



REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS (REACH) STATEMENT

RTLogic is committed to manufacturing products in a manner that minimizes risk to the health and safety of human beings and the environment. Regarding REACH, we confirm that RT Logic is aware of obligations under the REACH regulation No 1907/2006 of the European parliament and of the Council of 19 December 2006 concerning the Registration, Authorization and Restriction of Chemicals (REACH) and in particular, to Annex XVII which restricts the use of certain Substances of Very High Concern (SVHC).

Under the REACH regulation, RTLogic would be considered a downstream user whose products are categorized as articles. An article is “an object which during production is given a special shape, surface or design which determines its function to a greater degree than its chemical composition”. Registration of an article is only required if a chemical substance is intended to be released from the product during normal and reasonable use, and/or if the total amount of the chemical substance in all imported articles exceeds 1 ton per year. These conditions are not relevant to RT Logic’s products and, therefore, RT Logic is not subject to the REACH regulation’s registration requirements.

With regard to substances, there are certain chemical substances identified under REACH as of particular concern because they may have very serious effects on human health and the environment. These substances can be found in the “Candidate list of Substances of Very High Concern for Authorization”(Candidate List) on the European Chemicals Agency (ECHA) website. If a substance on the Candidate List is contained in articles at a concentration of above 0.1%, then there are obligations for companies producing, importing, and supplying these articles. Notification of the presence of an SVHC in an article, as well as relevant safety information about the SVHC used, is required.

RTLogic has conducted research to understand which SVHCs most commonly are found in electronic components. Based on that general research, and the expected levels of SVHCs that might be in electronic product components, (i) we do not believe RT Logic’s products contain the requisite levels of SVHC’s to necessitate registration or reporting under REACH and (ii) even if there were minimal levels of SVHC’s in some components, we believe that our products are safe to human health and the environment when used in accordance with the products’ documentation.

We continue to monitor the development of the REACH directive to ensure that our company remains compliant.

RTLogic

Substances of Very High Concern (SVHC) List:

The SVHC list is presented below and contains all SVHC as of Jan. 15, 2019 per the European Chemicals Agency (ECHA) website. RTLOGIC provides the SVHC list with an H/M/L risk rating of them likely being present in electronic equipment. We do not believe RT Logic’s products contain the requisite levels of SVHC’s to necessitate registration; and even if there were minimal levels of SVHC’s in some components, we believe that our products are safe to human health and the environment when used in accordance with the products’ documentation.

Substance_Name	CAS_Num ber	Where used	Risks of having it in EEE's products
[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	Carcinogenic (Article 57a). used in inks , dyes , paints , and pigments , dyeing a variety of materials, such as paper , cosmetic products. Is not expected in concentrations above 0.1% w/w in articles. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_c_i_basic_blue_26_pub_en.pdf	Low
[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	Carcinogenic (Article 57a). dye in ink applied in cartridges for printers and in ball pens and as dyestuff for paper colouring. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_c_i_basic_violet_3_pub_en.pdf	Low
[Phthalato(2-)]dioxotrilead	69011-06-9	Is a RoHS substance. Toxic for reproduction (Article 57 c). Professional use of plastics, PVC processing. https://echa.europa.eu/documents/10162/c667c4e8-6a8a-4434-a6bc-f4d23e068e0a	Medium
1,2,3-Trichloropropane (1,2,3-TCP)	96-18-4	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Used as in Pesticides, Chlorinated solvents, Polysulfide elastomers (cross-linking agent), Hexafluoropropylene (cross-linking agent). 1,2,3-TCP seemed to be used as an intermediate in the synthesis of other chemical substances. The lifecycle of 1,2,3-TCP ends in this synthesis. Therefore, it is assumed that no 1,2,3-TCP is used in articles. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_echa_cmr_123-tcp_publ_en.pdf	Low
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	Toxic for reproduction (article 57c). uses are for example in adhesives , lubricants, coatings, building material, cable compounding, polymer foils , PVC compounds and artist supply. https://echa.europa.eu/documents/10162/a29d1d03-af35-4c82-9775-0723ab337b3f	High
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	Toxic for reproduction (article 57c). Plasticiser in PVC , Plasticiser in sealants and printing inks. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_echa_cmr_dihp_en.pdf	High
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	Toxic for reproduction (article 57c). Electrical cables , as a plasticizer, polyvinyl chlorides (PVC) and foam; automotive sealant; urethane, glass , and transmission adhesive; roof coatings, barrier coatings, exterior trim, and tarps; cement, caulk, and sealer; and high-end luggage. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_dk_cmr_dhnup_en.pdf	High
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Toxic for reproduction (Article 57 c). There is no reported use of this substance in electrotechnical products. However, the substance is chemically similar to DEHP, DBP, DIBP and BBP , and may be used as a substitute for these phthalates in PVC plastic, adhesive and inks since their use becomes phased out. https://www.echa.europa.eu/documents/10162/21636556/annex_xv_svhc_ec_271-093-5_12_benzenedicarboxylic_acid_en.pdf	Medium
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Toxic for reproduction (Article 57 c). Used as plasticizers in plastic material. http://www.panasonic.com/jp/corporate/eco/chem_info/pdf/en/13th_SVHC_E.pdf	Medium
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	Toxic for reproduction (Article 57 c). Solvent or process chemical. Glymes are also reported to be used in the formulation of electrolyte systems for lithium batteries . https://echa.europa.eu/documents/10162/13638/svhc_axvrep_tegdme_203-977-3_en.pdf	Medium
1,2-dichloroethane	107-06-2	Carcinogenic (article 57 a). Intermediate in the manufacture of vinyl chloride monomer (VCM). Manufacture of fine chemicals, an extraction agent, a solvent in the preparation of mixtures for biochemical applications (e.g. liquid media and cell cultures) and as an inhibitor. It is also used as a dispersant in rubber and plastics , as a wetting and penetrating agent. Is not expected above 0.1% w/w in EEE products. https://www.epa.gov/sites/production/files/2016-09/documents/ethylene-dichloride.pdf	Low
1,2-Diethoxyethane	629-14-1	Toxic for reproduction (Article 57 c). Used as solvent and diluent for detergents, for eter gum and some resins, and ink formulations, polyurethanes epoxies. https://echa.europa.eu/documents/10162/c52546c1-89ad-4b0e-a141-b33bc279d853	Medium
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	Toxic for reproduction (Article 57 c), in lithium manganese batteries . EGDME is also used as cleaning solvent and within solder fluxes within the microelectronics industry. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_egdme_203-794-9_en.pdf	High

1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	Mutagenic (Article 57b). Is used as a hardener in resins and coatings. Manufacture of polyester powder paint coatings for metal finishing. Electrical insulation materials, resin-molding systems, laminated sheetings, silk-screen printing coatings, tools, inks, adhesives, lining materials, and stabilizers for plastics. in solder "mask" inks in the printed circuit board industry. During the heat treatment processes, the TGIC becomes fully cross-linked into the resin or coating to form a solid matrix and is not detectable in articles. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_beta_tgic_en.pdf	Low
1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	Mutagenic (Article 57b). Hardener in resins and coatings, polyester powder coatings for metal finishing, powder coating electrical equipment, refrigerators, washing machines and ovens. The substance may also be used in inks in the printed circuit board industry, for example two-part inks used for solder-masking can contain up to around 60% TGIC in the hardener component. include in electrical insulation materials, resin moulding systems, laminated sheeting, silk-screen printing coatings, tools, adhesives, lining materials and stabilisers for plastics. During the heat treatment processes, the TGIC becomes fully cross-linked into the resin or coating to form a solid matrix and is not detectable in articles. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_beta_tgic_en.pdf	Low
1,3-propanesultone	1120-71-4	It is used as a chemical intermediate in the production of fungicides, insecticides, cation-exchange resins, dyes, vulcanization accelerators, detergents, lathering agents, bacteriostats, and a variety of other chemicals and as a corrosion inhibitor for mild. https://ntp.niehs.nih.gov/ntp/roc/content/profiles/propanesultone.pdf	Medium
1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one; 3-benzylidene camphor; 3-BC	15087-24-8	Endocrine disrupting properties. Used in personal care products and cosmetics as a UV filter. https://chemicalwatch.com/8343/france-bans-3-benzylidene-camphor-in-cosmetics https://academic.oup.com/toxsci/article/93/2/311/1707808	Low
1-bromopropane (n-propyl bromide)	106-94-5	Toxic for reproduction (Article 57 c). It is a solvent. It is used in dry cleaning, vapor decreasing, auto parts cleaning, spray adhesive applications, and electronic parts manufacturing. However, evaporates during use and so is not present in supplied articles for use in hardware and electrical and electronic equipment. http://www.lni.wa.gov/Safety/Research/Files/BromopropaneFactSheet.pdf	Low
1-Methyl-2-pyrrolidone (NMP)	872-50-4	Toxic for reproduction (article 57c). Solvent in various processes in a wide variety of applications, High temperature coating, urethane dispersions, acrylic and styrene latexes, Paint removers, floor strippers, graffiti remover, industrial degreasing, injection head and cast-molding equipment cleaning, Solvent for herbicide, pesticide and fungicide formulations, Electronics Cleaning, de-fluxing, edge bead removal, photoresist stripping, Lube oil processing, natural and synthetic gas purification. However it is used as a solvent that evaporates and is not detected in finished articles. https://echa.europa.eu/documents/10162/13641/nmp_annex_xv_report_en.pdf https://echa.europa.eu/documents/10162/01e8a6d8-ba7a-474d-a640-49053005ec99	Low
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	UV-stabilisers, especially for transparent plastic materials, polyurethanes and rubber , as well as constituent in formulations used for coating of surfaces. https://echa.europa.eu/documents/10162/0a09c8af-c7d2-4524-a880-6cb10ddcd1ac	Medium
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) (MDTP)	25973-55-1	PBT (Article 57 d), vPvB (Article 57 e). Additive in a variety of plastics, UV absorber (packaging...): styrene homo- and copolymers, acrylic polymers, unsaturated polyesters, polyvinylchloride, polyolefins, polyurethanes, polyacetals, polyvinyl butyral, elastomers, and adhesives . http://pharosproject.net/uploads/files/sources/1828/1371648647.pdf	High
2,2-bis(4'-hydroxyphenyl)-4-methylpentane; BisP-MIBK	6807-17-6	Toxic for reproduction. May be used in thermal paper, like receipts. Possible traces in plastics and epoxy resins. https://chemicalwatch.com/67113/sweden-plans-bisphenol-candidate-list-proposal	Low
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	Carcinogenic (article 57 a). Has been used as a curing agent for polyurethane, in resins and hardner . https://echa.europa.eu/documents/10162/60a7fca7-7291-45bb-b854-a1be7aa8cd76	Medium
2,4-Dinitrotoluene	121-14-2	Carcinogenic (article 57a). used as a chemical intermediate in the production of toluene diisocyanate (4-methyl-m-phenylenediisocyanate), also named toluene-2,4-diisocyanate (TDI), from toluene-diamine (4-methyl-m-phenylenediamine) also named toluene-2,4-diamine (TDA) which is used to make flexible polyurethane foams. Used as gelatinizing-plasticizing agent. https://echa.europa.eu/documents/10162/b1176fd0-799d-4c08-a908-755a1c82181f	Low
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	UV-protection agent in platics, rubber and polyurethanes . In polymers such as polypropylene, high density polyethylene , unsaturated polyester , styrene-based thermoplastic elastomer , polyamide, acrylonitrile butadienc styrene, impact polystyrene, polyvinylidenchloride, chloroprude, cyhloroprene rubber . https://echa.europa.eu/documents/10162/755b24e4-40dc-455b-afc0-b5e4e9045701	Medium

