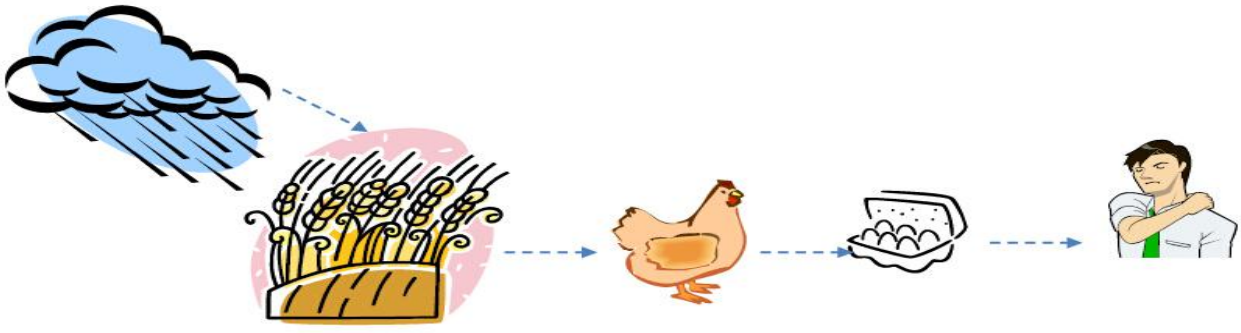
EU POPs Annex I restricted substances list

November 2004, EU approved the STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS. From 20 May 2004, EU REGULATION (EC) No 850/2004 came into force,it bans the production, placing on the market and use of the listed substances. After that, EU published (EU) No 756/2010 and (EU) No 757/2010 in year 2010, (EU) No 519/2012 in year 2012, （EU）2015/2030 in year 2015 and （EU）2016/293 in year 2016 to revise the regulation (EC) No 850/2004. 25 June 2019, European Union published new regulation (EU) 2019/1021 on persistent organic pollutants (POPs), replaced previous（EC）No 850/2004. This new regulation was effective on 15 July 2019.

15 June 2020, Official Journal of the European Union published (EU) 2020/784 amending Annex I to Regulation (EU) 2019/1021 of the European Parliament and of the Council, as regards the listing of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds. This amendment shall apply from 4 July 2020.

POPs is short for Persistant Organic Pollutants . The persistent organic pollutants are the natural or artificially synthesized organic pollutants that possess toxic properties, resist degradation, bioaccumulate and are transported, through air, water and migratory species, across international boundaries and deposited far from their place of release, where they accumulate in terrestrial and aquatic ecosystems.



HCT currently has the capability and detailed testing scheme for POPS TESTING, could help enterprises to arrange the POPs test and issue the test reports in comply with the requirements of (EU) 2019/1021 and its amendment regulations, help enterprises to define whether the products are comply with the requirements of (EU) 2019/1021 and its amendment regulations. For further POPs test enquiry, please contact us.

LIST OF SUBSTANCES SUBJECT TO RESTRICTIONS

Table 1: Brominated Flame Retardant (7 items)

