG3)	-	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment			
220-246-4 (SG8)	Known or potential hazard for reproductive toxicity Known or potential hazard for skin sensitisation Known or potential hazard for mutagenicity	-			

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
	Known or potential hazard for STOT RE				
201-757-1 (SG1) **250-005-9 (SG8)**	Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	Industrial uses as intermediate Exposure potential is low due to exclusively industrial uses.	**Currently no need for EU RRM (existing classification is appropriate)** Justification: Harmonised/self-classification followed by implementation of necessary RRMs should be sufficient to ensure safe use by workers at industrial settings and for the environment.	**No action**
945-571-5 (SG1)	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	Industrial use as intermediate, laboratory chemical, photochemical (formulation of photo-initiators) for EC 202-853-6. Exposure potential is low due to exclusively industrial uses.		
210-438-6 (SG7)	Known or potential hazard for skin sensitisation Known or potential hazard for STOT RE	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment			
202-853-6 (SG4)	Known or potential hazard for carcinogenicity Known or potential hazard for STOT RE	-			

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
	Known or potential hazard for skin sensitisation				
226-009-1 (SG6)	Known or potential hazard for carcinogenicity Known or potential hazard for reproductive toxicity Known or potential hazard for STOT RE Known or potential hazard for skin sensitisation	-			
202-709-2 (SG5) **237-721-7 (SG5)** **202-634-5 (SG6)**	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	-			

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
203-400-5 (SG1)	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity	Industrial use as intermediate; heat transferring agent; processing aid; metal surface treating agent (production of grinding wheels). NB. Professional and consumer use of EC 203-400-5 in air fresheners appears to contravene REACH Restriction No 64. Exposure potential is low due to exclusively industrial uses; reported articles (polymers, grinding wheels) are likely to contain very low levels of the substance	**Currently no need for EU RRM (existing classification offers adequate protection)** Justification: Harmonised/self-classification followed by implementation of necessary RRMs should be sufficient to ensure safe use by workers at industrial settings and for the environment; additional harmonisation of the hazard classification for skin sensitisation for 203-400-5 would not be of added value. For the use of EC 203-400-5 in air fresheners, Industry should update their registration dossiers and clarify whether or not	**CCH**

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
204-428-0 (SG1)	Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	Industrial use as intermediates. Exposure potential is low due to exclusively industrial uses (EC 204-428-0 is restricted and subject to an OEL too).	the uses reported for this substance are supported.	**No action**
216-784-4 (SG9)	Known or potential hazard for skin sensitisation Known or potential hazard for mutagenicity	Known or potential hazard for PBT/vPvB	Industrial use as intermediate, monomer, raw material for coatings or reactive process regulator in polymerisation processes. Article service life in epoxy resins (electrical/ electronic articles, vehicles). Exposure potential is low due to low	**Currently no need for EU RRM (low priority due to low exposure potential)** Justification: According to the reported uses, low potential for exposure to both human health and environment is expected. Actions (including data generation) will be re-considered when the assessment will be revisited if the	**CCH**
249-236-8 (SG9)	Known or potential hazard for skin sensitisation Known or potential hazard for STOT RE	Known or potential hazard for PBT/vPvB			
203-397-0 (SG2)	Known or potential hazard for reproductive toxicity Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment			**No action**

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
218-377-7 (SG6)	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	Known or potential persistence and mobility in the environment	tonnage and likely low presence of residual monomer on the articles (of EC 216-784-4).	registration status and/or uses change.	
202-381-0 (SG4) **203-242-7 (SG4)** **210-258-8 (SG4)** **217-940-4 (SG4)** **235-868-1 (SG6)** **235-869-7 (SG6)** **700-556-0 (SG6)**	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment	Industrial use as intermediates. Exposure potential is low due to exclusively industrial uses.	**Currently no need for EU RRM (cannot request further data)** Justification: Due to registration status of these substances (low tonnage, 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.	**No action**
203-580-5 (SG2) **246-698-2 (SG2) – Not registered** **905-236-6 (SG2)**	Known or potential hazard for reproductive toxicity Known or potential hazard for skin sensitisation	Known or potential persistence and mobility in the environment			
480-880-4 (SG7)	Known or potential hazard for skin sensitisation Known or potential hazard for STOT RE	Known or potential hazard for aquatic toxicity			