2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	PBT (Article 57 d), vPvB (Article 57 e). Used as UV-absorbers for plastics, rubber, polyurethanes . https://echa.europa.eu/documents/10162/13638/annex_xv_svhc_ec_223-346-6_uv320_en.pdf	Medium
2-Ethoxyethanol	110-80-5	Toxic for reproduction (article 57c). 2-Ethoxyethanol is used as a solvent and a chemical intermediate for the synthesis of ethylene glycol monoethyl ether acetate. Used as an industrial solvent for nitrocellulose, varnish removers, cleansing solutions, and dye baths. It has been used for the formulation of paints , lacquers, varnishes and printing inks . Evaporates during use is not detectable as a substance in hardware products. https://ntp.niehs.nih.gov/ntp/htdocs/st_rpts/tox026.pdf http://www.ecy.wa.gov/programs/hwtr/rtt/cspa/pdf/110805.pdf	Low
2-Ethoxyethyl acetate (2-EEA)	111-15-9	Toxic for reproduction (article 57c). Was mainly used as a solvent in the chemical industry and for the formulation of paints, lacquers and varnishes for industrial use. This information is based on historic information and seems to have no relevance at present. https://echa.europa.eu/documents/10162/d02e2d1c-0f53-4cf6-aec8-f1697f2db3	Low
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Toxic for reproduction. Used as heat stabiliser for PVC . https://echa.europa.eu/documents/10162/21732369/annex_xv_svhc_ec_239-622-4_dote_en.pdf	Medium
2-Methoxyaniline; o-Anisidine	90-04-0	Carcinogenic (article 57 a). As an intermediate for a number of direct yellow, red and blue azo dyes and pigments and some acid dyes. printing inks (e.g. books, packings, cans), colouring of polymers (e.g. PVC, polyolefines, foam material, rubber), textile printing, paints for automobiles, walls). However, in all these applications, o-Anisidine is reacted to form the dye, and is not present in concentrations > 0.1% w/w in hardware articles. https://echa.europa.eu/documents/10162/c556ccd6-05be-41ab-a896-058ca6b8fae3	Low
2-Methoxyethanol (ethylene glycol monomethyl ether; EGME)	109-86-4	Toxic for reproduction (article 57c) -A wide application as a solvent, chemical intermediate and solvent coupler of mixtures and water-based formulations. Is now mainly used as a chemical intermediate or as additive for fuels. In addition, it can also be used as industrial processing aid in different areas (e.g. in the manufacture of medical devices). Is also used for certain production steps of surface coating in aeronautics. Evaporates during use and is not detected in hardware products. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_austria_cmr_2-methoxyethanol_en.pdf	Low
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	Toxic for reproduction (Article 57 c). Moisture scavenger for use in urethane coatings, sealants and elastomers. http://trc-canada.com/detail.php?CatNum=E679630&CAS=143860-04-2&Chemical_Name=3-Ethyl-2-methyl-2-(3-methylbutyl)-oxazolidine&Mol_Formula=C11H23NO&Synonym=3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine;%20Zoldine%20MS-PLUS	Low
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	Equivalent level of concern having probable serious effects to the environment (article 57 f). Used as an intermediate for the production of phenolic resins , non-ionic surfactants and rubber additives. OP is also used for the manufacturing of antioxidants, fuel oil stabilizers, adhesives , inks, dyestuffs, fungicides, bactericides, and for vulcanizing synthetic rubber . At least 95-98% is chemically altered before reaching the consumer market. The remaining 2-5% are supposed to be used in fuel for aeroplanes in the USA. http://www.inchem.org/documents/sids/sids/140669.pdf	Medium
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues] (4-tert-Octylphenol ethoxylates) (4-tertOPnEO)	-	Equivalent level of concern having probable serious effects to the environment (Article 57 f). Used in formulation of paints, industrial end-use of paints, varnish or adhesive, consumer and professional end-use of paints and other products, in emulsion polymerisation, and as an intermediate in the production of ethersulphates. Not expected above 0.1% w/w in EEE. http://echa.europa.eu/documents/10162/acedb3ea-0cf5-40d0-8f97-6881d73bfee1	Low
4,4'- Diaminodiphenylmethane (MDA)	101-77-9	Carcinogenic (article 57a). Intermediate in the manufacture of high performance polymers . Intermediate in processing to 4-4'-methylenebis(cyclohexaneamine) and other polymeric isocyanates which are used to manufacture polyurethane foams. Hardener in epoxy resins. Hardener in adhesives . MDA is also used as a curing agent for epoxy resins and urethane elastomers, as a corrosion preventative for iron , as an antioxidant for lubricating oils, as a rubber processing chemical, as an intermediate in the manufacture of elastomeric fibers (e.g., Spandex), and in the preparation of azo dyes. However, the substance becomes fully reacted in a polymerisation process. https://www.epa.gov/sites/production/files/2016-09/documents/4-4-methylenedianiline.pdf	Low

4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	Carcinogenic (Article 57a). Used in inks and dyes - ball point pens, computer cartridges, typewriter, ribbons, paper (copying, carbon), packaging, distemper, wood, lacquers, plastics, and feathers. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_ec_209-218-2_pub_en.pdf	Low
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	Carcinogenic (Article 57a). Important intermediate in the manufacture of triphenylmethane dyes, in the production of polymers, additive in dyes and pigments, acting as photosensitizer, as a process chemical for electronic circuit board manufacture. Michler's Ketone is expected in concentrations > 0.1% w/w in articles. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_michlers_ketone_pub_en.pdf	Low
4,4'-methylenedi-o-toluidine	838-88-0	Carcinogenic (Article 57a). Chemical intermediate for dyes. http://wfcache.advantech.com/www/csr/pdf/quality_assurance/advantech%20reach%20declaration.pdf	Low
4,4'-oxydianiline and its salts	101-80-4	Carcinogenic (Article 57a); Mutagenic (Article 57b). Used as a chemical intermediate in the manufacture of high temperature-resistant straight polyimide and poly(esterimide) resins . These types of resins have wide application as insulating enamels in wire and electrical equipment , as binders in laminates for printed circuits and honeycomb structures, and in the molding of grinding wheels. The fluorine-modified polyimide polymers are also used as adhesives in metal-to-metal bonding of airplane parts. Since this is an intermediate, it is not expected above 0.1% w/w in EEE articles. https://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr205.pdf	Low
4-Aminoazobenzene	60-09-03	Carcinogenic (Article 57a). Is used as a dye for lacquer, varnish, wax products, oil stains and styrene resins . It is used in insecticides. It is also used as an intermediate in the manufacture of acid yellow, diazo dyes and indulines. It can also be found in yellow pigments and inks, including inks for inkjet printers. Further research may identify additional product or industrial usages of this chemical. http://www.dormer.com/Allergens/PDF/P_InfoEn/A-005.pdf	Medium
4-heptylphenol, branched and linear (4-HPbl)	6465-71-0, 6465-74-3, 6863-24-7, 1987-50-4, 72624-02-3, 1824346-00-0, 1139800-98-8, 911371-07-8, 911371-06-7, 911370-98-4, 861011-60-1, 861010-65-3, 857629-71-1, 854904-93-1, 854904-92-0, 102570-52-5, 100532-36-3, 72861-06-4, 71945-81-8, 37872-24-5, 33104-11-9, 30784-32-8, 30784-31-7,	Usually used in lubricant additives in vehicles or machinery. https://echa.europa.eu/documents/10162/66ddc850-4255-445e-ad36-94c3d4d9aa5e	Low

	30784-27-1, etc.		
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	Carcinogenic (Article 57a). Used in making dyes for furs, textiles and hair, and as an intermediate in making polyurethanes. http://nj.gov/health/eoh/rtkweb/documents/fs/0613.pdf	Low
4-Nonylphenol, branched and linear <i>[substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]</i>	-	Equivalent level of concern having probable serious effects to the environment (Article 57 f). Used as floating agent in mining applications; formulation and use of paints ; emulsion polymerisation ; and potentially as reducing agent in surface treatment), and professional and consumer uses of products such as paints. Are used in articles (e.g. when the article is painted with a paint that includes the substance). Not expected above 0.1% w/w in EEE. https://echa.europa.eu/documents/10162/ec3c30dc-b9c2-40ed-ac63-618981fc29e3	Medium
4-Nonylphenol, branched and linear, ethoxylated	-	In many industrial sectors, including industrial laundering, textile processing, pulp and paper processing, paint and resin formulation, oil and gas recovery, steel manufacturing, pest control and power generation. NPEs are also utilized in the production and formulation of many commercially sold products: as an industrial and commercial detergent, as an emulsifier in wax for fruit and vegetables, as a polymer resin in plastic food packaging and polyethylene plastic , in cosmetic products (such as skin cream, deodorant, makeup, hair dye, and shampoo), and even in spermicide. http://www.jcaa.org/news/references/Sierra%20Club%20a%20safer%20alternative%20nonylphenol_ethoxylates%5B1%5D.pdf	Low
4-tert-pentylphenol (PTAP), p-(1,1-dimethylpropyl)phenol	80-46-6	Used in paints and varnishes and as printing ink resins. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/290845/scho0208bnqr-e-e.pdf	Low
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	117933-89-8, 343934-04-3, 343934-05-4, 676367-02-5, 676367-03-6, 676367-04-7, 676367-05-8, 676367-06-9, 676367-07-0, 676367-08-1, 676367-09-2, 186309-28-4 etc	vPvB (Article 57 e). Trade name Karanal is used as a fragrance agent, in soaps and detergents.	Low
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	vPvB (article 57e). Ingredient in fragrance compositions. https://echa.europa.eu/documents/10162/dc1a179e-699e-44c2-b4ad-371b9b89efab	Low
6-methoxy-m-toluidine (p-cresidine)	120-71-8	Carcinogenic (Article 57a). Is used exclusively as a synthetic chemical intermediate to produce azo dyes and pigments, such as FD&C red no. 40 and C.I. direct black 17, direct blue 67, direct blue 126, direct green 26, direct orange 34, direct orange 83, direct red 79, direct violet 51, direct yellow 41, disperse black 2, direct orange 72, and direct violet 9. The dyes made with p-cresidine have been produced commercially in the United States and are used in the food and textile industries https://ntp.niehs.nih.gov/ntp/roc/content/profiles/cresidine.pdf	Low
Acetic acid, lead salt, basic	51404-69-4	Is a RoHS substance. Toxic for reproduction (Article 57 c). ph-regulators, flocculants, precipitants, neutralisation agents, paints, coatings, thinners , paint removers, fillers, putties and plasters. The sectors of use reported in the registrations include manufacture of chemicals, formulation and packaging of mixtures and production of computer, electronic/optical products and electrical equipment. https://www.qsartoolbox.org/documents/10162/3d3acd38-cf45-44a4-b1ee-a65e98e06848	Medium

Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.	13530-68-2, 7738-94-5	RoHS substances. Carcinogenic (article 57a). Metal finishing for electroplating e. g. hard chrome plating, decorative or bright-chrome plating, conversion coatings, e.g. passivation of zinc, aluminium, cadmium and brass, manufacture of wood preservation products, pigment manufacture, manufacture of paints, varnishes and inks putty (anticorrosive, dye), production of polyethylene and other plastics. Because of rinsing or reduction processes these substances are not detectable in finished hardware products. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_germany_cmr_acids_crtrioxide_en.pdf	Low
Acrylamide	79-06-1	Used in the production of polyacrylamides (flocculator) https://echa.europa.eu/documents/10162/50218bf9-ba0f-4254-a0d9-d577a5504ca7 http://enhs.umn.edu/current/5103/acryl/uses.html	Low
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins, SCCPs)	85535-84-8	PBT and vPvB (articles 57 d and 57 e). In metal working fluids (as an extreme pressure additive in metal working fluids), sealants, as flame retardants in rubbers and textiles, in leather processing and in paints and coatings. Also found multiple times in plastic cables https://echa.europa.eu/documents/10162/f343cb93-2c44-4f19-91e8-4c0730edf604	High
Aluminosilicate Refractory Ceramic Fibres <i> are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm) c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight</i>	-	Carcinogenic (article 57 a). RCF is a high-temperature insulating fibre sold chiefly for industrial applications as insulation for industrial furnaces, pipes, ducts, and cables , as fire protection for buildings and industrial process equipment, as aircraft/aerospace heat shields, and in automotive uses, such as catalytic converters, metal reinforcements, heat shields , brake pads, and air bags. RCF is produced in the United States, Mexico, Canada, Brazil, Venezuela, South Africa, Australia, Japan, China, Korea, Malaysia, and Taiwan and several countries in Europe. https://echa.europa.eu/documents/10162/47c8a92c-8fb4-4b0f-85b8-64037ad542ad	Medium
Ammonium dichromate	7789-09-5	Is a Cr6+ compound. Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c). Magnetic tape manufacture, catalyst manufacture, mordant in dyeing and pigment manufacture. Also used in cathode ray tube but below 0.1% w/w. https://echa.europa.eu/documents/10162/f5f958a9-8ec8-45ba-b30a-0d7a143b6a12	Low
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	APFO is used as an emulsion stabilizer to manufacture polyvinylidene fluoride (PVDF) and other fluorinated polymers and elastomers and can be found in concentrations up to 1% w/w in plastics . Residues are suspected in several industries textile finishing, electroplating and paper. There are a number of products containing PFOA such as textiles, carpets, upholstery, paper, leather, toner, cleaning agents and carpet care solutions, sealants, floor waxes, paints, impregnating agents, electrical wire insulation , specialist circuit boards , fire fighting foam etc. https://echa.europa.eu/documents/10162/13638/annex_xv_svhc_ec_223-320-4_apfo_en.pdf	Medium
Anthracene	120-12-7	PBT (article 57d). Anthracene is used in the artificial production of the red dye alizarin. It is also used in wood preservatives, insecticides, and coating materials. Anthracene is colorless but exhibits a blue fluorescence under ultraviolet light. Plastics such as polyvinyltoluene can be doped with anthracene to produce a plastic scintillator. https://deq.mt.gov/Portals/112/Land/hazwaste/documents/Anthracene.pdf	Low
Anthracene oil	90640-80-5	Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e). No uses known in electrical equipment. http://www.ecsn-uk.org/Legislation/REACH/7REACH-2nd%20batch%20SVHC%20Dec09v2.pdf	Low
Anthracene oil, anthracene paste	90640-81-6	Carcinogenic, mutagenic, PBT and vPvB (articles 57a, 57b, 57d and 57e) No uses known in electrical equipment. http://www.ecsn-uk.org/Legislation/REACH/7REACH-2nd%20batch%20SVHC%20Dec09v2.pdf	Low
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	Carcinogenic, mutagenic, PBT and vPvB (articles 57a, 57b, 57d and 57e) No uses known in electrical equipment. http://www.ecsn-uk.org/Legislation/REACH/7REACH-2nd%20batch%20SVHC%20Dec09v2.pdf	Low

Anthracene oil, anthracene paste, distn. lights	91995-17-4	Carcinogenic, mutagenic, PBT and vPvB (articles 57a, 57b, 57d and 57e) No uses known in electrical equipment. http://www.ecsn-uk.org/Legislation/REACH/7REACH-2nd%20batch%20SVHC%20Dec09v2.pdf	Low
Anthracene oil, anthracene-low	90640-82-7	Carcinogenic, mutagenic, PBT and vPvB (articles 57a, 57b, 57d and 57e) No uses known in electrical equipment. http://www.ecsn-uk.org/Legislation/REACH/7REACH-2nd%20batch%20SVHC%20Dec09v2.pdf	Low
Arsenic acid	7778-39-4	Carcinogenic (article 57 a). Use as fining agent in the manufacture of speciality glass ; Use in the production of copper foil for printed circuit boards . However arsenic acid decomposes during the manufacture processes. https://echa.europa.eu/documents/10162/b35abcbc-6a00-41d2-99c5-f3b3d389a4f0	Low
Benz[a]anthracene (BaA)	56-55-3, 1718-53-2	Carcinogenic (Article 57a). PBT (Article 57d). vPvB (Article 57e). Used in research laboratories. Found in coal tar, roasted coffee, smoked foods, domestic heating, automobile exhaust. Is also formed during chemical manufacturing. Traces may be found in plastics and rubber. http://nj.gov/health/eoh/rtkweb/documents/fs/0193.pdf	Low
Benzene-1,2,4-tricarboxylic acid 1,2 anhydride; trimellitic anhydride; TMA	552-30-7	Respiratory sensitising properties (Article 57(f) - human health). Used in the synthesis of plasticisers for PVC resins. Smaller amounts are used as a reactant in wire and cable insulation enamels and polyester resins for powder coatings. https://chemicalwatch.com/66110/eu-commission-identifies-tma-as-svhc	Medium
Benzo[def]chrysene	50-32-8	Carcinogenic (Article 57a), Mutagenic (Article 57b), Toxic for reproduction (Article 57c), PBT (Article 57 d), vPvB (Article 57 e). Production of substance by distillation of coal tar or as by-product, Use in carbon and graphite industry, Use in the aluminium industry, Use in electro-steel industry / in products in the metallurgic smelting industry, Formulation / end use of adhesives, paints , waterproof material, binder in asphalt industry, as fuel, for carbon black production, or for coke / briquette production. May be found in rubber or plastic components (banned use under Reach Annex XVII) https://echa.europa.eu/documents/10162/75eb6bd5-3375-4d68-854c-138fb87f0067	Medium
Benzo[ghi]perylene	191-24-2	PBT and vPvB (articles 57 d and 57 e). Only relatively small amounts of benzo(g,h,i)perylene are intentionally manufactured. It is extracted from coal tar to be used in dyes. It is also found (as part of a complex mixture of PAHs) in creosote, tar paints, waterproof membranes and other products (plastics, pesticides, explosives and drugs) http://apps.sepa.org.uk/spripa/pages/substanceinformation.aspx?pid=236 https://archive.epa.gov/epawaste/hazard/wastemin/web/pdf/benzoper.pdf	Medium
Benzo[k]fluoranthene	207-08-9	Carcinogenic, PBT, vPvB. Is a polycyclic aromatic hydrocarbon (PAH) substance that is derived from coal or petroleum products and may be found in traces in rubber and plastics as well as carbon black, coatings, adhesives, road & construction applications and cleaning agents. https://echa.europa.eu/documents/10162/06cc1281-efd9-9845-0215-e6b0c94c94db	Low
Benzyl butyl phthalate (BBP)	85-68-7	Is in the RoHS 10 substances list. Toxic for reproduction (article 57c). Used as a plasticizer of PVC or other polymers, adhesives (based on polyacrylics and polyvinylacetate), sealants and coating products paints (e.g based on polyurethane and polyacrylics) , inks and lacquers. https://echa.europa.eu/documents/10162/bad5c928-93a5-4592-a4f6-e02c5e89c299	High
Biphenyl-4-ylamine	92-67-1	Carcinogenic (Article 57a). Because of its carcinogenic effects, 4-aminobiphenyl has not been produced commercially in the USA since the mid-1950s. It was used as a rubber antioxidant and a dye intermediate in the past. https://www.epa.gov/sites/production/files/2016-08/documents/4-aminobiphenyl.pdf	Low
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	Is part of EU RoHS 10 substances list. Toxic for reproduction (article 57c). Equivalent level of concern having probable serious effects to the environment. Used as a plasticizer in polymers, such as PVC and vinyl chloride resins. https://www.epa.gov/sites/production/files/2016-09/documents/bis-2-ethylhexyl-phthalate.pdf	High
Bis(2-methoxyethyl) ether (Diglyme, DEGDME)	111-96-6	Toxic for reproduction (article 57 c). In the production of plastic and rubber products . in sealed batteries as solvent of electrolytes . In electronic coatings as specialty thinner , in adhesives , and in syntactic foam for filling composite materials, paints , as well as in the production of semiconductor chips , and in automotive care products, lacquers, diesel fuels, for photolithography. https://echa.europa.eu/documents/10162/4d548701-9a4a-4783-8129-8bb4a517cc8c	High
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	Toxic for reproduction (article 57 c). Plasticiser in the production of nitrocellulose, acetyl cellulose, polyvinyl acetate, polyvinyl chloride and polyvinylidene chloride intended for contact with food or drink, cover floors, shoes (lacquers, varnishes). Was found in personal communication products . It is also used as a solvent. DMEP can improve the durability and toughness of cellulose acetate (e.g. in laminated documents and can be used in "enamelled wire, film, high-strength varnish and adhesive. It can also be used in pesticide products internationally. https://echa.europa.eu/documents/10162/38458518-7e1d-49ff-b53d-d07963c1bceb	Medium

Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	PBT (Article 57 d); vPvB (Article 57 e). Machinery, mechanical appliances, electrical/electronic articles (Coating and inks application) http://echa.europa.eu/documents/10162/0239f8aa-787b-42a5-aacc-62a34776f6c4	High
Bis(tributyltin)oxide (TBTO)	56-35-9	PBT (article 57d). Biocides, pesticides. Use in polyurethane foam, flooring, tiles and carpeting; back-coating of textiles. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_norway_pbt_tbto_20083006_en.pdf	Medium
Bisphenol A, 4,4'-(propane-2,2-diyl)diphenol	80-05-7	Used in the manufacture of polycarbonate plastic products and in epoxy resins (residues below 0.01%). Use in a variety of PVC goods , CDs AND DVDs. BPA is also used to develop dye in thermal paper. https://echa.europa.eu/chemicals-in-our-life/hot-topics/bisphenol-a https://www.vanderbend.nl/Files/5/17000/17605/Attachments/Product/11j69cq469zM36r8S7o0083dF4c97016.pdf	High
Boric acid	10043-35-3, 11113-50-1	Toxic for reproduction (article 57 c). Boric acid is used in industrial fluids – metalworking fluids, water treatment chemicals, fuel additives, welding, brazing, soldering fluxes, paints and coatings . This substance is also added in metallurgy process to prevent oxidation of metal surfaces. Boric acid is used to produce insulation, textile, fiber glass and borosilicate glass. Boric acid is added to adhesives derived from starch to achieve increased viscosity, quicker tack and better fluid properties. Boric acid makes long-lasting protection against wood destroying organisms therefore is the active substance in biocides. The enzyme stabilizing features of boric acid results in its addition to detergents, cosmetics and pharmaceuticals. Boric acid and other borates used in fertilizers deliver an essential micronutrient for plants. The substance is also used in photographic applications, laboratory chemicals, automotive lubricants and fluids. https://echa.europa.eu/documents/10162/13626/clh_report_boric_acid_en.pdf Reported use in polystyrene beads and PVC Hazardous substances in plastic materials, COWI in cooperation with Danish Technological Institute, 2013	Medium
Cadmium	7440-43-9	Is a RoHS substance. Cadmium is used as a pigment in plastics , as a heat stabiliser , in NiCd Batteries , in alloys , as a plating for plugs/connectors, contacts and switches , and in optical glass and filters. https://echa.europa.eu/documents/10162/13641/annex_xv_dossier_cd_in_plastics_en.pdf Hazardous substances in plastic materials, COWI in cooperation with Danish Technological Institute, 2013	High
Cadmium carbonate	513-78-0	Is a RoHS Substance. Carcinogenic (Article 57a). Mutagenic (Article 57b). Specific target organ toxicity after repeated exposure (Article 57(f) - human health). May be used in fungicides and in chemical reagents. http://nj.gov/health/eoh/rtkweb/documents/fs/4090.pdf	Low
Cadmium chloride	10108-64-2	Is a RoHS substance. Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); Equivalent level of concern having probable serious effects to human health (Article 57 f). Is not normally found in concentrations > 0.1% w/w in articles (e.g. parts, components, sub-assemblies etc) which are supplied for use in hardware products and electrical and electronic equipment. is used in the manufacture of fungicides, in dyeing and printing textiles and in metal finishing baths. http://nj.gov/health/eoh/rtkweb/documents/fs/0308.pdf	Low
Cadmium fluoride	7790-79-6	Is a RoHS substance. Carcinogenic (Article 57 a). Mutagenic (Article 57 b). Toxic for reproduction (Article 57 c). In research applications. In certain phosphorus for luminescent screens . Other uses are for manufacturing of glass , in nuclear reactor control, for electric brushes, high-temperature dry-film lubricant, optical applications , and as starting material for crystals for laser. https://echa.europa.eu/documents/10162/21732369/annex_xv_svhc_ec_232-222-0_cadmium_fluoride_en.pdf	Medium
Cadmium hydroxide	21041-95-2	Is a RoHS Substance. Carcinogenic (Article 57a). Mutagenic (Article 57b). Specific target organ toxicity after repeated exposure (Article 57(f) - human health). Is found in industrial Nickel Cadmium storage batteries, and may be used in Cadmium plating and in arking Cadmium Salt. http://nj.gov/health/eoh/rtkweb/documents/fs/4089.pdf	High
Cadmium nitrate	10022-68-1, 10325-94-7	Is a RoHS Substance. Carcinogenic (Article 57a). Mutagenic (Article 57b). Specific target organ toxicity after repeated exposure (Article 57(f) - human health). Is used to give a reddish-yellow luster to glass and porcelain, in photographic emulsion and as a laboratory reagent. http://nj.gov/health/eoh/rtkweb/documents/fs/4088.pdf	Low
Cadmium oxide	1306-19-0	Is a RoHS substance. Cadmium oxide is used as a heat stabiliser, in high quality power switching contacts and relays, and as photoelectric applications. Used in electroplating semi-conductors, metal alloys, and batteries , as a catalyst, intermediate and vermicide, and in making glass . http://nj.gov/health/eoh/rtkweb/documents/fs/2200.pdf	High

Cadmium sulphate	10124-36-4; 31119-53-6	Is a RoHS substance. Carcinogenic (Article 57 a). Mutagenic (Article 57 b). Toxic for reproduction (Article 57 c). Used in Phosphors and Glass. Uses Mainly used dyeing on cotton, also used dyeing on cambric, viscose and vinylon. Cadmium alloys are used as a control absorber and shield in nuclear reactors. Some cadmium compounds are used in batteries, semiconductors, and photoconductive cells. Cadmium sulfide photoconductive cell provides a high dark-light resistance ratio. Cadmium silver oxide cell is an alkaline-electrolyte cell which is used as a primary battery or a secondary-battery than can be rechargeable. Cadmium telluride is used in photoconductive cell which can be operated at ambient temperatures up to 400 C. It is used in solar cells and infrared, nuclear-radiation, and gamma-ray detectors. Cadmium selenide is a photoconductive and semiconductor material used in a cell where a fast response time and high sensitivity to longer wavelengths of light is required. Cadmium is used to produce luminous pigment and fluorescent pigment which absorb light energy and electromagnetic radiations and release visible light as energy of desired wavelength. The principal cadmium pigments are consisted of cadmium sulfides and sulfoselenides. Cadmium sulfide is responsible for yellow color and cadmium selenide is for red. cadmium pigments are used in the coloring of plastics and paints which hot temperature resistance is required. Cadmium is used in the production of various salts. However Cadmium shulphate is not expected above 0.1% w/w in EEE articles or batteries. http://nj.gov/health/eoh/rtkweb/documents/fs/3073.pdf	Low
Cadmium sulphide	1306-23-6	Is a RoHS substance. Cadmium sulphide is used as a yellow colorant in plastics, glass and ceramics , and is found in photoelectric devices including photoresistors , solar cells and piezoelectric transducers . Is used in photoconductors , dandruff shampoos, pigments, electronic components and solar cells. http://nj.gov/health/eoh/rtkweb/documents/fs/3081.pdf	High
Calcium arsenate	7778-44-1	Carcinogenic (article 57 a). Herbicide, insecticide, molluscicide and fungicide. Weather-resistant wood treatment. http://nj.gov/health/eoh/rtkweb/documents/fs/0310.pdf	Low
Chromium trioxide	1333-82-0	Is a RoHS substance. Carcinogenic and mutagenic (articles 57 a and 57 b). Metal finishing, manufacture of wood preservation products, catalyst manufacture, chromium dioxide manufacture and pigment manufacture. However is used in water. Because of the rinsing processes, it is not detectable in articles. https://echa.europa.eu/documents/10162/f5f958a9-8ec8-45ba-b30a-0d7a143b6a12	Low
Chrysene (Benzo(a)phenanthrene)	218-01-9, 1719-03-5	Carcinogenic (Article 57a). PBT (Article 57d). vPvB (Article 57e). Chrysene is found in the coal tar pitch that industry uses to join electrical parts. Chrysene is also used in the manufacture of some dyes. It is also found in creosote, a chemical used to preserve wood. However, is it most often used as a by-product from incomplete combustion and may be found in traces in rubber, plastics and black colourants. http://www.eco-usa.net/toxics/chrysene.shtml	Medium
Cobalt dichloride	7646-79-9	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Cobalt-based pigments, additives and drying agents in paints . Catalyst/promoter in resins and plastics. Printing inks. Cobalt is present in magnets, welding rods (also in the smoke) and welding stainless steel, glass , lubricating oils and animal feeds. Cobalt is used in the rubber tire industry as an oxidizing agent in automobile exhaust control and as a catalyst or accelerator for the production of terephthalate, polyester and acrylate plastics . https://www.smartpractice.com/dermatologyallergy/pdfs/allergens/Cobalt-Dichloride.pdf	High
Cobalt(II) carbonate	513-79-1	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Use in the manufacture of other chemicals, as fertilisers, calcination/sintering process in the context of the manufacture/production of inorganic pigments & frits, glass, ceramic ware, surface treatment processes passivation / anti-corrosion electroplating / electroforming colour anodizing, catalyst, animal food supplement but is not detectable as a substance in EEE. https://echa.europa.eu/documents/10162/13640/backgrounddoc_cobalt_carbonate_en.pdf	Low
Cobalt(II) diacetate	71-48-7	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Manufacture of catalysts, Hydrotreating; Oxidation catalyst; Hydrodesulphurisation; Fischer Tropsch (GTL), Surface treatment Alloys, Production of pigments, Dyes, Adhesion, Animal food supplement. But not detectable in finished products. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_netherlands_cmr_co-diacetate_en.pdf	Low
Cobalt(II) dinitrate	10141-05-6	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). used in the manufacture of other chemicals including catalysts. Further applications may include surface treatment and in LiOn, NiCd and NiMH batteries. Is not detectable in theses finished products. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_netherlands_cmr_co-dinitrate_en.pdf	Low

