Assessment of regulatory needs

Authority: European Chemicals Agency (ECHA)

Group Name: sulfoxyethyl/vinylsulfonylphenyldiazenylnaphthalene dyes (group 2)

General structure:

Revision history

Version	*Date*	*Description*
1.0	3 April 2024	

Substances within this group:

EC/List no	CAS no	Substance name [and/or Substance name acronyms]	Registration type (full, OSII or TII, NONS, cease manufacture), highest tonnage band among all the registrations (t/y) [1]
235-434-1	12226-38-9	Copper, 5-(acetylamino)-4-hydroxy-3-[[2-hydroxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-2,7-naphthalenedisulfonic acid complex	C&L notified
263-856-6	63105-49-7	trisodium [5-acetamido-4-hydroxy-3-[[2-hydroxy-4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonato(5-)]cuprate(3-)	full, not (publicly) available
279-015-1	78952-61-1	5-[[4-chloro-6-[(3-sulphophenyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[[4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonic acid, sodium salt	Full, 10-100 ton/y
287-791-8	85585-89-3	Cuprate(3-), [3-hydroxy-4-[[2-hydroxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-2,7-naphthalenedisulfonato(5-)]-, potassium sodium	full, not (publicly) available
287-793-9	85585-91-7	Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, sodium	C&L notified
303-152-9	94158-79-9	4,4'-[(6-chloro-1,3,5-triazine-2,4-diyl)diimino]bis[5-hydroxy-6-[[4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonic] acid, sodium salt	Full, 10-100 ton/y
401-000-7	198153-83-2	C.I. Reactive Blue 230	full, not (publicly) available
401-090-8	23354-53-2	tetrasodium 8-(4-chloro-6-(4-(2-(sulfonatooxy)ethylsulfonyl)anilino)-1,3,5-triazin-2-ylamino)-1-hydroxy-2-(2-sulfonatophenylazo)naphthalene-2,7-disulfonate	full, not (publicly) available
401-420-0	140876-11-5	C.I. Reactive Red 228	NONS
401-560-2	108624-00-6	lithium sodium hydrogen 4-amino-6-(5-(5-chloro-2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	C&L notified
404-320-5	116889-78-2	tetrasodium 4-amino-5-hydroxy-6-(3-(2-(2-(sulfonatooxy)ethylsulfonyl)ethylcarbamoyl)phenylazo)-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	Cease manufacture
404-600-7	129009-88-7	disodium 6-(4,6-dichloro-1,3,5-triazin-2-ylamino)-1-hydroxy-2-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-3-sulfonate	full, not (publicly) available
405-000-8	-	REAKTIV-MARINEBLAU F-66 719 FW	Cease manufacture
405-900-0	-	BRF 112-1	Cease manufacture

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

407-050-6	117715-57-8	7-[((4,6-dichloro-1,3,5-triazin-2-yl)amino)-4-hydroxy-3-(4-((2-(sulfoxy)ethyl)sulfonyl)phenyl)azo]naphthalene-2-sulfonic acid	C&L notified
411-770-6	136213-71-3	trisodium 5-amino-3-[5-(2-bromoacryloylamino)-2-sulfonatophenylazo]-4-hydroxy-6-(4-vinylsulfonylphenylazo)naphthalene-2,7-disulfonate	Not registered
412-490-7	-	potassium sodium 4-(4-chloro-6-(3,6-disulfonato-7-(5,8-disulfonato-naphthalen-2-ylazo)-8-hydroxy-naphthalen-1-ylamino)-1,3,5-triazin-2-ylamino)-5-hydroxy-6-(4-(2-sulfatoethanesulfonyl)-phenylazo)-naphthalene-1,7-disulfonate	Cease manufacture
412-910-9	-	REAKTIV-ROT F 67 637 FW	Cease manufacture
416-920-4	-	GREEN DER 7766	Cease manufacture
417-640-5	161935-19-9	4-[4-amino-5-hydroxy-3-(4-(2-sulfoxyethylsulfonyl)phenylazo)-2,7-disulfonapht-6-ylazo]-6-[3-(4-amino-5-hydroxy-3-(4-(2-sulfoxyethylsulfonyl)phenylazo)-2,7-disulfonapht-6-ylazo]phenylcarbonylamino]benzenesulfonic acid, x sodium salt	Cease manufacture
418-380-5	168113-78-8	5-[[4-chloro-6-[[2-[[4-fluoro-6-[[5-hydroxy-6-[(4-methoxy-2-sulfophenyl)azo]-7-sulfo-2-naphthalenyl]amino]-1,3,5-triazin-2-yl]amino]-1-methylethyl]amino]-1,3,5-triazin-2-yl]amino]-3-[[4-(ethenylsulfonyl)phenyl]azo]-4-hydroxy-naphtalene-2,7-disulfonic acid, sodium salt	Cease manufacture
419-500-9	171599-85-2	N,N'-bis{6-chloro-4-[6-(4-vinylsulfonylphenylazo)-2,7-disulfonicacid 5-hydroxy-napht-4-ylamino]-1,3,5-triazin-2-yl}-N-(2-hydroxyethyl)-ethane-1,2-diamine, sodium salt	NONS
423-790-2	1379676-74-0	pentasodium 4-amino-6-(5-(4-(2-ethyl-phenylamino)-6-(2-sulfatoethanesulfonyl)-1,3,5-triazin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate	Not registered
423-940-7	85585-91-7	A mixture of: disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl)pyrazolin-4-yl-azo]-3-[2-oxido-4-(ethensulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex; disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl)pyrazolin-4-yl-azo]-3-[2-oxido-4-(2-hydroxyethylsulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex	full, not (publicly) available
428-400-4	2135615-14-2	disodium 3-(4-ethenesulfonylphenylazo)-5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxynaphthalene-2,7-disulfonate;reaction mass of: trisodium 5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxy-3-(4-(2-sulfooxyethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate	Cease manufacture
431-830-5	-	reaction mass of: tetrasodium 4-amino-6-(5-(2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate; tetrasodium 4-amino-6-(5-(4,6-difluoropyrimidin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	full, not (publicly) available
433-180-8	-	Reaktiv-Orange DYPR 934	full, not (publicly) available
434-740-4	-	Red RN 1946	Cease manufacture
439-550-5	-	NAVY COB 21	Cease manufacture