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
		Known or potential persistence and mobility in the environment			
201-332-0 (SG5) **210-291-8 (SG7)** **228-575-5 (SG7)**	Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity Known or potential persistence and mobility in the environment			
203-608-6 (SG1)	Known or potential hazard for skin sensitisation	Known or potential persistence and mobility in the environment			
209-013-8 (SG7) **947-620-6 (SG7)**	Known or potential hazard for skin sensitisation	Known or potential hazard for aquatic toxicity			
220-371-4 (SG7)	Known or potential hazard for skin sensitisation	-			
201-849-1 (SG5)	Known or potential hazard for carcinogenicity Known or potential hazard for skin sensitisation	-			
202-445-8 (SG3) **202-447-9 (SG3)** **204-269-7 (SG3)**	-	Known or potential persistence and mobility in the environment Known or potential hazard			

EC number (sub-group number)	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Last foreseen action	Action
251-203-8 (SG3)		for aquatic toxicity			
203-210-2 (SG8) **208-197-7 (SG8)** **210-725-6 (SG8)** **434-580-5 (SG8)** **611-664-1 (SG8)**	Known or potential hazard for skin sensitisation	Inconclusive hazard for PBT/vPvB for 611-664-1, EC 210-725-6 and EC 203-210-2			
205-158-6 (SG9) **431-450-1 (SG9)**	Inconclusive hazard	Known or potential hazard for aquatic toxicity Known or potential hazard for PBT/vPvB			
200-986-4 (SG9) **201-678-2 (SG9)** **202-031-7 (SG9)** **255-647-3 (SG9)** **812-055-5 (SG9)**	Inconclusive hazard	Known or potential hazard for PBT/vPvB			

Annex 1: Harmonised classifications and self-classifications reported by registrants

Data extracted on 17 June 2021.

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
Subgroup 1 - Mono, Di and Tri Chloro-benzenes				
203-628-5	108-90-7	Chlorobenzene	**Flam. Liq. 3; Skin Irrit. 2; Acute Tox. 4 H332; Aquatic Chronic 2**;	Flam. Liquid 3 H226 Acute Tox. 4 H332 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Aquatic Chronic 2 H411
202-425-9	95-50-1	1,2-dichlorobenzene	**Acute Tox. 4 H302; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3 H335; Aquatic Acute 1; Aquatic Chronic 1;**	Acute Tox. 4 H302 Acute Tox. 4 H332 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Skin Sens. 1B H317 Aquatic Acute 1 H400 STOT Single Exp. 3 H335, affected organs: respiratory tract Aquatic Chronic 1 H410 STOT Single Exp. 3 H335, affected organs: respiratory system [intermediate (active)]
203-400-5	106-46-7	1,4-dichlorobenzene	**Eye Irrit. 2; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1 (no M-factors)**	Carc. 2 H351 Eye Irrit. 2 H319 Aquatic Acute 1 H400 Aquatic Chronic 1 H410
208-792-1	541-73-1	1,3-dichlorobenzene	**Acute tox. 4 H302, Aquatic Chronic 2,**	Flam. Liquid 4 H227 Acute Tox. 4 H302 Skin Irrit. 2 H315 Skin Sens. 1B H317 Aquatic Chronic 2 H411 Skin Sens. 1 H317 [intermediate (active)]
201-757-1	87-61-6	1,2,3-trichlorobenzene	**NA**	Aquatic Chronic 1 H410 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)]
203-608-6	108-70-3	1,3,5-trichlorobenzene	**NA**	Acute Tox. 4 H332 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: [intermediate (active)] Acute Tox. 4 H312 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Aquatic Chronic 3 H412 [intermediate (active)]
204-428-0	120-82-1	1,2,4-trichlorobenzene	**Acute Tox. 4 H302; Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1;**	Skin Irrit. 2 H315 [intermediate (active)] Aquatic Chronic 1 H410 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)]
945-571-5	108-90-7	Reaction mass of 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene	**NA**	Aquatic Acute 1 H400 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] Carc. 2 H351 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory tract [intermediate (active)] Aquatic Chronic 1 H410 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Flam. Liquid 3 H226 [intermediate (active)]
Subgroup 2 - Mono Chloro-toluenes				