Cobalt(II) sulphate	10124-43-3	Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Cobalt(II) sulphate is mentioned to be used in the manufacture of active substances for the production of batteries (it seems that production of batteries requires prior manufacture of another cobalt compound from cobalt(II) sulphate). This use concerns for example Li-ion and alkaline rechargeable (such as NiCd) batteries, which are used e.g. in the automotive market (HEV Vehicle and Electric Vehicle) and storage applications (for intermittent renewable energy generation; photovoltaic and wind). Surface treatment processes: Passivation / Anti-corrosion (e.g. conversion layers/coatings on automotive parts, aerospace, military, electrical etc.). Electroplating / Electroforming (e.g. technical / magnetic / decorative plating; application in aerospace, automotive, telecommunication, electronics, storage media, military, metal logos, buckles, medical technology). For colour anodizing, ceramic pigments, fusible glass pigment. Is not detectable in finished products. https://www.echa.europa.eu/documents/10162/ef958831-f28c-47f1-b159-ab4a32b53b2f	Low
Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] <i>[The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]</i>	85-42-7, 13149-00-3, 14166-21-3	Equivalent level of concern having probable serious effects to human health (Article 57 f). Used in the manufacture of polyester and alkyd resins and plasticizers for thermoplastic polymers. The anhydrides are also used as hardeners for epoxy resins and chain cross-linkers for thermoplastic polymers. For HHPA specific the following uses are identified: Manufacture of alkyd resins, plasticizers, insect repellents, rust inhibitors and as hardener in epoxy resins. Used as an intermediate and react to form other substances therefore are not detectable. https://www.echa.europa.eu/documents/10162/6a9bf645-3e36-4540-b9b8-48da3afb8245	Low
Decamethylcyclopentasiloxane; D5	541-02-6	PBT and vPvB (articles 57 d and 57 e). Intermediate in the production of PDMS polymers and a small number of commercial dry cleaners. Use in electronics applications, personal care products, household care products, dry cleaning. https://www.dowcorning.com.cn/zh_CN/content/about/aboutehs/EHSPortalFiles/GPS_Safety_Report_541-02-6_D5.pdf	Medium
Diarsenic pentaoxide	1303-28-2	Carcinogenic (article 57a). Wood preservation, glass , intermediate. https://echa.europa.eu/documents/10162/13640/prioritisation_diarsenic_pentaoxide_en.pdf	Medium
Diarsenic trioxide	1327-53-3	Carcinogenic (article 57a). Glass (tubes, bulbs, optical glass, LCD panels) , wood preservation, paints enamels. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_france_cmr_trias_20083006_en.pdf https://www.qsartoolbox.org/documents/10162/dfb7745d-4e27-408f-89bb-3f44c97467e2	High
Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	Equivalent level of concern having probable serious effects to human health (Article 57 f). Plastic articles (Parquet underlay material in short-roll form, Wallpaper) http://echa.europa.eu/documents/10162/04bb48dc-6b6a-4cab-abd6-6f3b3d8d744c	Low
Diboron trioxide	1303-86-2	Toxic for reproduction (Article 57 c). Glass Production, Glass fibre , Frits production, Flame retardants, inks, paints, adhesive, crystal growth. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_diboron_trioxide_en.pdf	High
Dibutyl phthalate (DBP)	84-74-2	Is part of the RoHS 10 substances list. Toxic for reproduction (article 57c). Used as a plasticizer in polymers , such as PVC . DBP can also be used as a gelling aid, as a solvent, as an antifoam agent or as a lubricant. https://echa.europa.eu/documents/10162/13641/dbp_echa_review_report_2010_6_en.pdf	High
Dibutyltin dichloride (DBTC)	683-18-1	Toxic for reproduction (Article 57 c). Industrial use as an additive for the production of rubber tyres, stabiliser in PVC plastics (water pipes, packing materials, textile products), catalyser in the production of polyurethanes and silicones, (foam plastics, glue/sealants), glass (coatings), insulators in electronics and cables , deworming agent for poultry, polyurethanes, transparent plastic use in insulations and coatings, medical equipment. https://www.echa.europa.eu/documents/10162/8a520ac1-f460-447f-9ac4-388768fe0784	High
Dichromium tris(chromate)	24613-89-6	Carcinogenic (article 57 a). Surface treatment of metals, industrial surface treatment of metals- reactive anti-corrosion primer for steel and aluminium. However, it is not detectable as a substance in finished parts. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_france_cmr_dichromium_tris_chromate_20110829_en.pdf	Low
Dicyclohexyl phthalate; DCHP	84-61-7	Toxic for reproduction (Article 57c) and Endocrine disrupting properties (Article 57(f) - human health). Plasticizer to modify the properties of synthetic resins (nitrocellulose, ethyl cellulose, chlorinated rubber, polyvinyl acetate, polyvinyl chloride, and other polymers resins). In paper finishes it makes printers ink water-resistant. https://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+5246 https://echa.europa.eu/documents/10162/13626/clh_report_dicyclohexyl_phthalate_en.pdf	High

Diethyl sulphate	64-67-5	Carcinogenic (Article 57a); Mutagenic (Article 57b). Diethyl sulfate is an important chemical, used in the production of other commercial chemicals, detergents, dyes, agricultural chemicals, pharmaceuticals and a variety of other products. Diethyl sulfate is primarily used as an ethylating agent, and also as an accelerator in the sulfation of ethylene and in some sulfonations. (1,6) Diethyl sulfate is also a chemical intermediate for ethyl derivatives of phenols, amines, and thiols, and as an alkylating agent. https://www.epa.gov/sites/production/files/2016-09/documents/diethyl-sulfate.pdf http://apps.sepa.org.uk/spripa/Pages/SubstanceInformation.aspx?pid=40	Low
Dihexyl phthalate (DnHP)	84-75-3	Dihexyl phthalate (DnHP) is used as a plasticiser in polyvinyl chloride PVC and other plastic polymers . https://echa.europa.eu/documents/10162/0fc1bf32-1cd4-4294-a7fc-7ba778f78f13	High
Diisobutyl phthalate (DIBP)	84-69-5	Is part of the RoHS 10 substances list . Toxic for reproduction (article 57c). Used as a plasticizer (in PVC), for coating products, fillers, putties, plasters, modelling clay and polymers. It is used in nail polish, cosmetics, lubricants , floor carpets, tapestry, clothing treatments, rubber dentistry settings, as a fuel stabilizer, in leather varnishes and lacquers, as a concrete additive, as an adjusting agent for lead chromate paint pigments , explosive material, lacquer manufacturing, and methyl methacrylate applications. DiBP is also used in printing inks for paper and packaging. In Australia, DiBP is imported for use as a plasticizer in the manufacture of PVC and rubber and as a component of industrial adhesives and catalyst systems for polypropylene and fiberglass manufacture. https://echa.europa.eu/documents/10162/c6781e1e-1128-45c2-bf48-8890876fa719	High
Diisopentylphthalate	605-50-5	Toxic for reproduction (Article 57 c). Propellants and explosives. Plasticiser PVC . http://echa.europa.eu/documents/10162/dda9f6bb-3803-453e-8e67-ef2918d75d50	High
Dimethyl sulphate (DMS)	77-78-1	Carcinogenic (Article 57a). Mainly used as a chemical intermediate, in the manufacturing of dyes, perfumes, pharmaceuticals, for the separation of mineral oils, and for the analysis of automobile fluids. https://echa.europa.eu/documents/10162/3d2e4243-8264-4d09-a4ab-92dde5abfadd	Low
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	Toxic for reproduction (Article 57 c). Herbicide, insecticide. http://www.pic.int/Portals/5/DGDs/DGD_Dinoseb%20and%20salts%20and%20esters_EN.pdf	Low
Dioxobis(stearato)trilead	12578-12-0	Is a RoHS substance . Toxic for reproduction (Article 57 c). Professional use of plastics (PVC processing, professional use of plastics) . http://echa.europa.eu/documents/10162/38849185-8b5d-41ce-bc04-6e2e7944b33e	Medium
Dipentyl phthalate (DPP)	131-18-0	Dipentyl phthalate (DPP) is used as a plasticiser in PVC and other plastic polymers . https://echa.europa.eu/documents/10162/d55c182b-f063-4955-969d-5684584d17b2	Medium
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	C.I. Direct Red 28, also known as Congo Red, is used to color plastics , textiles, paper and PVA Polyvinyl acetate. https://echa.europa.eu/documents/10162/13640/ec_209-358-4_ci_direct_red_28_annex_xv_svhc_pub_en.pdf	Medium
Disodium 4-amino-3-[[4'-[[2,4-diaminophenyl]azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	C.I. Direct Black 38 is used to dye cellulose, wool, silk, bast, and hog's hair; print cellulose, wool and silk; dye leather, plastics , vegetable-ivory buttons and wood flour used as a resin filler; stain wool, silk, acetate, nylon , wood and biological materials, and produce aqueous inks. It has reportedly been used in hair dyes. https://echa.europa.eu/documents/10162/13640/ec_217-710-3_ci_direct_black_38_annex_xv_svhc_pub_en.pdf	Medium
Disodium octaborate	12008-41-2	Toxic for reproduction (Article 57c). Anti-freeze products, heat transfer fluids, lubricants and greases and washing & cleaning products (furniture, toys, construction materials, curtains, foot-wear, leather products, paper and cardboard products, electronic equipment, machine wash liquids/detergents, automotive care products, paints and coating or adhesives, fragrances and air fresheners, metal, wooden and plastic construction and building materials). This substance has an industrial use resulting in manufacture of another substance (use of intermediates). https://echa.europa.eu/substance-information/-/substanceinfo/100.031.388	High
Disodium tetraborate, anhydrous (Borax)	1303-96-4, 1330-43-4, 12179-04-3	Toxic for reproduction (article 57 c). Wide-dispersiveness of uses: Micronutrient, flame retardant , complexing agent, stabiliser, corrosion inhibitor, flux agent , lubricant , buffering agent / pH-regulator, viscosity adjustor, oxidising agent, metal surface cleaning , etc. https://www.qsartoolbox.org/documents/10162/4a3e7046-abf0-4361-8a9a-28cb2227d480	High
Dodecachloropentacyclo[12.2.1.16.9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus™") covering any of its individual anti- and syn-isomers or any combination thereof	-	vPvB (Article 57e). Flame retardant in electronic wiring and cables, automobiles, hard plastic connectors and plastic roofing materials. Is an alternative for Decabromodiphenyl ether (DecaBDE). https://www.canada.ca/en/health-canada/services/chemical-substances/fact-sheets/chemicals-glance/dechlorane-plus.html	High

