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1. Purpose

This Standard specifies a set of standards based on which Oriental Motor Co., Ltd. and its affiliates (hereinafter referred to as "Oriental Motor") will procure products, parts, materials, packaging materials and other articles free from environment related substances to be controlled, in order to help Oriental Motor and its suppliers practice environmentally aware manufacturing and promote their efforts toward preservation of the global environment, thereby contributing to the creation of a sustainable society.

2. Scope

This Standard applies to procurement of materials, parts, products and other articles (hereinafter referred to as "Parts and Materials") specified by Oriental Motor, and covers the following

- Parts
- Operation manuals, I/O signal connectors and other accessories
- Raw materials
- Packaging materials
- OEM products

Also, for the parts and materials which require more severe requirement than this Standard due to the customer requirement, application of more severe requirement than this Standard may be requested.

3. Normative references

The following referenced documents are indispensable for the application of this document.

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- IEC 62474 Material declaration for products of and for the electrotechnical industry
Guidelines for the Management of Chemical Substances in Products Version 3.0 JAMP

4. Terms and Definitions

4.1 Environmental related Substances to be Controlled:

Environmental related Substances to be Controlled shall be controlled based on the following three levels and exemption.

4.1.1 Prohibited Substances:

Use of these substances and their applications is prohibited.

4.1.2 Substances targeted to be eliminated completely:

Use of these substances and their applications will be completely eliminated by a specified target date. Upon arrival of the specified date, these substances will be reclassified as "prohibited substances."

4.1.3 Controlled Substances:

These substances meet either of the following conditions and are controlled based on an understanding of the state of their actual usage:

- The substance may be regulated under an existing regulation in Japan or abroad and/or a requirement exists that applies specifically to the applicable chemical substance but the effective date of such requirement is unclear.
- The substance is not regulated, but there is a generally accepted market requirement to report the contents of the applicable chemical substance in electrical/electronic products.

4.1.4 Excluded:

Not used in Oriental Motor products.

4.1.5 Exemption:

Substances or applied parts that are exempted under the applicable regulation or which have no alternative technical solutions at the present.

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4.2 Substances:

Substances are chemical elements and their compounds e.g., lead (chemical element), lead oxide (compound), polyvinyl chloride (compound). Registry Numbers (RN) of the Chemical Abstracts System of the American Chemical Society ("CAS" numbers) and/or European Chemical ("EC" numbers) are attributed to all chemical elements and most of their compounds and should be used for their identification. CAS numbers and EC numbers are provided (Table 1.1, "List of Example Substances") for these substances where known.

4.3 Preparations:

A mixture intentionally comprising two or more chemical substances.

4.4 Reportable Applications:

Purposes of use

Note This use is defined in the scope of the underlying law. Examples are batteries, textiles, wood etc.

4.5 Threshold Level:

Concentration level which defines the limit (equal to or) above which the presence of a substance in a product shall be declared based on the requirements of this Standards.

Numerical threshold levels are provided in weight % (and parts per million, or ppm). The conversion to be used to calculate ppm is 0.1 % = 1000 ppm.

4.6 Substances of Very High Concern (SVHC) :

These substances are designated according to the procedure specified in Article 57 of the Rules on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), being selected from among those substances having the characteristics specified under Article 57 of REACH (characteristics potentially associated with serious "carcinogenicity, mutagenicity, reproductive toxicity, persistence, bioaccumulation, toxicity, etc."). Once a SVHC is selected from among the aforementioned candidate substances and published, its users are imposed of certain obligations such as "Informing the relevant information, etc., regarding the SVHC to the recipient of a molded product if the SVHC is contained in the product."

4.7 Homogeneous Materials:

A material that cannot be mechanically dismantled into different materials.

- The term "homogeneous" means "of uniform composition throughout." Examples of "homogeneous materials" are individual types of plastics, ceramics, glass, metals, alloys, paper, board, resins and coatings.
- The term "mechanically dismantled" means that the materials can, in principle, be separated by mechanical actions such as: unscrewing, cutting, crushing, grinding and abrasive processes.

4.8 Intentionally Added:

Deliberate use in the formulation of a product where its continued presence is desired to provide a specific characteristic, appearance or quality.

4.9 IEC 62474:

International Standard which defines about the protocol, content and format associated with the material declaration relevant to the products of the companies who are operating a supply business in the electrical and electronics industry. It also defines about the selection criteria and data exchange for the intended chemicals, and the material list based on this has been also posted on the website.

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4.10 Joint Article Management Promotion-consortium (JAMP):

JAMP was established as an activity promotional subject across the industry in September, 2006 based on the recognition that it is indispensable for enhancing the industrial competitiveness to appropriately manage the information of the chemical, etc. which is contained in the article (appellative of parts, and molded article, etc.), and to create and promote a practical mechanism to disclose and communicate it smoothly in the supply chain.