440-050-4	243857-97-8	1,7-Naphthalenedisulfonic acid, 2-[[4-chloro-6-(cyanoamino)-1,3,5-triazin-2-yl]amino]-5-hydroxy-6-[2-[2-methoxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, lithium sodium salt (1:?:?)	full, not (publicly) available
440-580-6	-	Reactive Red 9707440-580-6	NONS
443-940-0	-	pentasodium 4-hydroxy-7-[(sulfonatomethyl)amino]-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]-8-[(2-sulfonato-4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]naphthalene-2-sulfonate	full, not (publicly) available
444-050-5	-	disodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[(4-vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate;reaction mass of: trisodium 5-{4-chloro-6-[N-ethyl-(3-(2-sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate;tetrasodium 5-{4-chloro-6-[N-ethyl-3-(2-(sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]-4-hydroxynaphthalene-2,7-disulfonate;trisodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]naphthalene-2,7-disulfonate	Full, not (publicly) available
445-800-4	-	REAKTIV-ROT F02-0037	NONS
451-440-9	586372-44-3	4-amino-5-hydroxy-6-(5-{4-chloro-6-[4-(2-sulfonatooxyethanesulfonyl)phenylamino]-1,3,5-triazin-2-ylamino}-2-sulfonatophenylazo)-3-(2-sulfonato-4-(2-sulfonatooxyethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate potassium/sodium;reaction mass of: 4-amino-3-(4-ethenesulfonyl-2-sulfonatophenylazo)-5-hydroxy-6-(5-{4-chloro-6-[4-(2-sulfonatooxyethanesulfonyl)phenylamino]-1,3,5-triazin-2-ylamino}-2-sulfonatophenylazo)naphthalene-2,7-disulfonate potassium/sodium	full, not (publicly) available
464-290-4		[No public or meaningful name is available]	Cease manufacture
464-700-1	607724-42-5	2-Naphthalenesulfonic acid, 4-hydroxy-3-[2-[2-methoxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-7-[(sulfomethyl)amino]-8-[2-[2-sulfo-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, sodium salt (1:5)	full, not (publicly) available
470-210-9	-	Luganil Schwarz LD 6253	Cease manufacture
479-550-2	-	Reaction mass of Trisodium (7-(2,6-difluoro-pyrimidine-4-ylamino)-3-(5-ethenesulfonyl-2-hydroxy-3-sulfophenylazo)-4-hydroxy-naphthalene-2-sulfonato)cuprate(II) and Disodium (7-(2,6-difluoro-pyrimidine-4-ylamino)-3-(5-ethenesulfonyl-2-hydroxy-3-sulfophenylazo)-4-hydroxy-naphthalene-2-sulfonato)cuprate(II)	full, not (publicly) available
483-940-8	-	1-[2-[[4-[2-[2-amino-5-hydroxy-6-[2-[2-methoxy-5-methyl-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-7-sulfo-1-naphthalenyl]diazenyl]-3-sulfophenyl]sulfonyl]ethyl]-pyrimidinium-3-carboxylic acid mono-, di- and trisodium salts	NONS

-	-	2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino] arylsulfonic acid, potassium and sodium salts	full, not (publicly) available
-	-	7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2-(sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate, polysulfonyl, polyphenyl, sodium/potassium salt	full, not (publicly) available
701-360-8	-	Reaction mass of tetrasodium 5-{[4-chloro-6-(4-{[2-(sulfonatooxy)ethyl]sulfonyl}anilino)-1,3,5-triazin-2-yl]amino}-4-hydroxy-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl) diazenyl]naphthalene-2,7-disulfonate and trisodium 5-({4-chloro-6-[4-(vinylsulfonyl) anilino]-1,3,5-triazin-2-yl}amino)-4-hydroxy-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]naphthalene-2,7-disulfonate	full, not (publicly) available
-	-	Reaction products of diazotized dipotassium substituted-5-{[2-(sulfonatooxy)ethyl]sulfonyl}benzenesulfonate, coupled with substitutedhydroxynaphthalene-2-sulfonic acid, further coupled with diazotized acylated products of 4-[(2-chloroethyl)sulfonyl]butanoyl chloride and disubstitutedbenzenesulfonic acid, sodium and potassium salts	full, not (publicly) available
833-951-2	2246977-27-3	2-Naphthalenesulfonic acid, 7-amino-4-hydroxy-, coupled with diazotized 2-amino-5-[[2-(sulfooxy)ethyl]sulfonyl]benzenesulfonic acid and diazotized dehydrochlorinated 2-amino-4-[[4-[(2-chloroethyl)sulfonyl]-1-oxobutyl]amino]benzenesulfonic acid, sodium salts	C&L notified
855-027-8	2409921-75-9	Pyridinium, 1-[2-[[4-[[3-[2-[6-amino-1-hydroxy-3-sulfo-5-[2-[2-sulfo-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-2-naphthalenyl]diazenyl]-4-sulfophenyl]amino]-4-oxobutyl]sulfonyl]ethyl]-3-carboxy-, inner salt, sodium salt (1:4)	full, not (publicly) available
-	-	Reactive Blue F08-0170	full, not (publicly) available
-	-	Alkali salt of sulfonated aryl azo amino sulfonyl aryl azo sulfonyl aryl azo aryl sulfonate	full, not (publicly) available
941-533-7		Reaction mass of lithium sodium hydrogen 4-amino-6-(5-(5-chloro-2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate and lithium sodium hydrogen 4-Amino-6-[5-(5-chloro-2,6-difluoro-pyrimidin-4-ylamino)-2-sulfo-phenylazo]-3-(4-ethenesulfonyl-phenylazo)-5-hydroxy-naphthalene-2,7-disulfonate	full, not (publicly) available