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
202-424-3	95-49-8	2-chlorotoluene	**Acute Tox. 4 H332; Aquatic Chronic 2;**	Repr. 2 H361, specific effect:structural anomalies Repr. 2 H361, specific effect:Fertility, Unborn Children Flam. Liquid 3 H226 Acute Tox. 4 H332 Skin Sens. 1B H317 Aquatic Acute 1 H400 Aquatic Chronic 2 H411
203-580-5	108-41-8	3-chlorotoluene	**Acute Tox 4 H332; Aquatic Chronic 2;**	Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H332 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
203-397-0	106-43-4	4-chlorotoluene	**Acute Tox. 4 H332; Aquatic Chronic 2;**	Repr. 2 H361, specific effect:structural anomalies Flam. Liquid 3 H226 Acute Tox. 4 H332 Skin Sens. 1B H317 Aquatic Acute 1 H400 Aquatic Chronic 2 H411
246-698-2	25168-05-2	chlorotoluene	**Acute Tox. 4 H332; Aquatic Chronic 2;**	-
905-236-6		4-(2-chlorophenyl)-9,9-diphenyl-9H-fluorene	**NA**	Repr. 2 H361, specific effect:structural anomalies [intermediate (active)] Acute Tox. 4 H332 [intermediate (active)] Flam. Liquid 3 H226 [intermediate (active)] Skin Sens. 1B H317 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
Subgroup 3 - Di-chloro-toluenes				
251-203-8	32768-54-0	2,3-dichlorotoluene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
202-445-8	95-73-8	2,4-dichlorotoluene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
204-269-7	118-69-4	2,6-dichlorotoluene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
202-447-9	95-75-0	3,4-dichlorotoluene	**NA**	Acute Tox. 4 H302 [intermediate (inactive)] Aquatic Chronic 2 H411 [intermediate (inactive)] Aquatic Acute 2 H401 [intermediate (inactive)]
249-854-8	29797-40-8	dichloromethylbenzene	**NA**	Skin Irrit. 2 H315 Aquatic Chronic 1 H410
Subgroup 4 - Chloro-methyl benzenes				
202-853-6	100-44-7	α-chlorotoluene	**Acute Tox. 4 H302; Skin Irrit.2; Eye Dam. 1; Acute Tox. 3 H331; STOT SE 3 H335; Carc. 1B; STOT RE 2;**	STOT Rep. Exp. 2 H373, affected organs: Heart; forestomach [intermediate (active)] Carc. 1B H350 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Eye Damage 1 H318 [intermediate (active)] Acute Tox. 3 H331 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Respiratory system [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)]
202-381-0	94-99-5	α,2,4-trichlorotoluene	**NA**	
203-242-7	104-83-6	α,4-dichlorotoluene	**NA**	
210-258-8	611-19-8	α,2-dichlorotoluene	**NA**	Skin Sens. 1 H317 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: [intermediate (active)] Aquatic Chronic 1 H410 [intermediate (active)] Acute Tox. 4 H332 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)]