5. Principles of Green Procurement Standards

Oriental Motor shall establish evaluation standards from the viewpoint of "Environment" in addition to the existing procurement standards based on "Quality," "Delivery Time," "Cost," etc., and those suppliers who has integrated "Environment Consideration" into their cooperate strategies will be prioritized into our procurement plan.

These Suppliers usually are functioning effectively in their Management System using the following 4 frameworks.

5.1 Environmental Management System for Business Activities

A supplier must construct and operate a system to reduce environmental impact caused by its business activities.

5.2 Performance of Business Activities

As the result of constructing and operating an environmental management system, the following must be achieved: compliance with laws and regulations, no use of the prohibited substances, reduction in the use of substances targeted for reduced levels of use, and implementation of preventive measures against pollution of soil and groundwater.

5.3 Management of Chemical Substances in Products (Environmental Management System for Parts and Materials)

A system must be constructed and operated to keep track of and manage chemical substances contained in parts and materials delivered to Oriental Motor.

5.4 Performance of Parts and Materials

No "prohibited substances" contained in parts and materials are to be delivered to Oriental Motor, and there shall not be any substances targeted to be eliminated completely to be delivered to Oriental Motor after a specified period.

6. Requirements

6.1 Requirements Related to Business Activities

6.1.1 Requirements Related to an Environmental Management System for Business Activities

a) Establishment of an environmental management system

If the supplier faces difficulty obtaining these certifications, it shall satisfy the following action requirements such as ISO 14001 certification, or KES¹⁾, Eco-Action²⁾, Eco-Stage³⁾ and other certifications.

1. Policy development
2. Planning
3. Operation and management
4. Performance evaluation and improvement
5. Management review

Notes ¹⁾ KES: The most widely accepted environmental certification system in Japan for small and medium-sized companies, promoted by KES Environmental Organization, a specified non-profit organization.

²⁾ Eco Action 21: An environmental certification system for small and medium-sized

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companies, promoted by Institute for Promoting Sustainable Societies.

- 3) Eco Stage: An environmental certification system for small and medium-sized companies, promoted by Eco-Stage Institute.

b) Operation of an environmental management system

6.1.2 Requirements Related to Performance of Business Activities

a) Compliance with laws and regulations

A Suppliers shall comply with environment related laws and regulations.

6.2 Requirements Related to Parts and Materials

6.2.1 Requirements related to the Management of Chemical Substances in Products

Responsibilities and procedures shall be defined and documented to conduct activities in line with the action items in the "Guidelines for the Management of Chemical Substances in Products" issued by the JAMP. Then activities shall be carried out according to the established procedures. Refer to the JAMP website for the "Guidelines for the Management of Chemical Substances in Products."

The "Guidelines for the Management of Chemical Substances in Products" does not specify substances subject to the management. The requirements prescribed in this document make it indispensable that the substances defined in the "List of Controlled Environmental Substances" (Table 1) be included as objects of the management.

6.2.2 Requirements Related to Performance of Parts and Materials

a) Management of product environmental impact substances

- Prohibited substances

None of the "Prohibited Substances" defined in the "List of Controlled Environmental Substances" (Table 1) shall be contained in parts and materials delivered to Oriental Motor.

- Substances targeted to be eliminated completely

None of the substances targeted to be eliminated completely defined in the "List of Controlled Environmental Substances" (Table 1) shall be contained in parts and materials delivered to Oriental Motor after a specified period.

b) Concerning the following chemical substances related to environmental information, when no inclusion is indicated in reply to parts & materials surveys or instructed in specifications (e.g., drawings, delivery specifications), these substances shall not be contained in parts and materials to be delivered to Oriental Motor:

- Chemical substances for which Oriental Motor must comply with customer requirements
- Chemical substances added according to changes in laws and regulations, as well as social trends.

7. Submission of Documents

7.1 Submission of "JAMP Guidelines for the management of chemical substances in products LIST OF ACTION ITEMS AND CHECK SHEET"

Oriental Motor may conduct a survey on the environmental management system if necessary. Based on the evaluation results, Oriental Motor may ask you to participate in an onsite audit.

7.2 Submission of Survey and Response Format

Use one of the following formats to submit data on the environmental related substances to be controlled contained in products delivered to Oriental Motor as well as their parts, materials, packaging materials, etc.:

- JAMP chemSHERPA-AI or
- JAMP chemSHERPA-CI for Raw materials (substances, preparations)

<https://chemsherpa.net/english>

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7.3 Submission of Certificate of Assurance for non-usage of Prohibited Substances (Annex1)

8. Other

Information provided by suppliers for the purpose of controlling chemical substances contained in products will be shared within Oriental Motor. Please note that information of controlled environmental substances contained in purchased articles may be disclosed to a third party, as part of information relating to Oriental Motor products prepared based on the information provided to us, for the purpose of disclosure by the supply chain or disclosure to customers, etc.