941-883-0		Reaction mass of Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)Vinyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)], trisodium salt and Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, sodium and Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[2-(sulfooxy)Ethanol]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)], trisodium salt	full, not (publicly) available
943-299-1	1918149-23-1	2,7-Naphthalenedisulfonic acid, 5-[[4-chloro-6-[[2-[[4-[[4-chloro-6-[[8-hydroxy-3,6-disulfo-7-[2-[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-1-naphthalenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]sulfonyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[2-[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, sodium salt (1:6)	full, not (publicly) available
-	-	Reaction products of disodium hydroxysubstitutedpolycycledisulphonate reacted with 2,4,6-trichloro-1,3,5-triazine, subsequently coupled with diazotized 2-[(p-substitutedphenyl)sulphonyl]ethyl hydrogen sulphate, subsequently reacted with disodium hydroxysubstitutedpolycycledisulphonate and subsequently coupled with diazotized disodium substitutedpolycycledisulphonate	full, not (publicly) available
948-562-4		Reaction products of diazotised 2-amino-5-{[2-(sulfooxy)ethyl]sulfonyl}benzenesulfonic acid coupled with 4-amino-5-hydroxynaphthalene-2,7-disulfonic acid under acidic conditions, further coupled with diazotised reaction products of 2,4,6-trifluoro-1,3,5-triazine with 2-[(2-anilinoethyl)sulfonyl]ethyl hydrogen sulfate and 2,4-diaminobenzenesulfonic acid (1:1:1) under alkaline conditions, potassium sodium salts	full, not (publicly) available

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

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. Assessments 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
TPE	Testing proposal evaluation

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. The group "sulfoxyethyl/vinylsulfonylphenyldiazenylnaphthalene dyes (group 2[5])" is composed of substances that are so-called "reactive" azo dyes. These reactive azo dyes carry in their structure one (or more) sulfoxyethylsulfonyl group which under basic conditions reacts to give the vinylsulfonyl moiety which is capable of covalently binding to the substrate. Therefore, the sulfoxyethylsulfonyl moiety, or the derivative vinylsulfonyl group, is the key feature of this group of substances. Next to this, there are the following common functionalities:

- One (or more) naphthalene (mono or di) with these substituents:
  - One or more sulfonic acid or Na, K, Li sulfonate
  - OH and/or NH2/NHR/NR2
- One or more azo bond connecting the naphthalene with a substituted benzene

Additional moieties that differentiate this group from the previous sulfoxyethyl/vinylsulfonylphenyldiazenylnaphthalene dyes (group 1) are present. In particular, some of the substances are Cu chelates, and usually one or more of the following functional group is present in the structure:

- (Cl, F, CN) triazine
- (Cl, F, CN) pyrimidine
- Morpholine
- Pyridinium-carboxilate
- Pyrazol
- Other/additional substituents on the benzene ring than -Me, -OMe, -0SO_2H

These additional (hetero)moieties contribute to the reactivity of the dyes. For example, the chlorine on the triazine group is a labile substituent which is cleaved by the nucleophilic substrate (for example a hydroxyl group) to form a covalent bond with it.

Some examples of structures belonging to this group (major constituent), showing the most relevant moieties are provided in Fig 1.

[5] This is the second group of sulfoxyethyl/vinylsulfonylphenyldiazenylnaphthalene dyes. The difference with the current group is the absence of additional (hetero) moieties/functional groups.

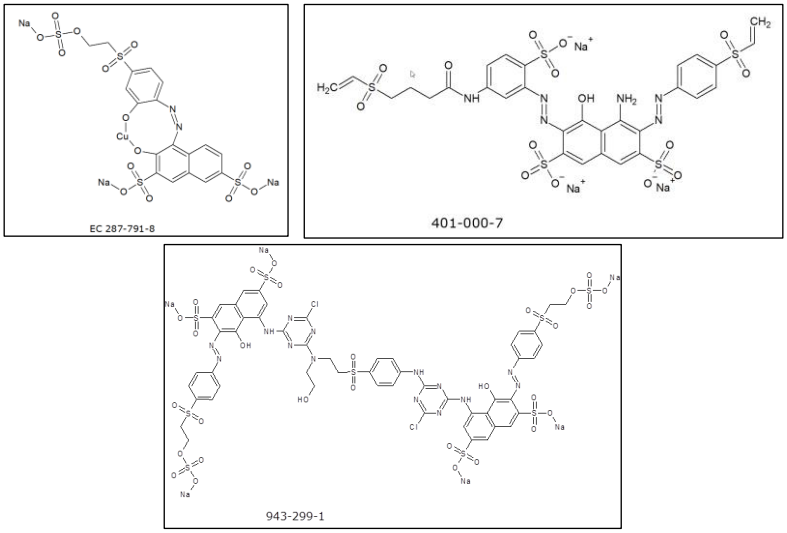

Fig1: Examples of structures belonging to this group

There are 53 substances in the group (based on the EC/List entries). Out of these substances, 28 substances have active full REACH registrations, 13 have ceased manufacture, 5 are NONS and 5 have C&L notifications while 2 are not registered.

Based on information reported in the REACH registration dossiers, the main application of these substances is as reactive dyes in textiles, where the substances are used by industrial workers, professionals, and consumers, resulting in high potential for exposure to humans and the environment. Four substances (EC 279-015-1, 423-940-7, 941-883-0, and Reaction products of disodium hydroxysubstitutedpolycycledisulphonate reacted with 2,4,6-trichloro-1,3,5-triazine, subsequently coupled with diazotized 2-[(p-substitutedphenyl)sulphonyl]ethyl hydrogen sulphate, subsequently reacted with disodium hydroxysubstitutedpolycycledisulphonate and subsequently coupled with diazotized disodium substitutedpolycycledisulphonate) are also used in dyeing of polymer, paper, and metal/alloy products, or used for non-metal surface treatment. Article service life is reported, however, due to the reactive nature of these dyes, exposure from those articles seems to be limited, but cannot be excluded.

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
401-560-2* 404-320-5* 404-600-7* 407-050-6* 412-490-7* 412-910-9* 417-640-5* 419-500-9* 423-790-2* 483-940-8 **2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino] arylsulfonic acid, potassium and sodium salts** **7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2-(sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate, polysulfonyl, polyphenyl, sodium/potassium salt**	Known or potential hazard for skin sensitisation for all for mutagenicity for EC 483-940-8 Note: nine substances (*) already have harmonised classification as skin sens. 1	Inconclusive hazard for vPvB	High potential for exposure to human health and environment from industrial, professional and consumer uses as dyes for textile and leather articles (for some substances some additional products) as well as from articles.	**First step:** CCH for 404-600-7, 2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino] arylsulfonic acid, potassium and sodium salts, 7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2-(sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate, polysulfonyl, polyphenyl, sodium/potassium salt, 941-533-7, 941-883-0