Dodecamethylcyclohexasiloxane, D6	540-97-6	PBT and vPvB (articles 57 d and 57 e). Washing & cleaning products, polishes and waxes and cosmetics and personal care products. Widespread uses. https://echa.europa.eu/substance-information/-/substanceinfo/100.007.967	Low
Ethylenediamine; EDA	107-15-3	Respiratory sensitising properties (Article 57(f) - human health). Use in the production of fungicides, chelating agents, wet-strength resins, epoxy curing agents, polyamide resins, surfactants, softeners, corrosion inhibitors, lubricating oil and fuel additives, and asphalt emulsifiers. https://www.osha.gov/dts/sltc/methods/organic/org060/org060.html	Medium
Fatty acids, C16-18, lead salts	91031-62-8	Is a RoHS substance. Toxic for reproduction (Article 57 c). PVC Processing. Professional use of plastics. PVC stabiliser. https://www.nicnas.gov.au/chemical-information/imap-assessments/imap-assessments/tier-ii-environment-assessments/lead-salts-of-long-chain-carboxylic-acids	Medium
Fluoranthene	206-44-0, 93951-69-0	PBT, vPvB. Is a polycyclic aromatic hydrocarbon (PAH) substance that is derived from coal or petroleum products and may be found in traces in rubber and plastics as well as carbon black, coatings, adhesives, road & construction applications and cleaning agents. https://echa.europa.eu/documents/10162/0d1ee6d4-1a47-0737-35c7-3503f0fca417 http://www.chemicaland21.com/specialtychem/finechem/FLUORANTHENE.htm	Low
Formaldehyde, oligomeric reaction products with aniline (Polymeric MDA, PMDA)	25214-70-4	Carcinogenic (article 57 a). Curing agent for polymers and hardener in epoxy resins and adhesives (e.g. pipes, moulds). However PMDA is reacted during the production process and not found in finished articles). https://www.echa.europa.eu/documents/10162/13640/draft_backgdoc_technical_mda_en.pdf	Low
Formamide	75-12-7	Toxic for reproduction (Article 57 c). For manufacture of sulfa drugs, other pharmaceuticals, herbicides, pesticides and the manufacture of hydrocyanic acid. It has been used as a softener for paper and fiber. It is a solvent for many ionic compounds. It has also been used as a solvent for resins and plasticizers. http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/summary-sommaire/batch-lot-5/75-12-7-eng.php	Low
Furan	110-00-9	Carcinogenic (Article 57a). Furan is used primarily as an intermediate in the synthesis and production of tetrahydrofuran, pyrrole, and thiophene. Hydrogenation of furan over a nickel catalyst produces high yields of tetrahydrofuran and is a source of commercial tetrahydrofuran. Furan is also used in the formation of lacquers, as a solvent for resins, and in the production of agricultural chemicals, stabilizers, and pharmaceuticals. No expected in EEE. https://www.fda.gov/ohrms/dockets/ac/04/briefing/4045b2_07_NAS%20furan%20report.pdf	Low
Henicosaflluoroundecanoic acid	2058-94-8	vPvB (Article 57 e). Used in the production of fluoropolymers (e.g. teflon) and Fluorotelomers and as additives and components in consumer and industrial products (paints, inks, coatings). Should not be present above 0.1% w/w per EEE article. https://echa.europa.eu/documents/10162/13638/SVHC_ACHECK_AXVREP_pub_218-165-4_Henicosaflluoroundecanoic_acid_en.pdf	Low
Heptacosaflluorotetradecanoic acid	376-06-7	vPvB (Article 57 e). In the production of fluoropolymers and fluorotelomers and as additives and components in consumer and industrial products (paints, inks, coatings). Should not be present above 0.1% w/w per EEE article. https://www.echa.europa.eu/documents/10162/bd9c539e-19e0-4f67-a31a-0a6f5e8c9b8d	Low
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4, 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	PBT (article 57d). Brominated flame retardant used in Expanded Polystyrene (EPS), Extruded Polystyrene (XPS), High Impact Polystyrene (HIPS), Polymer dispersion for textiles. https://echa.europa.eu/documents/10162/13640/tech_rep_hbccd_en.pdf	Medium
Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] <i>[The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]</i>	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	Equivalent level of concern having probable serious effects to human health (Article 57 f). Mainly used in in the manufacture of polyester and alkyd resins and plasticizers for thermoplastic polymers. The anhydrides are also used as hardeners for epoxy resins and chain cross-linkers for thermoplastic polymers. electric and electronics field (curing agent for epoxy resin, sealing semiconductors, insulaors, capacitors, light emitting diodes, digital displays...). Used as an intermediate and are reacted to form other substances, therefore are not detectable. https://www.echa.europa.eu/documents/10162/96184c0e-245a-49a2-8a69-691e156dbaf7	Low

Hydrazine	302-01-2, 7803-57-8	Carcinogenic (article 57a). Intermediate in the production of agricultural chemicals such as maleic hydrazide, in the manufacture of chemical blowing agents which are used in the production of plastics such as vinyl flooring and automotive foam cushioning, as a corrosion inhibitor and water treatment agent, as a rocket propellant, and, to a lesser extent, as a reducing agent, in nuclear fuel reprocessing, as a polymerization catalyst, as a scavenger for gases. https://www.atsdr.cdc.gov/toxprofiles/tp100-c4.pdf	Low
Imidazolidine-2-thione	96-45-7	Elastomer accelerator; chlorinated polyethylene (CPE) rubber vulcanizing accelerator agent. http://www.chemicalbook.com/ChemicalProductProperty_EN_CB8102852.htm	Medium
Lead	7439-92-1	Toxic for reproduction (Article 57c). Is a EU RoHS substance. Many applications including in the electrical and electronic equipment.	High
Lead bis(tetrafluoroborate)	13814-96-5	Is a RoHS substance. Toxic for reproduction (Article 57 c). Is mostly used in a water solution. It is used in electroplating , and as a curing agent and catalyst. http://nj.gov/health/eoh/rtkweb/documents/fs/1105.pdf	Low
Lead chromate	7758-97-6	Is a RoHS substance. Carcinogenic and toxic for reproduction (articles 57 a and 57 c). paints, non-consumer paints and coatings , printing inks, vinyl and cellulose acetate plastics, rubber and plastic , alkyl resin enamels. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_france_cmr_lead_chromate_sulfate_red_20090831_en.pdf	Medium
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Is a RoHS substance. Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Paints and coating. Industrial paints using lead chromate pigments include automotive finishes, industrial and agricultural equipment, industrial baking enamels and air-dried finishes. https://www.ec.gc.ca/ese-ees/7B993FCF-F4B5-4C6F-885E-61EFD1BB2F8B/batch2_12656-85-8_en.pdf	Medium
Lead cyanamidate	20837-86-9	Is a RoHS substance. Toxic for reproduction (Article 57 c). Cyanamide is used in the production of other chemicals, as a fertiliser and as a plant growth regulator, in detergents, as a paper preservative, in photographic chemicals and in some pharmaceuticals. It is also added to textiles (to reduce creases and make them fire proof), to synthetic rubbers , to cements, is used as a metal cleaner or lubricant and in the refining of ores. http://apps.sepa.org.uk/spripa/Pages/SubstanceInformation.aspx?pid=31	Medium
Lead di(acetate)	301-04-2	Is a RoHS substance. Coatings and paints, thinners, paint removes, Fillers, putties, plasters, modelling clay, Intermediate. https://echa.europa.eu/documents/10162/13640/ec_206-104-4_lead+diacetate_annex_xv_svhc_pub.pdf	Low
Lead diazide, Lead azide	13424-46-9	Is a RoHS substance. Toxic for reproduction (article 57 c). Initiator or booster in detonators used for both civilian and military uses, initiator in pyrotechnic devices used in military munitions (fuzes) and space shuttles/satellites. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_echa_cmr_lead_diazide_20110829_en.pdf	Low
Lead dinitrate	10099-74-8	Is a RoHS substance. Toxic for reproduction (Article 57 c). Used in making matches and explosives. In the dye and photography industries, and in process engraving. http://nj.gov/health/eoh/rtkweb/documents/fs/1108.pdf	Low
Lead dipicrate	6477-64-1	Is a RoHS substance. Toxic for reproduction (article 57 c). Explosives. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_echa_cmr_lead_dipicrate_20110829_en.pdf	Low
Lead hydrogen arsenate	7784-40-9	Is a RoHS substance. Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Used to kill insects, weeds and rodents. http://nj.gov/health/eoh/rtkweb/documents/fs/1098.pdf	Low
Lead monoxide (lead oxide)	1317-36-8	Is a RoHS substance. Toxic for reproduction (Article 57 c). Consumer use of sealed lead batteries . Professional use of batteries. Not detectable as a substance in batteries. Professional use of ceramics (including technical ceramics). Consumer use of rubber protection . Machinery, mechanical appliances, electrical/ electronic articles (computer monitors and other devices containing cathode ray tubes). However, no lead monoxide should be expected in finished articles. http://echa.europa.eu/documents/10162/de860512-db1d-426d-8bb6-51e8108c6274	Medium