If you have any concern regarding the aforementioned disclosure, please contact Oriental Motor.

9. Effective Date

This Standard shall take effect from August 20, 2020

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Table 1 – List of Controlled Environmental Substances

Note The list of controlled environmental substances in Table 1 conforms to IEC 62474, which is a standard for the electrical/electronic industry. The control levels are abbreviated as follows: “Prohibited: Prohibited substance,” “Complete: Substance targeted to be eliminated completely,” “Controlled: Controlled substance”

Refer to IEC 62474 Reference Substances for the exemplified substances. URL: <http://std.iec.ch/iec62474/iec62474.nsf/welcome?openpage>

Table 1-1 Prohibited substance and Substance targeted to be eliminated completely

Substance / substance group	Control levels	Application	Threshold Level	Examples of Use	Dates of applicability	Key Legal and Regulatory or Industry standard/agreement citation
Cadmium/cadmium compounds	Prohibited	All uses (except for ANNEX III of Directive 2011/65/EU, batteries and packaging materials)	0.01% by weight (100 ppm) of cadmium in homogeneous materials	Pigment, anti-corrosion surface treatment, optical glass, stabilizer, plating, fluorescent, electrode, solder, electric contact, contact point, zinc plating	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006; Directive 2011/65/EU; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50
		Batteries ⁽⁴⁾	0.001% by weight (10 ppm) of cadmium in battery	NiCd accumulators	Immediately	Korean Quality Management and Safety Control of Industrial Products Act; EU Battery Directive 2006/66/EC Chinese Standard GB 24427-2009 “Limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries”
		Packaging materials	The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt% (100ppm) of packaging materials	Packaging materials	Immediately	US Toxics in packaging legislation
Chromium VI compounds	Prohibited	All uses (except for ANNEX III of Directive 2011/65/EU and packaging materials)	0.1 % by weight (1,000 ppm) of chromium (VI) in homogeneous materials	Pigment, paint, ink, catalyst, plating, anti-corrosion surface treatment, dye	Immediately	Directive 2011/65/EU; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50
		Packaging materials	The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt% (100ppm) of packaging materials	Packaging materials	Immediately	US Toxics in packaging legislation

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Substance / substance group	Control levels	Application	Threshold Level	Examples of Use	Dates of applicability	Key Legal and Regulatory or Industry standard/agreement citation
Lead/lead compounds	Prohibited	All uses (except for ANNEX III of Directive 2011/65/EU, batteries and packaging materials)	0.1 % by weight (1,000 ppm) of lead in homogeneous materials	Rubber hardener, pigment, paint, lubricant, plastic stabilizer, free-machining alloy, free-cutting steels, optical materials, X-ray shielding in CRT glass, solder material, curing agent, vulcanizing agent, ferroelectrics, plating, metal alloy,	Immediately	Directive 2011/65/EU; ANNEX XVII of REACH Regulation (EC) No 1907/2006; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50
		Cables/cords with thermoset or thermoplastic coatings	0.03% by weight (300 ppm) of surface coating	Pigment, paint, stabilizer, colorant	Immediately	US/CA Proposition 65 Case law
		Batteries ⁽⁴⁾	0.004% by weight (40 ppm) of lead in battery	Zinc carbon batteries, alkaline button cells	Immediately	EU Battery Directive 2006/66/EC; Chinese Standard GB 24427-2009 "Limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries"
		Packaging materials	The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt% (100ppm)of packaging materials	Packaging materials	Immediately	US Toxics in packaging legislation
Mercury/mercury compounds	Prohibited	All uses (except for ANNEX III of Directive 2011/65/EU, batteries and packaging materials)	Intentionally added or 0.1% (1,000 ppm) of mercury in homogeneous material	fluorescent bulb, contact point material, pigment, anti-corrosion, switches, antibacterial treatment	Immediately	Vermont act relating to comprehensive management of exposure to mercury; Rhode Island General Laws 23-24.9 and amendment of 2007; Louisiana Mercury Risk Reduction Act; ANNEX XVII of REACH Regulation (EC) No 1907/2006; Directive 2011/65/EU; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50
		Batteries ⁽⁴⁾	Intentionally added or 0.0001% by weight (1 ppm) of mercury in the battery	Silver-oxide button cells, alkaline batteries, zinc carbon batteries,	Immediately	Rhode Island & Connecticut Mercury Reduction and Education Acts; New York Env Law § 27-0719 Battery Management and Disposal; Taiwan Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries; Korea: Law on quality management and control of safety of industrial products Battery regulation; EU Battery Directive 2006/66/EC; Chinese Standard GB 24427-2009 "Limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries"
		Packaging materials	The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt%(100ppm) of packaging materials	Packaging materials	Immediately	US Toxics in packaging legislation
Tributyl Tin Oxide (TBTO)	Prohibited	All	Intentionally added or 0.1 % by weight (1,000 ppm) of the article	Antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner	Immediately	Japan Chemical Substance Control Law; Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006,