Subgroup name, EC/List no, substance name	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
Reaction products of diazotized dipotassium substituted-5-{[2-(sulfonatooxy)ethyl]sulfonyl}benzenesulfonate, coupled with substitutedhydroxynaphthalene-2-sulfonic acid, further coupled with diazotized acylated products of 4-[(2-chloroethyl)sulfonyl]butanoyl chloride and disubstitutedbenzenesulfonic acid, sodium and potassium salts **941-533-7** **941-883-0** **948-562-4**				**Potential next steps (if hazard confirmed after data generation):** **CLH for skin sensitisation** CLH for mutagenicity category 2 for EC 483-940-8 to be considered at the same time Justification: Harmonised classification as skin sensitiser would be needed for the future restriction on the use of skin sensitiser substances in textile, leather, fur and hide articles. Regarding vPvB, it is not possible to assess the needs for regulatory risk management at the moment as information on hazard is not sufficient to conclude. The needs for regulatory risk management actions for vPvB will be assessed once generation of data is completed (CCH).
263-856-6 **279-015-1** **287-791-8** **303-152-9** **401-000-7** **401-090-8** **401-420-0**	No hazard or unlikely hazard	Inconclusive hazard for vPvB	High potential for exposure to human health and environment from industrial,	**First step:** CCH for 279-015-1, 287-791-8, 303-152-9, 401-000-7, 431-830-5, 451-440-9, 464-700-1, 701-360-8, 855-027-8, Alkali salt of sulfonated aryl azo

Subgroup name, EC/List no, substance name	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
418-380-5 **423-940-7** **431-830-5** **433-180-8** **440-050-4** **440-580-6** **443-940-0** **444-050-5** **445-800-4** **451-440-9** **464-700-1** **479-550-2** **701-360-8** **855-027-8** **Reactive Blue F08-0170** **Alkali salt of sulfonated aryl azo amino sulfonyl aryl azo sulfonyl aryl azo aryl sulfonate** **943-299-1** **Reaction products of disodium hydroxysubstitutedpolycycledisulphonate reacted with 2,4,6-trichloro-1,3,5-triazine, subsequently coupled with diazotized 2-[(p-substitutedphenyl)sulphonyl]ethyl hydrogen sulphate, subsequently reacted with disodium hydroxysubstitutedpolycycledisulphonate and subsequently coupled with diazotized disodium substitutedpolycycledisulphonate**			professional and consumer uses as dyes for textile and leather articles (for some substances some additional products) as well as from articles.	amino sulfonyl aryl azo sulfonyl aryl azo aryl sulfonate **Potential last action:** **Currently not possible to assess the regulatory needs** Regarding vPvB, it is not possible to assess the needs for regulatory risk management at the moment as information on hazard is not sufficient to conclude. The needs for regulatory risk management actions for vPvB will be assessed once generation of data is completed (CCH).

Subgroup name, EC/List no, substance name	Human Health Hazard	Environmental Hazard	Relevant use(s) & exposure potential	Suggested regulatory actions
Not registered/NONS **235-434-1** **287-793-9** **405-000-8** **405-900-0** **411-770-6** **416-920-4** **428-400-4** **434-740-4** **439-550-5** **464-290-4** **470-210-9** **833-951-2**	Inconclusive hazard	Inconclusive hazard	Substances not registered under REACH.	No action **Currently no need for EU RRM** Actions (including data generation) will be re-considered when the assessment will be revisited if the registration status changes.

3 Justification for the (no) need for regulatory risk management action at EU level

Hazard summary

Based on currently available information, **CMR/ED hazards** are considered unlikely for all group members based on the available data (apart from mutagenicity for substance EC 483-940-8, please refer to discussion below). The studies available on reproductive and developmental toxicity show no developmental nor fertility effects, while systemic effects have not been observed in the repeated dose toxicity studies available. For mutagenicity all available *in vivo* mammalian erythrocyte micronucleus tests (OECD TG 474) conducted with the registered substances are negative. Based on similar functional groups in the substances, the findings from the available studies are likely to apply to all substances that do not have experimental data with remaining uncertainty.

Regarding **carcinogenicity**, there is no concern even if no data is available. Azo dyes are usually cleaved at the azo-bond during metabolism with azo reductase to produce the naphthylamine and the sulfoxyethylsulfonylanilines, which would be expected to be prone to hydrolysis to the 2-hydroxyethylsulfone directly or *via* the vinyl sulphone. Some azo dyes or azo colourants are known to release carcinogenic amines; hence azo dyes or azo colourants are restricted under Entry 43 of Annex XVII or REACH if they release any of the amines listed in Appendix 8 or this Restriction in detectable amounts. However, the amines that would be released from the present group of substances are not in Appendix 8 of Entry 43 of Annex XVII; hence they are not covered by this Restriction and there is no concern for carcinogenicity.

Based on ECHA's screening assessment of currently available hazard information, the substances in the group are of low or no toxicity to aquatic organisms and do not meet the Annex XIII criteria for T, based on the (eco)toxicity data available. However, these substances are potentially persistent or very persistent (**P/vP**) as they are not readily biodegradable (*i.e.,* <60/70% degradation in OECD 301 studies) and there are no simulation studies available. The low values of Kow are not pertinent for predicting the bioaccumulation (**B/vB**) potential of these substances since they are ionisable and for such substances high potential for bioaccumulation cannot be excluded solely based on its potential to partition to lipid as other partitioning mechanisms may drive bioaccumulation. The bioaccumulation potential of these substances is therefore inconclusive.

Suggested (no) regulatory risk management

Suggested regulatory risk management action for 16 substances (please refer to the Table under 2. Conclusions and proposed actions) if hazard for skin sensitisation is confirmed.

Based on currently available information, there is a potential hazard for skin sensitisation for 16 substances in the group. The following nine substances already have a harmonised classification as Skin Sens. 1: 401-560-2, 404-320-5, 404-600-7, 407-050-6, 412-490-7, 412-910-9, 417-640-5, 419-500-9, and 423-790-2. The remaining seven substances are self-classified as Skin Sens 1/1A/1B: 483-940-8, 941-533-7, 941-883-0, 948-562-4 and 2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino]

arylsulfonic acid, potassium and sodium salts, 7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2 (sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate, polysulfonyl, polyphenyl, sodium/potassium salt, Reaction products of diazotized dipotassium substituted-5-{[2-(sulfonatooxy)ethyl]sulfonyl}benzenesulfonate, coupled with substitutedhydroxynaphthalene-2-sulfonic acid, further coupled with diazotized acylated products of 4-[(2-chloroethyl)sulfonyl]butanoyl chloride and disubstitutedbenzenesulfonic acid, sodium and potassium salts. The self-classifications are based on positive findings observed in *in vivo* testing (Local Lymph Node Assay (OECD TG 429) or Guinea Pig Maximisation Test (OECD TG 406)). The substances have widespread uses for textile dyeing by consumers and professional users and also uses by industrial workers.