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
				Acute Tox. 4 H312 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)]
217-940-4	2014-83-7	2,6-dichlorobenzyl chloride	**NA**	STOT Single Exp. 2 H371, affected organs: brain [intermediate (active)] Eye Damage 1 H318 [intermediate (active)] Skin Corr. 1C H314 [intermediate (active)] Aquatic Chronic 2 H411 [intermediate (active)]
Subgroup 5 - Dichloro-methyl benzenes				
202-709-2	98-87-3	α,α-dichlorotoluene	**Acute Tox. 4 H302; Skin Irrit. 2; Eye Dam. 1; Acute Tox. 3 H331; STOT SE 3 H335; Carc. 2;**	Carc. 1B H350 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory tract [intermediate (active)] Eye Damage 1 H318 [intermediate (active)] Acute Tox. 3 H331 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Carc. 2 H351 [intermediate (active)]
237-721-7	13940-94-8	4-chloro-1-(dichloromethyl) benzene	**NA**	Carc. 1B H350 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Respiratory tract [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] Aquatic Chronic 3 H412 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: [intermediate (active)] STOT Rep. Exp. 2 H373, affected organs: [intermediate (active)]
201-849-1	88-66-4	1-chloro-2-(dichloromethyl) benzene	**NA**	Eye Irrit. 2 H319 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory tract [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Carc. 2 H351 [intermediate (active)]
201-332-0	81-19-6	α,α,2,6-tetrachlorotoluene	**NA**	Aquatic Chronic 1 H410 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)]
Subgroup 6 - Trichloro-methyl benzenes				
202-634-5	98-07-7	α,α,α-trichlorotoluene	**Acute Tox. 4 H302; Skin Irrit. 2; Eye Dam. 1; Acute Tox. 3 H331; STOT SE 3 H335; Carc. 1B;**	Eye Damage 1 H318 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Skin, lungs [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Carc. 1B H350 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Acute Tox. 3 H331 [intermediate (active)]
218-377-7	2136-89-2	α,α,α,2-tetrachlorotoluene	**NA**	Carc. 2 H351 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Respiratory tract [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Aquatic Chronic 3 H412 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Carc. 1B H350 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)]

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
226-009-1	5216-25-1	α,α,α,4-tetrachlorotoluene	**Acute Tox. 4 H302, H312; Skin Irrit. 2; STOT SE 3 H335; Carc 1B; STOT RE 1; Repr. 2 H361f;**	STOT Single Exp. 3 H335, affected organs: Respiratory tract [intermediate (active)] Acute Tox. 4 H312 [intermediate (active)] Skin Sens. 1 H317 [intermediate (active)] Carc. 1B H350 [intermediate (active)] Met. Corr. 1 H290 [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H332 [intermediate (active)] Repr. 2 H361, specific effect:H361f: Suspected of damaging fertility [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] STOT Rep. Exp. 1 H372 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)]
235-868-1	13014-18-1	2,4-dichloro-1-(trichloromethyl)benzene	**NA**	Aquatic Chronic 3 H412 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Respiratory tract [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Sens. 1A H317 [intermediate (active)]
235-869-7	13014-24-9	1,2-dichloro-4-(trichloromethyl)benzene	**NA**	Acute Tox. 4 H302 [intermediate (active)] Aquatic Chronic 3 H412 [intermediate (active)] Skin Sens. 1A H317 Carc 2 H351
700-556-0	66682-07-3	chloromethylbenzene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Aquatic Chronic 3 H412 [intermediate (active)]
Subgroup 7 - Chloro-Xylenes				
480-880-4	608-23-1	Benzene, 1-chloro-2,3-dimethyl-	**NA**	Aquatic Chronic 2 H411 [Article 10 (inactive)] Skin Sens. 1B H317 [Article 10 (inactive)] STOT Rep. Exp. 2 H373, affected organs: Central nervous system [Article 10 (inactive)]
210-438-6	615-60-1	4-chloro-o-xylene	**NA**	Skin Sens. 1B H317 [intermediate (inactive)] Aquatic Chronic 2 H411 [intermediate (inactive)] STOT Rep. Exp. 2 H373 [intermediate (inactive)]
209-013-8	552-45-4	α-chloro-o-xylene	**NA**	Eye Damage 1 H318 [intermediate (active)] Met. Corr. 1 H290 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Corr. 1B H314 [intermediate (active)]
947-620-6		Reaction mass of 1-(chloromethyl)-2-ethylbenzene and 1-(chloromethyl)-4-ethylbenzene	**NA**	-
210-291-8	612-12-4	1,2-bis(chloromethyl)benzene	**NA**	Aquatic Acute 1 H400 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Aquatic Chronic 1 H410 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: Respiratory system [intermediate (active)] Skin Irrit. 2 H315 [intermediate (active)]
210-782-7	623-25-6	α,α'-dichloro-p-xylene	**NA**	Skin Irrit. 2 H315 Skin Sens. 1 H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410
228-575-5	6298-72-2	2,5-bis(chloromethyl)-p-xylene	**NA**	-