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Substance / substance group	Control levels	Application	Threshold Level	Examples of Use	Dates of applicability	Key Legal and Regulatory or Industry standard/agreement citation
Dibutyltin (DBT) compounds	Prohibited	All	0.1 % by weight (1,000 ppm) of tin in a part	(a) One-component and two-component room temperature vulcanization sealants (RTV-1 and RTV-s sealants) (b) One-component and two-component room temperature vulcanization adhesives (RTV-a and RTV-2 adhesives) (c) Catalysts for paints or coating agents (d) Stabilizers in PVC used for coating of fabrics intended for outdoor applications (e) Additives of soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 276/2010
Diocetyl tin (DOT) compounds	Prohibited	(a) textile and leather articles intended to come into contact with the skin, (b) childcare articles (c) two-component room temperature vulcanization molding kits (RTV-2 molding kits)	0.1 % by weight (1,000 ppm) of tin in a part	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 276/2010
Tri-substituted organostannic compounds	Prohibited	All	Intentionally added or 0.1% by weight (1,000 ppm) of tin in a part	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic paint, pigment, antistaining	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 276/2010; Japan Chemical Substance Control Law Norwegian product regulation
Polybrominated biphenyls (PBBs)	Prohibited	All	0.1 % by weight (1,000 ppm) in homogeneous material	Flame retardant	Immediately	Directive 2011/65/EU; China MII Methods; Korea RoHS; Japan J-MOSS
Polybrominated Diphenyl ethers (PBDEs)	Prohibited	All	Intentionally added or 0.1 % by weight (1,000 ppm) in homogeneous material	Flame retardant	Immediately	Directive 2011/65/EU; China MII Methods; Korea RoHS; Japan J-MOSS; Japan Chemical Substance Control Law
Polychlorinated Biphenyls (PCBs) and specific substitutes	Prohibited	All	Intentionally added	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, flame retardants, dielectric sealants	Immediately	Japan Chemical Substance Control Law; ANNEX XVII of REACH Regulation (EC) No 1907/2006; US TSCA.
Polychlorinated naphthalenes (more than 1chlorine atoms)	Prohibited	All	Intentionally added	Lubricant, paint, stabilizer (electric, characteristic, flame-resistant, water- resistant) insulator, flame retardant	Immediately	Japan Chemical Substance Control Law ; Stockholm convention on persistent organic pollutants(POPs)
Polychlorinated normal paraffin (limited those in which the carbon number is 10 through 13 and the content of chlorine is more than 48% of the total weight)	Prohibited	All	Intentionally added or 0.1 % by weight (1,000 ppm) of article	plasticizer for PVC, flame retardant, pigment, dyes, colorants	Immediately	Japan Chemical Substance Control Law

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Substance / substance group	Control levels	Application	Threshold Level	Examples of Use	Dates of applicability	Key Legal and Regulatory or Industry standard/agreement citation
Polychlorinated normal paraffin (limited those in which the carbon number is 10 through 13 and the content of chlorine is more than 48% of the total weight)	Prohibited	All	Intentionally added or 0.1 % by weight (1,000 ppm) of article	plasticizer for PVC, flame retardant, pigment, dyes, colorants	Immediately	Japan Chemical Substance Control Law
Fluorinated greenhouse gases (PFC, SF6, HFC)	Prohibited	All	Intentionally added	Refrigerants, blowing agents, extinguishing agents, cleaning agents, insulating media, caustic gas	Immediately	EU Reg. No. 842/2006;
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	Prohibited	All	Intentionally added	Flame retardant mainly used for expanded polystyrene and some types of fiber	Immediately	Japan Chemical Substance Control Law ; Stockholm convention on persistent organic pollutants(POPs)
Perfluorooctane sulfonate (PFOS)	Prohibited	All applications other than below-mirror · Photoresist or anti coating for photolithography process · Photo coating applied to films, documents, or printing plates	Intentionally added or 0.1% by weight (1,000 ppm) in material ⁽⁵⁾	antistatic agent for films and plastics	Immediately	Commission Regulation (EU) No 757/2010; Canadian Environmental Protection Act SOR/SOR/2008-178; Japan Chemical Substance Control Law
Polychlorinated Terphenyls (PCTs)	Prohibited	All	0.005% by weight (50 ppm) in material	insulation oil, lubricant oil, electrical insulation medium, solvent, electrolytic solution; Plasticizers, flame retardants, coatings for electrical wire and cable, dielectric sealants	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006
Asbestos	Prohibited	All	Intentionally added	Insulator, filler, pigment, paint, talc	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006; US TSCA; Swiss Ordinance on Reduction of Risk from Chemical Products
Azocolourants and azodyes which form certain aromatic amines	Prohibited	Textiles and leather	0.003% by weight (30 ppm) of the finished textile/leather article	Pigment, dyes, colorants	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006;
Ozone Depleting Substances	Prohibited	All	Intentionally added	refrigerant, foaming agent, extinguishant, solvent cleaner	Immediately	Montreal Protocol; EU EC No. 2037/2000; EC 1005/2009; US Clean Air Act
Radioactive substances	Prohibited	All	Intentionally added ⁽⁶⁾	Optical properties (thorium), measuring devices, gauges, detector	Immediately	EU-D 96/29/Euratom; Japan Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986; Japan Law Concerning Prevention from Radiation Hazards; US NRC
Formaldehyde	Prohibited	Composite wood (plywood, particle board, MDF) products or Components	Intentionally added ⁽⁶⁾	Stereo cabinets, kiosk enclosures	Immediately	US/CA CARB Rule; US Federal Law 111-199/TSCA Section 601