SUBSTANCE	CAS No	EC No	SPECIFIC EXEMPTION ON INTERMEDIATE USE OR OTHER SPECIFICATION
Tetrabromodiphenyl ether C12H6Br4O	40088-47-9 and others	254-787-2 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of Tetrabromodiphenyl ether equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances. 2. For the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentration of those substances up to 500 mg/kg where they are present in mixtures or articles, subject to review and assessment by the Commission by 16 July 2021. This review shall assess, inter alia, all relevant impacts with regard to health and the environment. 3. By way of derogation, the manufacturing, placing on the market and use of the following shall be allowed: electrical and electronic equipment within the scope of Directive 2011/65/EC of the European Parliament and of the Council (1). 4. Use of articles already in use in the Union before 25 August 2010 containing Tetrabromodiphenyl ether shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles.
Pentabromodiphenyl ether C12H5Br5O	32534-81-9 and others	251-084-2 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of pentabromodiphenyl ether equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances. 2. For the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentration of those substances up to 500 mg/kg where they are present in mixtures or articles, subject to review and assessment by the Commission by 16 July 2021. This review shall assess, inter alia, all relevant impacts with regard to health and the environment. 3. By way of derogation, the manufacturing, placing on the market and use of the following shall be allowed: electrical and electronic equipment within the scope of Directive 2011/65/EC. 4. Use of articles already in use in the Union before 25 August 2010 containing Pentabromodiphenyl ether shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles.
Hexabromodiphenyl ether C12H4Br6O	36483-60-0 and others	253-058-6 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of hexabromodiphenyl ether equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances. 2. For the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentration of those substances up to 500 mg/kg where they are present in mixtures or articles, subject to review and assessment by the Commission by 16 July 2021. This review shall assess, inter alia, all relevant impacts with regard to health and the environment.

			3. By way of derogation, the manufacturing, placing on the market and use of the following shall be allowed: electrical and electronic equipment within the scope of Directive 2011/65/EC. 4. Use of articles already in use in the Union before 25 August 2010 containing Hexabromodiphenyl ether shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles.
Heptabromodiphenyl ether C12H3Br7O	68928-80-3 and others	273-031-2 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of heptabromodiphenyl ether equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances. 2. For the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentration of those substances up to 500 mg/kg where they are present in mixtures or articles, subject to review and assessment by the Commission by 16 July 2021. This review shall assess, inter alia, all relevant impacts with regard to health and the environment. 3. By way of derogation, the manufacturing, placing on the market and use of the following shall be allowed: electrical and electronic equipment within the scope of Directive 2011/65/EC. 4. Use of articles already in use in the Union before 25 August 2010 containing Heptabromodiphenyl ether shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles.
Bis(pentabromophenyl) ether (decabromodiphenyl ether; decaBDE)	1163-19-5	214-604-9	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of decaBDE equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances. 2. For the purposes of the entries on tetra-, penta-, hexa-, hepta- and decaBDE, point (b) of Article 4(1) shall apply to the sum of the concentrations of those substances up to 500 mg/kg where they are present in mixtures or articles, subject to review and assessment by the Commission by 16 July 2021. This review shall assess, inter alia, all relevant impacts with regard to health and the environment. 3. By way of derogation, the manufacturing, placing on the market and use of decaBDE shall be allowed for the following purposes, provided that Member States report to the Commission by December 2019 in accordance with the Convention: (a) in the manufacturing of an aircraft, for which type approval has been applied for before 2 March 2019 and has been received before December 2022, until 18 December 2023, or, in cases where the continuing need is justified, until 2 March 2027; (b) in the manufacturing of spare parts for either of the following: (i) an aircraft, for which type approval has been applied for before 2

			March 2019 and has been received before December 2022, produced before 18 December 2023, or, in cases where the continuing need is justified, produced before 2 March 2027, until the end of service life of that aircraft; (ii） motor vehicles within the scope of Directive 2007/46/EC of the European Parliament and of the Council (2), produced before 15 July 2019, either until 2036 or the end of service life of those motor vehicles, whichever date comes earlier; (c） electric and electronic equipment within the scope of Directive 2011/65/EC. 4. The specific exemptions for spare parts for use in motor vehicles referred to in point 2(b)(ii) shall apply for the manufacturing and use of commercial decaBDE falling into one or more of the following categories: (a） powertrain and under-hood applications such as battery mass wires, battery interconnection wires, mobile air condition (MAC) pipes, powertrains, exhaust manifold bushings, under-hood insulation, wiring and harness under-hood (engine wiling, etc.), speed sensors, hoses, fan modules and knock sensors; (b）fuel system applications such as fuel hoses, fuel tanks and fuel tanks under body; (c） pyrotechnical devices and applications affected by pyrotechnical devices such as airbag ignition cables, seat covers/fabrics, only if airbag relevant and airbags (front and side). 5. Use of articles already in use before 15 July 2019 in the Union containing decaBDE shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles. 6. Without prejudice to the application of other Union provisions on the classification, packaging and labelling of substances and mixtures, articles in which decaBDE is used shall be identifiable by labelling or other means throughout its life cycle. 7. The placing on the market and use of articles containing decaBDE imported for the purposes of the specific exemptions in point 2 shall be allowed until the expiry of those exemptions. Point 6 shall apply as if such articles were produced pursuant to the exemption in point 2. Such articles already in use by the date of expiry of the relevant exemption may continue to be used. 8. For the purposes of this entry ‘aircraft’ means the following: (a） a civil aircraft produced in accordance with a type certificate issued under Regulation (EC) No 216/2008 of the European Parliament and of the Council (3) or with a design approval issued under the national regulations of a contracting state of ICAO, or for which a certificate of airworthiness has been issued by an ICAO Contracting State under