The first step of the regulatory risk management should the hazard exist, is the confirmation of hazard via harmonised classification (CLH) as *skin sensitiser* hazard for *the substances* currently (only) self-classified for skin sensitisation. 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, to submit them individually or jointly.

For substances used in textiles, leather, fur and hide articles, there is an ongoing restriction proposal from FR/SE on skin sensitisers (and skin irritants and corrosive substances). Under the current proposal for restriction, harmonised classification would be needed for the restriction to apply.

For industrial and professional uses, sufficient and consistent self-classification by registrants should require company level risk management measures (RMM) to be in place for workers, however it would not address the remaining uncertainties for exposure from articles and to consumers.

Adequate product labelling should in principle provide consumers with sufficient information to manage risks arising from the use of mixtures containing these substances. However, there is a concern related to skin sensitisers (potentially) present in consumer mixtures and the need to investigate whether further regulatory actions are needed and what would be the best options to address this concern.

Such concern has already been identified in other groups of substances and was brought for further discussion to Member States. Work is ongoing on this generic issue by both Member States and ECHA which may affect the regulatory actions on substances in this group.

The proposed harmonised classification would not limit the uses in dyeing of polymers and paper reported for 941-883-0. However, harmonised classification would lead to better control of risks for also these industrial uses. No consumer uses are registered for this substance. Given its overall low volume (1-10 t/y) and the limited release potential of reactive azodyes, polymer and paper articles seem not to be of concern at this stage. This conclusion may be revisited after data generation.

Furthermore, based on currently available information, there is a potential hazard for mutagenicity for EC 483-940-8 as both its *in vitro* and *in vivo* genotoxicity studies have positive findings. Based on the data a classification and labelling as mutagenic category 2 may be warranted, however the substance is not self-classified. Further data generation to confirm the severity of this hazard (potentially as muta. cat. 1B) would only be possible via substance evaluation (SEv) as the substance is a NONs. The substance is only used at industrial sites for textile dyeing

by one registrant with no professional or consumer uses. The industrial use will be restricted by the above-mentioned restriction once the substance is classified as skin sensitiser. While a harmonised classification as muta. cat. 2 could be beneficial to complement the skin sensitisation CLH, and the relevant data is already available, the further clarification of the mutagenicity hazard via SEv and the corresponding harmonised classification are considered to be of low priority due to the limited added regulatory benefit. Nevertheless, a MS may consider also the need for muta 2 CLH when acting on the skin sens CLH.

Regarding other **CMR/ED** hazards, as indicated in the hazard summary section, based on the information available there is **no or unlikely hazard** for these priority endpoints while for **vPvB** the hazards are **inconclusive**. However, for some substances there are datagaps for these endpoints and/or read-across approaches have been submitted. These will be assessed in the compliance checks (CCH) flagged where feasible (please refer to Table 2). It is expected that the data generation will confirm the no or unlikely hazard for the CMR/ED endpoints. Regarding vPvB, it is not possible to assess the needs for regulatory risk management at the moment as information on hazard is not sufficient to conclude. The needs for regulatory risk management actions for vPvB will be assessed once generation of data is completed (CCH).

It has also been identified that streamlining and consistency across the different azo dye groups[6] assessed by ECHA need to be ensured, eventually also with groups on other dye substances with comparable hazard and use profiles. Consistent approaches for azo dye substances with similar hazard and use profiles need to be aimed for while recognising that the hazard profile of azo dyes varies considerably, often depending on the respective breakdown products. In that sense, azo dyes with skin sensitising properties may be restricted in textiles (see ongoing restriction described above) or azo dyes with CMR properties and/or breakdown products may follow a similar approach to the restriction entry 43 of Annex XVII of REACH.

Currently not possible to suggest regulatory risk management actions for 25 substances (please refer to Table 2)

Based on currently available information, for **skin sensitisation** hazards are considered **unlikely** for these substances as for 20 of these substances there are negative findings for *in vivo* testing (LLNA or GPMT) available. None of the substances are also self-classified for the skin sensitisation hazard. As indicated in the hazard summary section, based on the information available there is also **no or unlikely hazard** for the other **CMR/ED** endpoints, while the **vPvB** hazard is **inconclusive**. However, for some substances there are datagaps for these endpoints and/or read-across approaches have been submitted. Where possible, these will be assessed in the CCHs flagged (please refer to Table 2). It is expected that the data generation will confirm the no or unlikely hazard for CMR/ED endpoints. Regarding vPvB, needs for regulatory risk management actions for vPvB will be assessed once generation of data is completed (CCH) as information on hazard is currently not sufficient to conclude.

Currently no need for EU RRM actions for the 12 "NOT registered/NONS" substances (please refer to Table 2)

[6] See GMT 175_1 "Sulfoxyethyl/vinylsulfonylphenyldiazenylnaphthalene dyes (group 1)" and GMT 220 "Diazo amino hydroxyl naphthalenedisulfonic acid dyes"

It is not possible to assess the needs for regulatory risk management for these non registered substances as information on hazard is not sufficient to conclude on their hazard potential.

There is also no information available that would allow to extrapolate the hazard information to these members of the group. From their registration situation, these substances are assumed not to be used at the European market at this point in time. If the registration status changes data generation and potentially follow up actions will be re-considered when the assessment will be revisited.