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Substance / substance group	Control levels	Application	Threshold Level	Examples of Use	Dates of applicability	Key Legal and Regulatory or Industry standard/agreement citation
Penol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	Prohibited	All	Intentionally added	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers	Immediately	Japan Chemical Substance Control Law
Dimethyl fumarate	Prohibited	All	0.00001% by weight (0.1 ppm) in a material ⁽⁵⁾	Biocide, mold treatment of electronic leather seats, including recliners, massage chairs	Immediately	COMMISSION DECISION 2009/251/EC
Polycyclic aromatic hydrocarbon (PAH)	Prohibited	Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use	More than 0.0001% by weight (or 1ppm) of the material	Rubber or plastic components	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006;
Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)	Prohibited	Children's Products	0.1 % by weight (1,000 ppm) of the article	Flame retardants used in plastics, resins, fabrics, and textiles	Immediately	US/VT Act85
Perfluorooctanoic acid (PFOA) and PFOA salts and PFOA-related substances	Prohibited	All	Intentionally added or in a concentration equal to or above 25 ppb of PFOA including its salts or 1 000 ppb of one or a combination of PFOA-related substances.	Fluoropolymer and fluoroelastomer production, surfactants in the semiconductor industry	Immediately	ANNEX XVII of REACH Regulation (EC) No 1907/2006; Japan Chemical Substance Control Law ; Stockholm convention on persistent organic pollutants(POPs)
Bis (2-ethylhexyl) phthalate (DEHP)	Prohibited	All	0.1 % by weight (1,000 ppm) in a homogeneous material	plasticizer, dye, pigment, paint, ink, adhesive, lubricant	22 July 2018 ⁽⁸⁾	Directive 2011/65/EU; (EU)2015/863
Dibutyl phthalate (DBP)	Prohibited	All	0.1 % by weight (1,000 ppm) in a homogeneous material	plasticizer, dye, pigment, paint, ink, adhesive, lubricant	22 July 2018 ⁽⁸⁾	Directive 2011/65/EU; (EU)2015/863
Benzyl butyl phthalate (BBP)	Prohibited	All	0.1 % by weight (1,000 ppm) in a homogeneous material	plasticizer, dye, pigment, paint, ink, adhesive, lubricant	22 July 2018 ⁽⁸⁾	Directive 2011/65/EU; (EU)2015/863
Diisobutyl phthalate (DIBP)	Prohibited	All	0.1 % by weight (1,000 ppm) in a homogeneous material	plasticizer, dye, pigment, paint, ink, adhesive, lubricant	22 July 2018 ⁽⁸⁾	Directive 2011/65/EU; (EU)2015/863
Hexachlorobenzene (HCB)	Prohibited	All	Intentionally added	Raw material for manufacturing herbicide PCP, rubber smelting accelerator, flame retardant for clothing, plasticizer for polyvinyl chloride, etc.	Immediately	Japan Chemical Substance Control Law
Pentachlorophenol and its individual salts and esters	Prohibited	All	Intentionally added	Pesticides, fungicides, etc.	Immediately	Japan Chemical Substance Control Law
1,1'-Oxybis (pentabromobenzene) (Decabromodiphenyl ether)	Prohibited	All	Intentionally added	Flame retardant	Immediately	Japan Chemical Substance Control Law