Lead oxide sulfate	12036-76-9	Is a RoHS substance. Toxic for reproduction (Article 57 c). Used to make other chemicals. Use: in lithography, battery acid solution treated fabrics, used in varnishes. https://pubchem.ncbi.nlm.nih.gov/compound/Lead_II_sulfate#section=Top	Medium
Lead stypnate - Lead 2,4,6-trinitro-m-phenylene dioxide	15245-44-0	Is a RoHS substance. Toxic for reproduction (article 57 c). Military use. munition pyrotechnics, powder actuated devices and detonators. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_echa_cmr_lead_stypnate_20110829_en.pdf	Low
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Is a RoHS substance. Carcinogenic and toxic for reproduction (articles 57 a and 57 c). plastics colouring and painting/ coatings . Printing ink. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_france_cmr_lead_sulfochromate_yellow_20090831_en.pdf	Medium
Lead titanium trioxide	12060-00-3	Is a RoHS substance. Toxic for reproduction (Article 57 c). Machinery, mechanical appliances, electrical/ electronic articles http://echa.europa.eu/documents/10162/783da20b-44ad-4b01-b729-1c75d1098a1d	High
Lead titanium zirconium oxide	12626-81-2	Is a RoHS substance. Toxic for reproduction (Article 57 c). Machinery, mechanical appliances, electrical/electronic articles. Processing into electro-ceramic components. http://echa.europa.eu/documents/10162/bd91c829-6576-483d-a4a1-d2d502c8a795	High
Lead(II) bis(methanesulfonate)	17570-76-2	Is a RoHS substance. Toxic for reproduction (Article 57 c). Mainly used in plating processes (both electrolytic and electroless) for electronic components (such as printed circuit boards). The substance seems to also be used for batteries in special applications. Is removed from finished articles during washing and cleaning processes. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_lead_methanesulfonate_en.pdf	Low
Methoxyacetic acid	625-45-6	Toxic for reproduction (Article 57 c). manufacture of chemicals and chemicals products, service to buildings and landscape activities, and category cleaning/washing agents. Other uses with low tonnage but several preparations included manufacture of food products, specialised construction activities, trade and repair of motor vehicles, and manufacture of fabricated metal product. https://www.echa.europa.eu/documents/10162/d7ad3263-83ac-4567-8fee-1a62406c51d2	Low
Methyloxirane (Propylene oxide)	75-56-9	Carcinogenic (Article 57a); Mutagenic (Article 57b). Propylene oxide is used in three areas: as a monomer in polymer production; as an intermediate in the synthesis of other substances; and as a stabiliser for dichloromethane. The last of these accounts for only a small proportion of the tonnage used. http://echa.europa.eu/documents/10162/c9918161-1be3-4b76-9088-72eae9cfaca	Low
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	Carcinogenic (Article 57a). Intermediate in the manufacture of dyes and pigments , including Methylene red, C.I. Basic Yellow 2 , Basic Orange 14 , Solvent Orange 15 , and Solvent Yellow 34 . Is not expected in concentrations above 0.1% w/w/ in articles. https://echa.europa.eu/documents/10162/13638/svhc_axvrep_michlers_base_pub_en.pdf	Low
N,N-dimethylacetamide (DMAC)	127-19-5	Toxic for reproduction (article 57 c). The substance is mainly used for polymer dissolution in the man-made fibre production industry (textiles): acrylic, polyurethanes, meta-aramid fibres. This chemical or product is generally used in the following manner: - In the preparation of chemical formulas for industrial applications (polyimide chemicals, photo-resist compounds) , - In the manufacture of another chemical substance (used as intermediate e.g pharmaceutical intermediates), - Uses as a solvent in industrial processes. http://www.inchem.org/documents/sids/sids/127-19-5.pdf	Medium
N,N-dimethylformamide	68-12-02	Toxic for reproduction (Article 57 c). The primary use of dimethylformamide is as a solvent with low evaporation rate . DMF is used in the production of acrylic fibers and plastics . It is also used as a solvent in peptide coupling for pharmaceuticals, in the development and production of pesticides, and in the manufacture of adhesives , synthetic leathers, fibers, films, and surface coatings . It is also used as a solvent in condensators . https://www.epa.gov/sites/production/files/2016-09/documents/n-n-dimethylformamide.pdf	Medium
Nitrobenzene	98-95-3	One of the major uses for nitrobenzene is for the production of aniline, which is a chemical intermediate used during the manufacture of polyurethane. Nitrobenzene is also used industrially in the manufacture of some pharmaceuticals, dyes and rubbers , as a constituent in some polishes and paint solvents and as a solvent in the refining of petroleum. Exposure of the general public to nitrobenzene is extremely unlikely as it is not commonly used in the home in substantial quantities. The most common source of exposure to considerable amounts of nitrobenzene is in the workplace, either where it is produced, or during the production of other materials. Therefore Nitrobenzene should not be expected above 0.1% w/w in EEE articles.	Low

		https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/338241/hpa_nitrobenzene_general_information_v1.pdf	
N-methylacetamide	79-16-3	Toxic for reproduction (Article 57 c). Chemical intermediate for the production of pesticide. https://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+94	Low
N-pentyl-isopentylphthalate	776297-69-9	Toxic for reproduction (Article 57 c). Can be used as plasticizers in plastic material. https://www.echa.europa.eu/documents/10162/48f63323-2ed7-453b-b1ca-c42987d0453f	Medium
o-aminoazotoluene	97-56-3	Carcinogenic (Article 57a). In the manufacture of pigments and for coloring oils, fats, and waxes, such as shoe and other wax polishes. It is also used as a chemical intermediate for the production of the dyes. https://oehha.ca.gov/chemicals/o-aminoazotoluene	Low
Octamethylcyclotetrasiloxane, D4	556-67-2	PBT and vPvB (articles 57 d and 57 e). Is used in the manufacture of silicone polymers and copolymers. Is also used in personal care products, such as hair and skin care products and antiperspirants and reported for use as a defoamer, in antiflatulence drugs, as a formulation component of personal care products for hair and skin care, antiperspirants and deodorants, biomedical uses, lubricants, polishes and coatings on a range of substrates including textile, carpeting and paper, sealants, mechanical heat transfer and dielectric fluids and reprography. Silicone polymers that contain D4 are also used in the production of elastomers that are used in biomedical applications, sealants and adhesives, moulded silicone rubber, film and fabric coating and encapsulation. https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/consultation-document-octamethylcyclotetrasiloxane/chapter-3.html	Medium
Orange lead (lead tetroxide)	1314-41-6	Is a RoHS substance. Toxic for reproduction (Article 57 c). Consumer use of sealed batteries . Professional use of batteries . Professional use of ceramics (including technical ceramics). Consumer use of rubber protection . Machinery, mechanical appliances, electrical/ electronic articles (computer monitors and other devices containing cathode ray tubes) http://echa.europa.eu/documents/10162/ebdb64d6-1d03-45d6-b6e1-af5eb4befaa9	High
o-Toluidine	95-53-4	Carcinogenic (Article 57a). In herbicides, rubber chemicals, dye and pigment intermediates, resin hardeners , fungicide intermediates, pharmaceutical intermediates, and others. However, should not be expected above 0.1% w/w in supplied articles. http://www.inchem.org/documents/sids/sids/95534.pdf	Medium
Pentacosfluorotridecanoic acid	72629-94-8	vPvB (Article 57 e). Used as polymerization aids in the production of fluoropolymers (e.g Teflon) and fluoroelastomers. and polyvinylidene fluoride, which are used in paints, inks and coating in various sectors, including the automotive, electronics , construction and aerospace industries. However, it should be present above 0.1% w/w in EEE articles. http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=451C95ED-1	Low
Pentadecafluorooctanoic acid (PFOA)	335-67-1	PFOA fluoropolymer (e.g. teflon) and fluoroelastomer production and photographic industry, fire-fighting foams , paper and cardboard, e.g. in food packaging, adhesives . https://echa.europa.eu/documents/10162/e9cddee6-3164-473d-b590-8fcf9caa50e7	Medium
Pentalead tetraoxide sulphate	12065-90-6	Is a RoHS substance. Toxic for reproduction (Article 57 c). Professional use of plastics (PVC), used in lead batteries . http://echa.europa.eu/documents/10162/412cfcdbd-1ce3-4663-9105-69efbceac538	Medium
Pentazinc chromate octahydroxide	49663-84-5	Carcinogenic (article 57 a). the substance is used in the aerospace sector as an anti-corrosion agent for the formulation of primers and jointing compounds (sealants). It is also used in anti-corrosion primers, in fillers and sealants for the construction and maintenance of vehicles. https://www.qsartoolbox.org/documents/10162/321d2646-e065-427e-b0c2-613196891ac2	Low
perfluorinated chemical PFDA (nonadecafluorodecanoic acid) and its sodium and ammonium salts	335-76-2, 3108-42-7, 3830-45-3	Lubricant, wetting agent, plasticizer and corrosion inhibitor. May be found in PVDF (Polyvinylidene fluoride) plastic up to 1% w/w of the plastic (PFVD can be found as an insulator for premium wire, in the chemical, semiconductor, medical and defense industries, as well as in lithium-ion batteries). applications. https://echa.europa.eu/documents/10162/13626/clh_report_pfda_en.pdf	Medium
Perfluorohexane-1-sulfonic acid and its salts (PFHxS)	355-46-4	May be used as a plasticiser, lubricant, surfactant, wetting agent, corrosion inhibitor and in fire-fighting foams. Is found as an impurity or a replacement of PFOS (Perfluorooctanesulfonic acid) and used in electronic parts (semiconductors), metal plating , medical equipment, textile, fire fighting foam, paint. https://echa.europa.eu/documents/10162/40a82ea7-dcd2-5e6f-9bff-6504c7a226c5	High

Perfluorononan-1-oic acid (PNFA) and its sodium and ammonium salts (group entry)	375-95-1, 21049-39-8, 4149-60-4	Processing aid for fluoropolymer (e.g. teflon) manufacture/lubricating oil additive/surfactant for fire extinguishers/cleaning agent/textile antifouling finishing agent/polishing surfactant/waterproofing agents and in liquid crystal display panels . https://echa.europa.eu/documents/10162/53f4c0a1-3c36-480a-9114-4d239a8e1f98	High
Phenanthrene	1985-01-08	vPvB. Is a polycyclic aromatic hydrocarbon (PAH) substance that derived from coal or petroleum products and may be found in dyes, pesticides, explosives and drugs and in traces in plastics, in coatings, paints, road & construction applications as well as lubricants and cleaning agents. https://archive.epa.gov/epawaste/hazard/wastemin/web/pdf/phenanth.pdf	Low
Phenolphthalein	77-09-8	Carcinogenic (article 57 a). Ph indicator, laxative. https://faculty.missouri.edu/~glaserr/3700s11/SW11A06_Bronze1.pdf	Low
Pitch, coal tar, high temp.	65996-93-2	Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e). Binding agent in the production of carbon electrodes, anodes and Søderberg electrodes for instance for the aluminium industry (electric arc furnaces). It is also used as a binding agent for refractories, clay pigeons, active carbon, coal briquetting, road construction and roofing. https://echa.europa.eu/documents/10162/13630/trd_rar_env_netherlands_pitch_en.pdf	Low
Potassium chromate	7789-00-6	Carcinogenic and mutagenic (articles 57 a and 57 b). Metal surface treatment in electroplating (chrome plating) and conversion coatings (passivating and anodizing), passivation process aluminium). However, no detection of the surface of the treated parts. https://www.qsartoolbox.org/documents/10162/02c71a8d-8fc9-4eda-8551-d82e8bf5725d	Low
Potassium dichromate	7778-50-9	Is a RoHS Cr6+ compound. Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c). Pigment manufacture, manufacture of wood preservation products, dye manufacture, catalyst manufacture, chromium metal manufacture and colouring agent in ceramics. https://echa.europa.eu/documents/10162/f5f958a9-8ec8-45ba-b30a-0d7a143b6a12	Low
Potassium hydroxyoctaoxidizincatedichromate	11103-86-9	Carcinogenic (article 57 a). Anti-corrosion agent for the formulation of primers and it is further used in jointing compounds (sealants). fleet and commercial vehicles, heavy duty vehicles and trucks, military vehicles and agricultural equipment (excluding personal vehicles). https://echa.europa.eu/documents/10162/13640/svhc_axvrep_france_cmr_potassium_hydroxyoctaoxidizincatedichromate_20110829_en.pdf	Low
Pyrene	129-00-0, 1718-52-1	PBT, vPvB. Is a polycyclic aromatic hydrocarbon (PAH) substance that is derived from coal or petroleum products and may be found in traces in rubber and plastics as well as coatings, paints, road & construction applications, lubricants as well as cleaning agents. https://echa.europa.eu/documents/10162/47121daf-04a7-6d4a-b0b6-595794d3e66c	Low
Pyrochlore, antimony lead yellow	8012-00-8	Is a RoHS Cr6+ compound. Toxic for reproduction (Article 57 c). Main use of the substance is industrial use in inks and ceramics decorating. Is used in articles (colouring agent and pigment in ceramic and glass articles). However, it appears that the release of the substance from these articles might be negligible. https://www.qsartoolbox.org/documents/10162/366617d1-7f71-4159-95cc-c9f00181d7e3 http://echa.europa.eu/documents/10162/a2f9bf5c-7e4b-4a2b-bdbe-a7f35cdcd57	Medium
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	The reaction mass DOTE:MOTE is used in the production of PVC as heat stabiliser as PVC is thermally unstable. DOTE:MOTE reaction mass is present in various different consumer products (packaging , credit card, plastic pipes, windows, bags , bottles, toys, electric articles , textiles...) applied for the production of rigid PVC films and sheets . Toxic for reproduction (Article 57 c). https://echa.europa.eu/documents/10162/21732369/annex_xv_svhc_dote_mote_reactio_n_mass_en.pdf	High
Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) with ≥0.1%	-	Endocrine disrupting properties (Article 57(f) - environment). Used as additive in lubricants and greases.	Low