Annex 1: Overview of classifications

Data extracted on 22 February 2021

EC/ List No	CAS No	Substance name	Harmonised classification	Classification in registrations
235-434-1	12226-38-9	Copper, 5-(acetylamino)-4-hydroxy-3-[[2-hydroxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-2,7-naphthalenedisulfonic acid complex	-	-
263-856-6	63105-49-7	trisodium [5-acetamido-4-hydroxy-3-[[2-hydroxy-4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonato(5-)]cuprate(3-)	-	Aquatic Chronic 2 H411
279-015-1	78952-61-1	5-[[4-chloro-6-[(3-sulphophenyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[[4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonic acid, sodium salt	-	-
287-791-8	85585-89-3	Cuprate(3-), [3-hydroxy-4-[[2-hydroxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-2,7-naphthalenedisulfonato(5-)]-, potassium sodium		Aquatic Chronic 2 H411
287-793-9	85585-91-7	Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, sodium	-	-
303-152-9	94158-79-9	4,4'-[(6-chloro-1,3,5-triazine-2,4-diyl)diimino]bis[5-hydroxy-6-[[4-[[2-(sulphooxy)ethyl]sulphonyl]phenyl]azo]naphthalene-2,7-disulphonic] acid, sodium salt	-	-
401-000-7	198153-83-2	C.I. Reactive Blue 230		Eye Irrit. 2 H319
401-090-8	23354-53-2	tetrasodium 8-(4-chloro-6-(4-(2-(sulfonatooxy)ethylsulfonyl)anilino)-1,3,5-triazin-2-ylamino)-1-hydroxy-2-(2-sulfonatophenylazo)naphthalene-2,7-disulfonate	-	-
401-420-0	140876-11-5	C.I. Reactive Red 228	-	-
401-560-2	108624-00-6	lithium sodium hydrogen 4-amino-6-(5-(5-chloro-2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	Skin Sens. 1 H317	Skin Sens. 1 H317[registration, Article 10, inactive]
404-320-5	116889-78-2	tetrasodium 4-amino-5-hydroxy-6-(3-(2-(2-(sulfonatooxy)ethylsulfonyl)ethylcarbamoyl)phenylazo)-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	Skin Sens. 1 H317	Skin Sens. 1 H317
404-600-7	129009-88-7	disodium 6-(4,6-dichloro-1,3,5-triazin-2-ylamino)-1-hydroxy-2-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-3-sulfonate	Skin Sens. 1 H317	Skin Sens. 1 H317
405-000-8	-	REAKTIV-MARINEBLAU F-66 719 FW	-	-
405-900-0		BRF 112-1	-	-
407-050-6	117715-57-8	7-[((4,6-dichloro-1,3,5-triazin-2-yl)amino)-4-hydroxy-3-(4-((2-	Skin Sens. 1 H317	-

		(sulfoxy)ethyl)sulfonyl)phenyl)azo]naphthalene-2-sulfonic acid		
411-770-6	136213-71-3	trisodium 5-amino-3-[5-(2-bromoacryloylamino)-2-sulfonatophenylazo]-4-hydroxy-6-(4-vinylsulfonylphenylazo)naphthalene-2,7-disulfonate	Aquatic Chronic 3	-
412-490-7	-	potassium sodium 4-(4-chloro-6-(3,6-disulfonato-7-(5,8-disulfonato-naphthalen-2-ylazo)-8-hydroxy-naphthalen-1-ylamino)-1,3,5-triazin-2-ylamino)-5-hydroxy-6-(4-(2-sulfatoethanesulfonyl)-phenylazo)-naphthalene-1,7-disulfonate	Skin Sens. 1 H317	-
412-910-9	-	REAKTIV-ROT F 67 637 FW	Eye Damage 1 H318 Skin Sens. 1 H317	-
416-920-4	-	GREEN DER 7766	Eye Damage 1 H318	-
417-640-5	161935-19-9	4-[4-amino-5-hydroxy-3-(4-(2-sulfoxyethylsulfonyl)phenylazo)-2,7-disulfonapht-6-ylazo]-6-[3-(4-amino-5-hydroxy-3-(4-(2-sulfoxyethylsulfonyl)phenylazo)-2,7-disulfonapht-6-ylazo]phenylcarbonylamino]benzenesulfonic acid, x sodium salt	Eye Damage 1 H318 Skin Sens. 1 H317	Eye Damage 1 H318 Skin Sens. 1 H317
418-380-5	168113-78-8	5-[[4-chloro-6-[[2-[[4-fluoro-6-[[5-hydroxy-6-[(4-methoxy-2-sulfophenyl)azo]-7-sulfo-2-naphthalenyl]amino]-1,3,5-triazin-2-yl]amino]-1-methylethyl]amino]-1,3,5-triazin-2-yl]amino]-3-[[4-(ethenylsulfonyl)phenyl]azo]-4-hydroxy-naphtalene-2,7-disulfonic acid, sodium salt	Eye Damage 1 H318	Eye Damage 1 H318
419-500-9	171599-85-2	N,N'-bis{6-chloro-4-[6-(4-vinylsulfonylphenylazo)-2,7-disulfonicacid 5-hydroxy-napht-4-ylamino]-1,3,5-triazin-2-yl}-N-(2-hydroxyethyl)-ethane-1,2-diamine, sodium salt	Eye Damage 1 H318 Skin Sens. 1 H317	Eye Damage 1 H318 Skin Sens. 1 H317
423-790-2	1379676-74-0	pentasodium 4-amino-6-(5-(4-(2-ethyl-phenylamino)-6-(2-sulfatoethanesulfonyl)-1,3,5-triazin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate	Eye Damage 1 H318 Skin Sens. 1 H317 Aquatic Chronic 3	
423-940-7	85585-91-7	A mixture of: disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl)pyrazolin-4-yl-azo]-3-[2-oxido-4-(ethensulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex; disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl)pyrazolin-4-yl-azo]-3-[2-oxido-4-(2-hydroxyethylsulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex	Eye Damage 1 H318 Aquatic Chronic 2	Eye Damage 1 H318 Aquatic Chronic 2 H411
428-400-4	2135615-14-2	disodium 3-(4-ethenesulfonylphenylazo)-5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxynaphthalene-2,7-disulfonate;reaction mass of: trisodium 5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxy-3-(4-(2-sulfooxyethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate	Eye Damage 1 H318	-
431-830-5	-	reaction mass of: tetrasodium 4-amino-6-(5-(2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-	Aquatic Chronic 3 H412	Aquatic Chronic 3 H412