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Table 1 - 2 Controlled

Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
Beryllium Oxide (BeO)	1304-56-9	Controlled	All	0.1% by weight (1,000ppm) of the article	Ceramics	DIGITALEUROPE ⁽¹⁾ /CECED/AeA ⁽²⁾ / EERA guidance
Nickel ⁽⁷⁾	7440-02-0	Controlled	All, where prolonged skin contact is expected	Intentionally added ⁽⁶⁾	Stainless steel, plating; example application for prolonged skin contact is an ear bud (headphone) , mobile phone	ANNEX XVII of REACH Regulation (EC) No 1907/2006
Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	—	Controlled	Plastic materials except printed wiring board laminates ⁽³⁾	0.1% total bromine content by weight (1,000 ppm) in the plastic material	Flame retardant for housing, connectors, package molding sealing	JS709
	—	Controlled	Printed wiring board laminate	0.09% total bromine content by weight (900 ppm) in the laminate	Flame retardant	IPC-4101 and IEC 61249-2-21
Chlorinated flame retardants	—	Controlled	Plastic materials except printed wiring board laminates ⁽³⁾	0.1% total chlorine content by weight (1,000 ppm) in the plastic material	Flame retardant for housing, connectors, package molding sealing	JS709
	—	Controlled	Printed wiring board laminate	0.09% total chlorine content by weight (900 ppm) in the laminate	Flame retardant	IPC-4101 and IEC 61249-2-21
Polyvinyl chloride (PVC) & PVC Copolymers	9002-86-2 other	Controlled	Plastic materials except printed wiring board laminates ⁽³⁾	0.1% total chlorine content by weight (1,000 ppm) in the plastic material	Insulator, chemical resistance, transparency, sheath material	JS709
Ethylene thiourea	96-45-7	Controlled	All	0.1 % by weight (1,000 ppm) of the article	Used as a catalyst in some acrylic adhesive glues which may be used in adhesive tapes (for example, double sided adhesive tapes which may be used to hold the back-light in place in mobile phones)	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Perchlorates	—	Controlled	All	0.0000006 % by weight (0.006 ppm) of the article	Coin cell batteries	California- Perchlorate Contamination Prevention Act of 2003

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Table 1 - 3 Controlled (SVHC)

Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	pigment, dyes, colorants	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Boric acid	10043-35-3 11113-50-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative, as flame retardant in wood, cotton and other plant derived material	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cobalt dichloride (CoCl ₂)	7646-79-9	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Pneumatic panels to indicate water contamination	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Diarsenic Pentoxide	1303-28-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Additive in wood, metal, glass and plastics	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Diarsenic Trioxide	1327-53-3	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Additive in wood, metal, glass and plastics	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative, as flame retardant in wood, cotton and other plant derived material	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	134237-50-6 134237-51-7 134237-52-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Flame retardant mainly used for expanded polystyrene and some types of fiber	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead chromate	7758-97-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Colorant in plastics; Colorant in paint	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Colorant in plastics; Colorant in red paint	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Colorant in plastics; Colorant in yellow paint	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative, as flame retardant in wood, cotton and other plant derived material	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Flame retardant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Strontium chromate	7789-06-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Corrosion inhibitor	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
1,2-Benzenedicarboxylic acid, di-C7-11 branched and linear alkyl esters (DHNUP)	68515-42-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Potassium hydroxyoctaoxodizincate dichromate	11103-86-9	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Paint, anti-corrosion	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Pentazinc chromate octahydroxide	49663-84-5	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Colorant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Bis(2-ethylhexyl)phthalate (BEHP)	117-82-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
4-(1,1,3,3-Tetramethylbutyl)phenol	140-66-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Unreacted process chemical	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Bis(2-methoxyethyl)ether	111-96-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Electrolyte in batteries	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Curing agent for polyurethane	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
1,2-dimethoxyethane	110-71-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Solvent used in battery electrolytes for lithium batteries. May be in found in printing inks and paint strippers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Diboron trioxide	1303-86-2	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Found in wood veneers, glass / fiberoptics and ceramics - for industrial applications	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Formamide	75-12-7	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer, foaming agent	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Decabromodiphenyl oxide	1163-19-5	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Flame retardant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Hexahydrophthalic anhydride	25550-51-0 19438-60-9 48122-14-1 57110-29-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Primary use is as a hardener for epoxy resins.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer in plastic materials in specialist applications, for example where high solvating plasticizers and stain resistance are required	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Diisopentylphthalate	605-50-5	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer in plastic materials in specialist applications, for example where high solvating plasticizers and stain resistance are required	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
N-pentyl-isopentylphthalate	776297-69-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer in plastic materials in specialist applications, for example where high solvating plasticizers and stain resistance are required	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
1,2-Diethoxyethane	629-14-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Solvent used in electrolytes for lithium batteries.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
N,N-dimethylformamide; dimethyl formamide	68-12-2	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used as electrolyte in electrolytic capacitors rated for low temperature use to -55C.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dibutyltin dichloride	683-18-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for PVC used for wiring and cabling insulation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead oxide sulfate (Pb ₂ O(SO ₄))	12036-76-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for PVC used for wiring and cabling insulation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
[Phthalato(2-)]dioxotrilead	69011-06-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for plastics, for example for wiring and cabling insulation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dioxobis(stearato)trilead	12578-12-0	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for plastics, for example for wiring and cabling insulation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Fatty acids, C16-18, lead salts	91031-62-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for plastics, for example for wiring and cabling insulation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead cyanamidate	20837-86-9	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used in anticorrosion coatings e.g. steel articles	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead dinitrate	10099-74-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer in nylon and polyesters, also used as a coating on paper for photo thermography.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead tetroxide (orange lead)	1314-41-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used in rust-proof primer paints	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead titanium trioxide	12060-00-3	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	In piezoelectric components, ultrasound transducers, gas igniters, ultrasonic motors, ceramic capacitors and other electronic components that use piezoelectric materials	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead Titanium Zirconium Oxide	12626-81-2	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	In piezoelectric components, ultrasound transducers, gas igniters, ultrasonic motors, ceramic capacitors and other electronic components that use piezoelectric materials	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Pentalead tetraoxide sulphate	12065-90-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for plastics; for example, non-transparent PVC	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Pyrochlore, antimony lead yellow	8012-00-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used as yellow pigment for coloring plastics and paint	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Silicic acid, barium salt, lead-doped	68784-75-8	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used in UV emitting light bulbs and lamps	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Sulfurous acid, lead salt, dibasic	62229-08-7	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for PVC, for example for wiring and cabling insulation	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Tetralead trioxide sulphate (Pb ₄ O ₃ (SO ₄))	12202-17-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for PVC, for example for wiring and cabling insulation	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Trilead dioxide phosphonate	12141-20-7	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Heat stabilizer for PVC, for example for wiring and cabling insulation	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used as yellow pigment and in inks, including inks for inkjet printers. It is also used as a dye for lacquer, varnish, wax products, oil stains and styrene resins.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium	7440-43-9	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Pigments, anti-corrosion surface treatments, optical glass, heat stabilizers, plating, fluorescent materials, electrodes, low melting solders, electric contacts, zinc plating, photoelectric applications, phosphor coatings, bearing alloys	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium oxide	1306-19-0	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Relay contact; photodiode voltaic cell, Ni/Cd battery	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dipentyl phthalate (DPP)	131-18-0	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer in PVC and nitrocellulose resin and rubber; in gunpowder, toys, cosmetics, medical devices	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Pentadecafluorooctanoic Acid (PFOA)	335-67-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	PFOA 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 these plastics.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	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 these plastics.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Poly(oxy-1,2-ethanediyl), α -(4-nonylphenyl)- ω -hydroxy-	26027-38-3 7311-27-5 20427-84-3 34166-38-6 27942-27-4 14409-72-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	paint, varnish	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium sulphide	1306-23-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used in photo-resistors, solar cells and piezoelectric transducers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Trixylyl phosphate	25155-23-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used as a plasticizer for vinyl resin, cellulose resin, natural and synthetic rubber. Also, used as a flame retardant.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Dye for textiles and paper	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
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	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used in ink for printers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dihexyl phthalate	84-75-3	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticizer	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Used as a catalyst in some acrylic adhesive glues which may be used in adhesive tapes (for example, double sided adhesive tapes which may be used to hold the back-light in place in mobile phones)	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead (II) acetate	301-04-2	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Paint, putty	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium fluoride	7790-79-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Synthetic intermediate	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium sulphate	10124-36-4 31119-53-6	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plating, analysis reagent	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	UV Stabilizer, adhesive, paint, ink, plastics, inked ribbons, putty, caulking or sealing fillers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	UV Stabilizer	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Stabilizer for PVC	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
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)	—	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Stabilizer for PVC	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
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 (EC No. 201-559-5)	68515-51-5 68648-93-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Plasticisers, lubricants, adhesives, coatings, cable compounding, polymer foils, PVC compound coatings, paints, thinners, paint removers, fillers, putties, plasters, ink and toners, greases, release products, polymer preparations and compounds, and semiconductors	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
1,3-propanesultone	1120-71-4	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	Electrolyte fluid of rechargeable lithium ion batteries	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	UV stabilizer	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	Controlled (SVHC)	All	0.1% by weight (1,000 ppm) of the article	UV stabilizer	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptafluorononanoic acid and its sodium and ammonium salts)	375-95-1 21049-39-8 4149-60-4	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Surfactant in the production of the fluoropolymer polyvinylidene fluoride (PVDF)	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Benzo[def]chrysene(Benzo [a] pyrene)	50-32-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Occurred by burning organic substances.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Epoxy, raw material of polycarbonate, antioxidant of PVC	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Lubricant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
p-(1,1-dimethylpropyl)phenol	80-46-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Adhesive	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	—	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Used in surfactant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4 68259-08-5 3871-99-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurity in production of PFOS and alternative for PFOS, a surfactant which can be found in protective coatings and adhesives which are resistant to water, dirt, oils etc.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus" TM)	13560-89-9 135821-74-8 135821-03-3	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Flame retardant for electric wire and cable covering material	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
Benzo[a]anthracene (BaA)	56-55-3	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Cadmium dihydroxide	21041-95-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	It is generated in the anodes of nickel-cadmium and silver-cadmium batteries during the discharge	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Chrysen (CHR)	218-01-9	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Benzo[ghi]perylene	191-24-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Decamethylcyclopentasiloxane	541-02-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Siloxanes are monomers used to manufacture silicones. Residuals may remain in silicone polymers and copolymers.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Disodium octaborate	12008-41-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Wooden veneer sheets and pressed wooden panels (as a constituent within the starch adhesive), as a flame retardant, as stabilizer in aminoplastic resins, and as a biocide in professional and industrial wood preservation.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dodecamethylcyclohexasiloxane	540-97-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Siloxanes are monomers used to manufacture silicones. They may remain as unreacted in silicone polymers and copolymers, used in many electrotechnical equipment product categories.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Lead	7439-92-1	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Steel, aluminum and copper alloys, lead acid batteries, solder and other applications	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Octamethylcyclotetrasiloxane	556-67-2	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Siloxanes are monomers used to manufacture silicones. They may remain as unreacted in silicone polymers and copolymers, used in many electrotechnical equipment product categories.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Terphenyl, hydrogenated	61788-32-7	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Plasticizers, sealants, epoxy adhesives, paints and heat sinks	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dicyclohexyl phthalate	84-61-7	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Plasticizer, dye, pigment, paint, ink, manufacture of adhesive, lubricant	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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Substance/Substance group	CAS No.	Control levels	Application	Threshold Level	Examples of Use	Key Legal and Regulatory or Industry standard/agreement citation
2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	White crystalline powder, Raw material for epoxy resins, Raw materials for polycarbonate resin, Thermal paper, Chemicals, Surface coatings, Inks, Adhesives, Synthetic resin additives, Liquid crystal materials, Photosensitizers, Information recording agents, Engineering plastic materials, Electronic functional materials, Optical functional materials; may be used as substitute for BPA	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Benzo[k]fluoranthene	207-08-9	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Fluoranthene	206-44-0	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Phenanthrene	85-01-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Pyrene	129-00-0	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurities in carbon black, which is used as coloring agent in plastics and softener in rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with \geq 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	3050-88-2 31631-13-7 106599-06-8	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Stabilizer and antioxidant in the processing of various plastic materials such as PVC, Polyolefines or rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Diisohexyl phthalate	71850-09-4	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Used as a plasticizer for certain plastics and rubbers	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Perfluorobutane sulfonic acid (PFBS) and its salts	25628-08-4 34454-97-2 375-73-5 375-72-4	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Impurity in production of PFOS and alternative for PFOS, a surfactant which can be found in protective coatings and adhesives which are resistant to water, dirt, oils etc. May be used as a flame retardant agent for polycarbonate and as an anti-static additive.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006
Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	Controlled (SVHC)	All	0.1 % by weight (1,000 ppm) of the article	Used as biocides and as stabilisers in plastics. Used also as a catalyst and in the manufacturing of adhesives, sealants, coatings, dyes, polymer preparations, resins and rubber.	Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006