w/w 4-heptylphenol, branched and linear (4-HPbl)			
Silicic acid (H ₂ SiO ₂), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for toxicity for reproduction Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	Toxic for reproduction (Article 57 c). Used for coating glass lamp bulbs. http://echa.europa.eu/documents/10162/f96c1234-b6d7-4266-bc4f-b457f136dad9	Low
Silicic acid, lead salt	11120-22-2	Is a RoHS substance. Toxic for reproduction (Article 57 c). Stone, plaster, cement, glass and ceramic articles. However, it is not detectable as a substance in concentrations > 0.1% w/w in articles for use in hardware and EEE. http://echa.europa.eu/documents/10162/810c9e90-7cbb-4fd8-9a0e-e0df37b328fb	Low
Sodium chromate	7775-11-3	Is a RoHS Cr6+ compound. Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c). Manufacture of other chromium compounds. However, the metal finishing processes are followed by several rinsing processes to remove excess process solution from the surface of the treated article. https://echa.europa.eu/documents/10162/f5f958a9-8ec8-45ba-b30a-0d7a143b6a12	Low
Sodium dichromate	7789-12-0, 10588-01-9	Is a RoHS Cr6+ compound. Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c) manufacture of other chromium compounds , manufacture of wood preservation products, vitamin K manufacture, mordant in dyeing , wax manufacture and metal finishing . https://echa.europa.eu/documents/10162/f5f958a9-8ec8-45ba-b30a-0d7a143b6a12	Medium
Sodium perborate; perboric acid, sodium salt	-	Toxic for reproduction (Article 57 c). Is not normally found in concentrations > 0.1% w/w in articles (e.g. parts, components, sub-assemblies etc) which are supplied for use in hardware products and electrical and electronic equipment. Only used in chemical preparations such as bleaching agents, cleaning agents and cosmetic products. No use of PBSs in articles has been identified. https://www.echa.europa.eu/documents/10162/21636556/annex_xv_svhc_ec_239-172-9_234-390-0_sodium_perborate_en.pdf	Low
Sodium peroxometaborate	4/4/7632	Toxic for reproduction (Article 57 c). Is not normally found in concentrations > 0.1% w/w in articles (e.g. parts, components, sub-assemblies etc) which are supplied for use in hardware products and electrical and electronic equipment. http://www.csst.qc.ca/prevention/reptox/Pages/fiche-complete.aspx?no_produit=261768	Low
Strontium chromate	7789-06-2	Carcinogenic (article 57a). coil coated galvanised steel (for the protection of steel and zinc) is mainly used in buildings (for wall cladding or roofing). Strontium chromate is also used in much smaller quantities in primers, sealants, jointing compounds and top coat paints for aerospace applications but also in anti-corrosion primers, in fillers and sealants for the construction and maintenance of vehicles (such as heavy duty vehicles and trucks, military vehicles and agricultural equipment (excluding personal vehicles)). http://op.bna.com.s3.amazonaws.com/env.nsf/r%3FOpen%3Dprio-9n8mqw	Low
Sulfurous acid, lead salt, dibasic	62229-08-7	Is a RoHS substance. Toxic for reproduction (Article 57 c). Professional use of plastics. PVC Processing . https://echa.europa.eu/documents/10162/4f7c2595-d36c-43a7-9791-c7be5feaae9d	Medium
Terphenyl, hydrogenated	61788-32-7	vPvB (Article 57e). Can be found in metal, wooden and plastic construction and building materials, in flooring, furniture, toys, construction materials, curtains, foot-wear, leather products, paper and cardboard products, electronic equipment and in food packaging and storage, toys, mobile phones, coating products, adhesives and sealants, fillers, putties, plasters, modelling clay, polymers and laboratory chemicals. https://echa.europa.eu/substance-information/-/substanceinfo/100.057.225	High
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Toxic for reproduction (article 57 c). Used in nuclear power plants, and more specifically in boiling water reactors together with boric acid. The function of tetraboron disodium heptaoxide, hydrate is as a preservative agent for the respective closed cooling systems. Used in cleaning solutions and alkaline degreasing baths . https://echa.europa.eu/documents/10162/46eaa3d4-8e85-455a-a17c-13881df5aa0b	Medium
Tetraethyllead (TEL)	78-00-2	Is a RoHS substance. Toxic for reproduction (Article 57 c). Used as anti-knock additive in gasoline. http://nj.gov/health/eoh/rtkweb/documents/fs/1817.pdf	Low

Tetralead trioxide sulphate	12202-17-4	Is a RoHS substance. Toxic for reproduction (Article 57 c). The main uses of tetralead trioxide sulphate appear to be the use in lead battery production and the use in stabilisers production and PVC processing . The uses in the production of coatings and inks, the application of coatings and inks for mirror backing and the use as an industrial reactant appear to be less significant in terms of tonnages. https://echa.europa.eu/documents/10162/829de684-0a88-498a-95be-9c1cc68a88c4	Medium
Trichloroethylene	79-01-6	Carcinogenic (article 57 a). Major use of trichloroethylene is for vapour degreasing and cleaning of metal parts . It is also used in adhesives , for synthesis in the chemical industry and as a solvent for various products, including insecticides and waxes. It is (or has been) used in the leather and textile processing industries and in the paint, lacquers and varnishes industry . Trichloroethylene evaporates at a relatively fast rate at room temperature (no detections in hardware products). https://echa.europa.eu/documents/10162/83f0c99f-f687-4cdf-a64b-514f1e26fdc0	Low
Tricosafuorododecanoic acid	307-55-1	vPvB (Article 57 e). Used in production of fluoropolymers (e.g teflon) and fluorotelomers and as additive. Should not be present above 0.1% w/w of EEE articles. https://www.echa.europa.eu/documents/10162/84bc1dc7-3898-449f-ba44-c20a56ea5452	Low
Triethyl arsenate	15606-95-8	Carcinogenic (article 57a). Doping applications in fabricating semiconductor devices . Arsenic is an n-type dopant (donor) in silicon. However, The triethyl arsenate is fully reacted during the manufacturing process. https://echa.europa.eu/documents/10162/13640/triethyl_arsenate_en.pdf	Low
Trilead bis(carbonate)dihydroxide	1319-46-6	Is a RoHS substance. Toxic for reproduction (Article 57 c). Preparation of Positive Temperature Coefficient (PCT) Ceramic Materials . http://echa.europa.eu/documents/10162/cf4ed905-0f2f-47e5-978a-7a9bfb06595a	Medium
Trilead diarsenate	3687-31-8	Is a RoHS substance. Carcinogenic and toxic for reproduction (articles 57 a and 57 c). Found as an arsenic impurity in the manufacture of metal for the opto-electronics industry , industrial application of special glass/ crystal . Is not found in concentrations > 0.1% w/w in hardware articles. https://echa.europa.eu/documents/10162/13640/svhc_axvrep_norway_cmr_trilead_diarsenate_20110829_en.pdf	Low
Trilead dioxide phosphonate	12141-20-7	Is a RoHS substance. Toxic for reproduction (Article 57 c). Professional use of plastics . http://echa.europa.eu/documents/10162/28cdb2be-743a-4b06-baba-488114152c8b	Medium
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	Toxic for reproduction (article 57c). Plasticizer and viscosity regulator with flame-retarding properties for the production of unsaturated polyester resins. Flame retardant in polyurethane . https://echa.europa.eu/documents/10162/f42be21b-33a3-4063-ad4d-2b0f937e41b4	Medium
Trixylyl phosphate (TXP)	25155-23-1	Functional fluid (fire resistant fluids, hydraulic fluids, lubricants , lubricant additives, grease products, metal working fluids). Flame retardant and/or plasticiser in plastic production. might be used in articles made of polyvinyl chloride (PVC), e.g. wire/cable . use in polyurethane, thermoplastic elastomers, coatings , textiles, cellulosic resin and natural and synthetic rubber as well as for PVC flooring materials are mentioned. https://echa.europa.eu/documents/10162/953524f2-7965-430c-be61-0bb02f08f83c	High
Zirconia Aluminosilicate Refractory Ceramic Fibres <i>are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm). c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight</i>	-	Carcinogenic (article 57 a). RCF is a high-temperature insulating fibre sold chiefly for industrial applications as insulation for industrial furnaces, pipes, ducts, and cables, as fire protection for buildings and industrial process equipment, as aircraft/aerospace heat shields, and in automotive uses, such as catalytic converters, metal reinforcements, heat shields , brake pads, and air bags. RCF is produced in the United States, Mexico, Canada, Brazil, Venezuela, South Africa, Australia, Japan, China, Korea, Malaysia, and Taiwan and several countries in Europe. https://echa.europa.eu/documents/10162/47c8a92c-8fb4-4b0f-85b8-64037ad542ad	Medium
α,α-Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	Carcinogenic (Article 57a). Used in inks and dyes (typewriter ribbons, computer cartridge, etc., ball point pen inks, and stamping inks), fuel cosmetic products https://echa.europa.eu/documents/10162/13638/svhc_axvrep_c_i_solvent_blue_4_pub_en.pdf	Low