		disulfonate; tetrasodium 4-amino-6-(5-(4,6-difluoropyrimidin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate		
433-180-8	-	Reaktiv-Orange DYPR 934	-	-
434-740-4	-	Red RN 1946	-	-
439-550-5	-	NAVY COB 21		Aquatic Chronic 3 H412[registration, Article 10, inactive] Eye Damage 1 H318[registration, Article 10, inactive]
440-050-4	243857-97-8	1,7-Naphthalenedisulfonic acid, 2-[[4-chloro-6-(cyanoamino)-1,3,5-triazin-2-yl]amino]-5-hydroxy-6-[2-[2-methoxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, lithium sodium salt (1:?:?)		Eye Damage 1 H318[registration, Article 10, inactive]
440-580-6	-	Reactive Red 9707440-580-6	-	-
443-940-0	-	pentasodium 4-hydroxy-7-[(sulfonatomethyl)amino]-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]-8-[(2-sulfonato-4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]naphthalene-2-sulfonate	-	Eye Damage 1 H318[registration, Article 10, inactive]
444-050-5	-	disodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[(4-vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate;reaction mass of: trisodium 5-{4-chloro-6-[N-ethyl-(3-(2-sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate;tetrasodium 5-{4-chloro-6-[N-ethyl-3-(2-(sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]-4-hydroxynaphthalene-2,7-disulfonate;trisodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]naphthalene-2,7-disulfonate	Eye Damage 1 H318 Aquatic Chronic 3 H412	Eye Damage 1 H318 Aquatic Chronic 3 H412
445-800-4	-	REAKTIV-ROT F02-0037	-	-
451-440-9	586372-44-3	4-amino-5-hydroxy-6-(5-{4-chloro-6-[4-(2-sulfonatooxyethanesulfonyl)phenylamino]-1,3,5-triazin-2-ylamino}-2-sulfonatophenylazo)-3-(2-sulfonato-4-(2-sulfonatooxyethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate potassium/sodium;reaction mass of: 4-amino-3-(4-ethenesulfonyl-2-sulfonatophenylazo)-5-hydroxy-6-(5-{4-chloro-6-[4-(2-sulfonatooxyethanesulfonyl)phenylamino]-1,3,5-triazin-2-ylamino}-2-sulfonatophenylazo)naphthalene-2,7-disulfonate potassium/sodium	Eye Damage 1 H318	Eye Damage 1 H318
464-290-4		[No public or meaningful name is available]	-	-

464-700-1	607724-42-5	2-Naphthalenesulfonic acid, 4-hydroxy-3-[2-[2-methoxy-5-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-7-[(sulfomethyl)amino]-8-[2-[2-sulfo-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, sodium salt (1:5)		Eye Damage 1 H318[registration, Article 10, inactive]
470-210-9	-	Luganil Schwarz LD 6253	-	-
479-550-2	-	Reaction mass of Trisodium (7-(2,6-difluoro-pyrimidine-4-ylamino)-3-(5-ethenesulfonyl-2-hydroxy-3-sulfophenylazo)-4-hydroxy-naphthalene-2-sulfonato)cuprate(II) and Disodium (7-(2,6-difluoro-pyrimidine-4-ylamino)-3-(5-ethenesulfonyl-2-hydroxy-3-sulfophenylazo)-4-hydroxy-naphthalene-2-sulfonato)cuprate(II)	-	Eye Damage 1 H318[registration, Article 10, inactive]
483-940-8	-	1-[2-[[4-[2-[2-amino-5-hydroxy-6-[2-[2-methoxy-5-methyl-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-7-sulfo-1-naphthalenyl]diazenyl]-3-sulfophenyl]sulfonyl]ethyl]-pyrimidinium-3-carboxylic acid mono-, di- and trisodium salts	-	Skin Sens. 1 H317
-	-	2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino] arylsulfonic acid, potassium and sodium salts	-	Eye Damage 1 H318 Skin Sens. 1 H317
-	-	7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2-(sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate, polysulfonyl, polyphenyl, sodium/potassium salt	-	Skin Sens. 1 H317
701-360-8	-	Reaction mass of tetrasodium 5-{[4-chloro-6-(4-{[2-(sulfonatooxy)ethyl]sulfonyl}anilino)-1,3,5-triazin-2-yl]amino}-4-hydroxy-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl) diazenyl]naphthalene-2,7-disulfonate and trisodium 5-({4-chloro-6-[4-(vinylsulfonyl) anilino]-1,3,5-triazin-2-yl}amino)-4-hydroxy-3-[(4-{[2-(sulfonatooxy)ethyl]sulfonyl}phenyl)diazenyl]naphthalene-2,7-disulfonate	-	-
-	-	Reaction products of diazotized dipotassium substituted-5-{[2-(sulfonatooxy)ethyl]sulfonyl}benzenesulfonate, coupled with substitutedhydroxynaphthalene-2-sulfonic acid, further coupled with diazotized acylated products of 4-[(2-chloroethyl)sulfonyl]butanoyl chloride and disubstitutedbenzenesulfonic acid, sodium and potassium salts	-	Eye Damage 1 H318 Skin Sens. 1B H317
833-951-2	2246977-27-3	2-Naphthalenesulfonic acid, 7-amino-4-hydroxy-, coupled with diazotized 2-amino-5-[[2-(sulfooxy)ethyl]sulfonyl]benzenesulfonic acid and diazotized dehydrochlorinated 2-amino-4-[[4-[(2-chloroethyl)sulfonyl]-1-	-	-