			Annex 8 to the Convention on International Civil Aviation; (b) a military aircraft.
1Hexabromocyclododecane 'Hexabromocyclododecane' means: hexabromocyclododecane, 1,2,5,6,9,10-hexabromocyclododecane and its main diastereoisomers: alpha-hexabromocyclododecane; beta-hexabromocyclododecane; and gamma-hexabromocyclododecane	25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8	247-148-4, 221-695-9	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of hexabromocyclododecane equal to or below 100 mg/kg (0,01 % by weight) where it is present in substances, mixtures, articles or as constituents of the flame-retarded articles, subject to review by the Commission by 22 March 2019. 2. Expanded polystyrene articles containing hexabromocyclododecane already in use in buildings before 21 February 2018 in accordance with Commission Regulation (EU) 2016/293 (5) and Commission Implementing Decision No 2016/C 12/06 (6), and extruded polystyrene articles containing hexabromocyclododecane already in use in buildings before 23 June 2016 may continue to be used. Article 4(2), third and fourth subparagraphs shall apply to such articles. 3. Without prejudice to the application of other Union provisions on the classification, packaging and labelling of substances and mixtures, expanded polystyrene placed on the market after 23 March 2016 in which hexabromocyclododecane was used shall be identifiable by labelling or other means throughout its life cycle.
Hexabromobiphenyl	36355-01-8	252-994-2	/

Table 2: Pesticides (11 items)

SUBSTANCE	CAS No	EC NO	SPECIFIC EXEMPTION ON INTERMEDIATE USE OR OTHER SPECIFICATION
Toxaphene	8001-35-2	232-283-3	/
Mirex	2385-85-5	219-196-6	/
Aldrin	309-00-2	206-215-8	/
Heptachlor	76-44-8	200-962-3	/
Dieldrin	60-57-1	200-484-5	/
Endrin	72-20-8	200-775-7	/
DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane)	50-29-3	200-024-3	/
Chlordane	57-74-9	200-349-0	/
Hexachlorocyclohexanes, including lindane	58-89-9 ; 319-84-6 ; 319-85-7 ; 608-73-1	200-401-2; 206-270-8; 206-271-3; 210-168-9	/
Chlordecone	143-50-0	205-601-3	/
Endosulfan	115-29-7 959-98-8 33213-65-9	204-079-4	1. Placing on the market and use of articles already in use before or on 10 July 2012 containing endosulfan shall be allowed. 2. Article 4(2), third and fourth subparagraphs shall apply to articles referred to in point 1.