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
220-371-4	2741-57-3	1-(dichloromethyl)-2-(trichloromethyl)benzene	**NA**	Acute Tox. 4 H312 [intermediate (inactive)] Acute Tox. 4 H332 [intermediate (inactive)] Aquatic Chronic 2 H411 [intermediate (inactive)] Acute Tox. 4 H302 [intermediate (inactive)]
Subgroup 8 - Other Chloro-alkyl aromatics				
203-210-2	104-52-9	(3-chloropropyl)benzene	**NA**	-
220-246-4	2687-12-9	(3-chloroprop-1-enyl)benzene	**NA**	Skin Sens. 1 H317 [intermediate (active)] Muta. 2 H341 Repr. 2 H361 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Skin Sens. 1B H317 STOT Rep. Exp. 2 H373, affected organs: stomach and esophagus (mucosal irritation)
210-725-6	622-24-2	1-chloro-2-phenylethane	**NA**	Aquatic Chronic 4 H413 [intermediate (active)]
250-005-9	30030-25-2	(chloromethyl)vinylbenzene	**NA**	Acute Tox. 4 H302 Acute Tox. 3 H311 Acute Tox. 3 H331 Skin Irrit. 2 H315 Eye Irrit. 2 H319 Skin Sens. 1 H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410
208-197-7	515-40-2	(2-chloro-1,1-dimethylethyl)benzene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory tract [intermediate (active)]
434-580-5		EMBC	**NA**	-
611-664-1	58485-68-0	1-chloro-1,2,3,4-tetrahydronaphthalene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)]
Subgroup 9 - Di-aromatics, Tri-aromatics and Poly-aromatics				
202-031-7	90-99-3	chloro(diphenyl)methane	**NA**	Skin Irrit. 2 H315 [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)]
205-158-6	134-83-8	α,4-dichloro-α-phenyltoluene	**NA**	Skin Corr. 1 H314 [intermediate (active)]
431-450-1		1-(chlorophenylmethyl)-2-methylbenzene	**Skin Irrit. 2; Aquatic Acute 1; Aquatic Chronic 1**;	-
216-784-4	1667-10-3	4,4'-bis(chloromethyl)-1,1'-biphenyl	**NA**	Skin Sens. 1 H317
201-678-2	86-52-2	1-(chloromethyl)naphthalene	**NA**	Eye Damage 1 H318 [intermediate (active)] Acute Tox. 4 H312 [intermediate (active)] Acute Tox. 4 H302 [intermediate (active)] Skin Corr. 1 H314 [intermediate (active)]

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
249-236-8	28804-46-8	dichlorotricyclo[8.2.2.24,7]hexadeca-1(12),4,6,10,13,15-hexaene, mixed isomers	**NA**	Skin Sens. 1B H317 STOT Rep. Exp. 2 H373
200-986-4	76-83-5	chlorotriphenyl methane	**NA**	Aquatic Acute 1 H400 [intermediate (active)] Aquatic Chronic 1 H410 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory system [intermediate (active)] Skin Corr. 1B H314 [intermediate (active)]
255-647-3	42074-68-0	1-chloro-2-(chlorodiphenyl methyl)benzene	**NA**	Skin Irrit. 2 H315 [intermediate (active)] STOT Single Exp. 3 H335, affected organs: respiratory tract [intermediate (active)] Eye Irrit. 2 H319 [intermediate (active)] Met. Corr. 1 H290 [intermediate (active)]
812-055-5	713127-22-1	Benzene, 1,2,3-trichloro-5-(trichloromethyl)-	**NA**	-

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

Data extracted on 17 June 2021.