		oxobutyl]amino]benzenesulfonic acid, sodium salts		
855-027-8	2409921-75-9	Pyridinium, 1-[2-[[4-[[3-[2-[6-amino-1-hydroxy-3-sulfo-5-[2-[2-sulfo-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-2-naphthalenyl]diazenyl]-4-sulfophenyl]amino]-4-oxobutyl]sulfonyl]ethyl]-3-carboxy-, inner salt, sodium salt (1:4)	-	-
-	-	Reactive Blue F08-0170	-	-
-	-	Alkali salt of sulfonated aryl azo amino sulfonyl aryl azo sulfonyl aryl azo aryl sulfonate	-	-
941-533-7	-	Reaction mass of lithium sodium hydrogen 4-amino-6-(5-(5-chloro-2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate and lithium sodium hydrogen 4-Amino-6-[5-(5-chloro-2,6-difluoro-pyrimidin-4-ylamino)-2-sulfo-phenylazo]-3-(4-ethenesulfonyl-phenylazo)-5-hydroxy-naphthalene-2,7-disulfonate	-	Skin Sens. 1B H317
941-883-0	-	Reaction mass of Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)Vinyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)], trisodium salt and Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)]-, sodium and Cuprate(4-), [4,5-dihydro-4-[[8-hydroxy-7-[[2-hydroxy-5-methoxy-4-[2-(sulfooxy)Ethanol]phenyl]azo]-6-sulfo-2-naphthalenyl]azo]-5-oxo-1-(4-sulfophenyl)-1H-pyrazole-3-carboxylato(6-)], trisodium salt	-	Skin Sens. 1A H317 Aquatic Chronic 3 H412
943-299-1	1918149-23-1	2,7-Naphthalenedisulfonic acid, 5-[[4-chloro-6-[[2-[[4-[[4-chloro-6-[[8-hydroxy-3,6-disulfo-7-[2-[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-1-naphthalenyl]amino]-1,3,5-triazin-2-yl]amino]phenyl]sulfonyl]ethyl](2-hydroxyethyl)amino]-1,3,5-triazin-2-yl]amino]-4-hydroxy-3-[2-[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]diazenyl]-, sodium salt (1:6)	-	-
-	-	Reaction products of disodium hydroxysubstitutedpolycycledisulphonate reacted with 2,4,6-trichloro-1,3,5-triazine, subsequently coupled with diazotized 2-[(p-substitutedphenyl)sulphonyl]ethyl hydrogen sulphate, subsequently reacted with disodium hydroxysubstitutedpolycycledisulphonate and subsequently coupled with diazotized disodium substitutedpolycycledisulphonate	-	Aquatic Chronic 3 H412
948-562-4	-	Reaction products of diazotised 2-amino-5-{[2-(sulfooxy)ethyl]sulfonyl}benzenesulfonic acid coupled with 4-amino-5-hydroxynaphthalene-2,7-disulfonic acid under acidic conditions, further coupled with diazotised reaction products of 2,4,6-trifluoro-1,3,5-triazine with 2-[(2-	-	Skin Sens. 1B H317

		anilinoethyl)sulfonyl]ethyl hydrogen sulfate and 2,4-diaminobenzenesulfonic acid (1:1:1) under alkaline conditions, potassium sodium salts		

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

Data extracted on 12 February 2021

EC number	Technical function	Dyeing of polymers	Dyeing of metals and alloys	Use in non-metal surface treatment	Dyeing of paper products	Ink and toners	Dyeing of textiles	Leather dyeing	Washing and cleaning
279-015-1	Dye	F, I, **A**			F, I, **A**	F, I	F, I, **P, A**	F, I, **A**	F, I
423-940-7	Dye	F, I, **P, A**		F, I, **P**	F, I, **P, A**	F, I, **P, C, A**	I, **A**		F, I, **P**
941-883-0	Dye	F, I, **A**			F, I, **A**	F, I, **P**	F, I, **P, C, A**	F, I, **A**	
Reaction products of disodium hydroxysubstitutedpolycycledisulphonate reacted with 2,4,6-trichloro-1,3,5-triazine, subsequently coupled with diazotized 2-[(p-substitutedphenyl)sulphonyl]ethyl hydrogen sulphate, subsequently reacted with disodium hydroxysubstitutedpolycycledisulphonate and subsequently coupled with diazotized disodium substitutedpolycycledisulphonate	Dye	F, I, **A**	I, **A**		F, I, **A**	F, I	F, I, **P, C, A**	F, I, **A**	
263-856-6	Dye						F, I, **P, C**		**C**
287-791-8	Dye						F, I, **P, C**		
303-152-9	Dye						F, I, **C**	F, I, **A**	F, I
401-000-7	Dye					I	F, I, **P, C, A**		**P**
401-090-8	Dye						**C**		
401-420-0	Dye					I	I, **C, A**		**P**

404-320-5*	Dye						I, **A**		
404-600-7	Dye					F, I	F, I, **C, A**		
405-900-0*	Dye					F	F, I, **P, C**		**C**
417-640-5*	Dye						I, **A**		
418-380-5*	Dye						I, **A**		
419-500-9*	Dye						I, **A**		
431-830-5	Dye						**C**		**C**
433-180-8*	Dye						F, I, **P, C, A**		
440-050-4	Dye						**C**		
440-580-6	Dye						**A**		
443-940-0	Dye						**C**		
444-050-5	Dye						I, **A**		
445-800-4	Dye						I, **P, C**		
451-440-9	Dye					I	I, **C, A**		**P**
464-700-1	Dye						**C**		
479-550-2	Dye						**C**		
483-940-8	Dye						F, I, **A**		
2-[(8-amino-7-{[4-substituted-2-sulfonatophenyl]diazenyl}-1-hydroxy-3,6-disulfonaphthalen-2-yl)diazenyl]-4-[(4-chloro-6-{[3-(substituted)phenyl](ethyl)amino}-heteromonocycl-2-yl)amino] arylsulfonic acid, potassium and sodium salts	Dye						F, I, **P, C, A**		**P, A**
7-amino-3-{(E)-[5-({4-(2-chloroethyl)butanoyl}amino)]diazenyl}-4-hydroxy-8-[(E)-(4-{2-(sulfonatooxy)ethyl}) diazenyl]naphthalene, polysulfonate,	Dye					I	F, I, **P, A**		**P**

polysulfonyl, polyphenyl, sodium/potassium salt									
701-360-8	Dye						F, I, **P, C, A**		
Reaction products of diazotized dipotassium substituted-5-{[2-(sulfonatooxy)ethyl]sulfonyl}benzenesulfonate, coupled with substitutedhydroxynaphthalene-2-sulfonic acid, further coupled with diazotized acylated products of 4-[(2-chloroethyl)sulfonyl]butanoyl chloride and disubstitutedbenzenesulfonic acid, sodium and potassium salts	Dye						F, I, **P, C**		
855-027-8	Dye						F, I, **A**		F, I
Reactive Blue F08-0170	Dye					F, I	F, I, **C, A**		I
Alkali salt of sulfonated aryl azo amino sulfonyl aryl azo sulfonyl aryl azo aryl sulfonate	Dye						F, I, **P, C**		
941-533-7	Dye						F, I, **C, A**		
943-299-1	Dye						F, I, **A**		
948-562-4	Dye						F, I, **P, 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
*Cease of manufacture.

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

Data extracted on 24 February 2021

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