Table 3: Halogenated aromatic compounds (6 items)

SUBSTANCE	CAS No	EC No	SPECIFIC EXEMPTION ON INTERMEDIATE USE OR OTHER SPECIFICATION
Polychlorinated Biphenyls (PCB)	1336-36-3 and others	215-648-1 and others	Without prejudice to Directive 96/59/EC, articles already in use at the time of the entry into force of this Regulation are allowed to be used. Member States shall identify and remove from use equipment (e.g. transformers, capacitors or other receptacles containing liquid stocks) containing more than 0,005 % PCBs and volumes greater than 0,05 dm^3, as soon as possible but no later than 31 December 2025.
Hexachlorobenzene	118-74-1	204-273-9	/
Pentachlorobenzene	608-93-5	210-172-0	/
Hexachlorobutadiene	87-68-3	201-765-5	1. Placing on the market and use of articles already in use before or on 10 July 2012 containing hexachlorobutadiene shall be allowed. 2. Article 4(2), third and fourth subparagraphs shall apply to articles referred to in point 1.
Polychlorinated naphthalenes	70776-03-3 and others	274-864-4 and others	1. Placing on the market and use of articles already in use before or on 10 July 2012 containing polychlorinated naphthalenes shall be allowed. 2. Article 4(2), third and fourth subparagraphs shall apply to articles referred to in point 1.
Pentachlorophenol and its salts and esters	87-86-5 and others	201-778-6 and others	/

Table 4: Flame retardant & plasticizer (1 item)

SUBSTANCE	CAS No	EC No	SPECIFIC EXEMPTION ON INTERMEDIATE USE OR OTHER SPECIFICATION
Alkanes C_{10}-C_{13}, chloro (short-chain chlorinated paraffins) (SCCPs	85535-84-8 and others	287-476-5	1. By way of derogation, the manufacturing, placing on the market and use of substances or mixtures containing SCCPs in concentrations lower than 1 % by weight or articles containing SCCPs in concentrations lower than 0,15 % by weight shall be allowed. 2. Use shall be allowed in respect of: (a) conveyor belts in the mining industry and dam sealants containing SCCPs already in use before or on 4 December 2015; and (b) articles containing SCCPs other than those referred to in point (a) already in use before or on 10 July 2012. 3. The third and fourth subparagraphs of Article 4(2) shall apply to the articles referred to in point 2.

Table 5: Surface active agent (1 item)

SUBSTANCE	CAS No	EC No	SPECIFIC EXEMPTION ON INTERMEDIATE USE OR OTHER SPECIFICATION
Perfluorooctane sulfonic acid and its derivatives (PFOS) $C_8F_{17}SO_2X$ (X = OH, Metal salt (O-M+), halide, amide, and other derivatives including polymers)	1763-23-1 2795-39-3 29457-72-5 29081-56-9 70225-14-8 56773-42-3 251099-16-8 4151-50-2 31506-32-8 1691-99-2 24448-09-7 307-35-7 and others	217-179-8 220-527-1 249-644-6 249-415-0 274-460-8 260-375-3 223-980-3 250-665-8 216-887-4 246-262-1 206-200-6 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) where it is present in substances or in mixtures. 2. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1 µg/m2 of the coated material. 3. Use of articles already in use in the Union before 25 August 2010 containing PFOS shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles. 4. If the quantity released into the environment is minimised, manufacturing and placing on the market is allowed for the following specific uses provided that Member States report to the Commission every four years on progress made to eliminate PFOS: mist suppressants for non-decorative hard chromium (VI) plating in closed loop systems. Where such a derogation concerns production or use in an installation within the scope of Directive 2008/1/EC of the European Parliament and of the Council (4), the relevant best available techniques for the prevention and minimisation of emissions of PFOS described in the information published by the Commission pursuant to Article 17(2), second subparagraph, of Directive 2008/1/EC shall apply. As soon as new information on details of uses and safer alternative substances or technologies becomes available, the Commission shall review the derogation in the second subparagraph so that: (a) the uses of PFOS will be phased out as soon as the use of safer alternatives is technically and economically feasible; (b) a derogation can only be continued for essential uses for which safer alternatives do not exist and where the efforts undertaken to find safer alternatives have been reported on; (c) releases of PFOS into the environment have been minimised by applying best available techniques. 5. Once standards are adopted by the European Committee for Standardisation (CEN) they shall be used as the analytical test methods for demonstrating the conformity of substances, mixtures and articles to points 1 and 2. Any other analytical method for which the user can prove equivalent performance could be used as an alternative to the CEN standards.
Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds	335-67-1 and others	206-397-9 and others	1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOA or any of its salts equal to or below 0,025 mg/kg (0,0000025 % by weight) where they are present in substances, mixtures or articles. 2. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of any individual PFOA-related compound or a combination of