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- (1) Formerly known as EICTA
- (2) Now part of TechAmerica
- (3) A printed wiring board laminate refers to the layered board materials excluding surface finishes and components.
- (4) The battery reporting threshold level is based on the strictest known legal requirement. However, for simplification, the same reporting threshold level is set for all kind of batteries, even if the underlying legal requirement is only applicable for only one specific battery type.
- (5) Commission Decision 2009/251/EC defines a concentration limit of 0.00001% by weight of DMF in the product or part of the product and Commission Regulation (EC) No 552/2009 defines a concentration limit of 0.1% by weight of PFOS in the semifinished product or article or part thereof. The concentration limit is applied at the level of a material vs. a part to ensure disclosure of the regulated substances for the most basic unit of a part.
- (6) Regulatory thresholds for substances in these applications are based on emission or exposure limits rather than on the concentration in the product. Examples of regulatory limits are:
 - Formaldehyde in hardwood plyboard with veneer core - 0.05 ppm (measured as gaseous emission from product);
 - For Nickel in applications of prolonged skin contact - 0.5µg/cm²/week per DIN EN 1811;
 - Radioactive substances -a dose rate exceeding 1 µSv h⁻¹ at a distance of 0.1 m.
Because emission and exposure levels cannot be derived from actual concentrations, a threshold level of “intentionally added” is indicated for reporting. Suppliers may choose to report a default concentration of 0.1% by weight in the product for these substances, in lieu of determining the exact concentrations in their products, to indicate that the substance is known to be present in their product, as the actual concentration in the product is not informative for regulatory compliance assessment.
- (7) Nickel must be reported in certain regulated applications where it is likely to result in prolonged skin exposure (e.g., an outer enclosure for a portable electronic product designed to be carried). Use of nickel or nickel contained in components and parts designed to be located inside the outer enclosure of a product need not be reported.
- (8) For categories other than 8 and 9, the effective date in EU RoHS is July 22, 2019, and the prohibition date in our company is July 22, 2018, 1 year earlier