Table: Overview of main uses (Sub-groups 1-4)

Main types of applications structured by product or article types	201-757-1	202-425-9	203-400-5	203-608-6	203-628-5	204-428-0	208-792-1	945-571-5	202-424-3	203-397-0	203-580-5	246-698-2	905-236-6	202-445-8	202-447-9	204-269-7	249-854-8	251-203-8	202-381-0	202-853-6	203-242-7	210-258-8	217-940-4
Sub-group	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**3**	**3**	**4**	**4**	**4**	**4**	**4**
PC 20: Products such as pH-regulators, flocculants, precipitants, neutral. agents		F, I			I												I, F						
PC 35: Washing and cleaning products																	I						
PC 8: Biocidal products																					I		
PC 3: Air care products			F, **P, C**																				
PC 29: Pharmaceuticals			I																				
PC 15: Non-metal-surface treatment products			I, **A**																				
PC 16: Heat transfer fluids		F, I	I, **A**		I, P																		
PC 17: Hydraulic fluids																	I, F						
PC 32: Polymer preparations and compounds		I	I, **(C), A**														I						
PC 9c: Finger paint																				F			
PC 9b: Fillers, putties, plasters, modelling clay			I, **A**																	F			
PC 9a: Coatings and paints, thinners, paint removes																				F, I			
PC 18: Ink and toners																				F, I			
PC 14: Metal surface treatment products			I																				
PC 0: Process solvent									I														
PC 21: Laboratory chemicals		I	I, P		I, P					I, P										I, P			
PC 19: Intermediate	I	I	I		I	I	I, F	I	F, I	I	I		I	I	I	I	I	I	I	I	I	I	I, F

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

Table: Overview of main uses (Sub-groups 5-7)

Main types of applications structured by product or article types	201-332-0	201-849-1	202-709-2	237-721-7	202-634-5	218-377-7	226-009-1	235-868-1	235-869-7	700-556-0	209-013-8	210-291-8	210-438-6	210-782-7	220-371-4	228-575-5	480-880-4	947-620-6
Sub-group	**5**	**5**	**5**	**5**	**6**	**6**	**6**	**6**	**6**	**6**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
PC 32: Polymer preparations and compounds						I								I				
PC 9a: Coatings and paints, thinners, paint removes																	F, **P**	
PC 19: Intermediate	I	I	I	I	I	I	I	I	I	I	I	I	I		I	I		

F 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

Table: Overview of main uses (Sub-groups 8-9)

Main types of applications structured by product or article types	203-210-2	208-197-7	210-725-6	220-246-4	250-005-9	434-580-5	611-664-1	201-678-2	202-031-7	205-158-6	216-784-4	249-236-8	431-450-1	200-986-4	255-647-3	812-055-5
Sub-group	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**
PC 8: Biocidal products					I											
PC 29: Pharmaceuticals	I															
PC 32: Polymer preparations and compounds					I						I, **A**					
PC 1: Adhesives, sealants											I, **A**					
PC 9a: Coatings and paints, thinners, paint removes												I				
PC 33: Semiconductors											I, **A**					
PC 21: Laboratory chemicals	I															
PC 19: Intermediate	I	I	I	I	I		I	I	I			I		I	I	I

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

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

Data extracted on 20 August 2021.

EC entries	RMOA	Authorisation		Restriction	CLH	Actions not under REACH/ CLP
		Candidate List	Annex XIV	Annex XVII	Annex VI (CLP)	
201-757-1	YES	YES				
202-424-3					YES	
202-425-9					YES	EU OEL
202-634-5					YES	
202-709-2					YES	
202-853-6	YES					
203-397-0					YES	
203-400-5	YES			YES		EU OEL
203-580-5					YES	
203-608-6	YES	YES				
203-628-5					YES	EU OEL
204-428-0	YES	YES		YES	YES	EU OEL
208-792-1					YES	
226-009-1					YES	
246-698-2					YES	
431-450-1					YES	