			PFOA-related compounds equal to or below 1 mg/kg (0,0001 % by weight) where they are present in substances, mixtures or articles. 3. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOA-related compounds equal to or below 20 mg/kg (0,002 % by weight) where they are present in a substance to be used as a transported isolated intermediate within the meaning of Article 3 point 15(c) of Regulation (EC) No 1907/2006 and fulfilling the strictly controlled conditions set out in Article 18(4)(a) to (f) of that Regulation for the production of fluorochemicals with a carbon chain equal to or shorter than 6 atoms. This exemption shall be reviewed and assessed by the Commission no later than 5.7.2022. 4. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOA and its salts equal to or below 1 mg/kg (0,0001 % by weight) where they are present in polytetrafluoroethylene (PTFE) micropowders produced by ionising irradiation of up to 400 kilograys or by thermal degradation as well as in mixtures and articles for industrial and professional uses containing PTFE micropowders. All emissions of PFOA during the manufacture and use of PTFE micropowders shall be avoided and, if not possible, reduced as far as possible. This exemption shall be reviewed and assessed by the Commission no later than 5.7.2022. 5. By way of derogation, the manufacturing, placing on the market and use of PFOA, its salts and PFOA-related compounds shall be allowed for the following purposes: (a) photolithography or etch processes in semiconductor manufacturing, until 4 July 2025; (b) photographic coatings applied to films, until 4 July 2025; (c) textiles for oil- and water-repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety, until 4 July 2023; (d) invasive and implantable medical devices, until 4 July 2025; (e) manufacture of polytetrafluoroethylene (PTFE) and polyvinylidene fluoride (PVDF) for the production of: (i) high-performance, corrosion-resistant gas filter membranes, water filter membranes and membranes for medical textiles; (ii) industrial waste heat exchanger equipment, (iii) industrial sealants capable of preventing leakage of volatile organic compounds and PM2.5 particulates; until 4 July 2023. 6. By way of derogation, the use of PFOA, its salts and PFOA-related compounds shall be allowed in fire-fighting foam for liquid fuel vapour suppression and liquid fuel fire (Class B fires) already installed in systems,

			including both mobile and fixed systems, until 4 July 2025, subject to the following conditions: (a) fire-fighting foam that contains or may contain PFOA, its salts and/or PFOA-related compounds shall not be used for training; (b) fire-fighting foam that contains or may contain PFOA, its salts and/or PFOA-related compounds shall not be used for testing unless all releases are contained; (c) as from 1 January 2023, uses of fire-fighting foam that contains or may contain PFOA, its salts and/or PFOA-related compounds shall only be allowed in sites where all releases can be contained; (d) fire-fighting foam stockpiles that contain or may contain PFOA, its salts and/or PFOA-related compounds shall be managed in accordance with Article 5. 7. By way of derogation, the use of perfluooroctyl bromide containing perfluoroctyl iodide for the purpose of producing pharmaceutical products shall be allowed, subject to review and assessment by the Commission by 31 December 2026, every four years thereafter and by 31 December 2036. 8. Use of articles already in use in the Union before 4 July 2020 containing PFOA, its salts and/or PFOA-related compounds shall be allowed. Article 4(2), third and fourth subparagraphs shall apply in relation to such articles. 9. By way of derogation, the use of PFOA, its salts and/or PFOA-related compounds shall be allowed until 3 December 2020 in the following articles: (a) medical devices other than implantable ones, within the scope of Regulation (EU) 2017/745 (*1); (b) latex printing inks; (c) plasma nano-coatings.

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