

HyundaiKia Products and Parts Hazardous Substances Prohibition Guide

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1. SCOPE

This Guide applies to all materials(including the raw and subsidiary material used in car/ Packaging material) and parts for vehicles produced or placed on the market in domestic and foreign location. It is the minimum requirement for parts and materials delivered to Hyundai Motor Company / Kia and suppliers are obliged to comply with any chemical regulations though if they are not specified in this Guide. The latest version of this Guide is applied if the version is not mentioned in the drawing.

This Guide is consists of the following and should be taken care of as it differs from the applicable areas, targets, and regulations depending on the type of regulatory material

2. Reporting method of substance information

Substance information of parts falling under the scope of this specification shall be reported and approved via IMDS following 'Hyundai · Kia IMDS Guidance'. The approved IMDS data shall be referenced to an ISIR (Initial Sampling Inspection Report) for hazardous substances compliance check.

And substances listed in GADSL(Global Automotive Declarable Substance List) must not be hidden as wild cards or confidential substances and must be reported accurately and completely. The information in the IMDS shall be identical to the actual parts and materials.

3. REQUIREMENTS

- 1) Use of 4 heavy metals prohibited
- 2) EU battery regulation
- 3) Use of mercury and lead prohibited
- 4) Use of flame retardants prohibited
- 5) PAHs(Polycyclic Aromatic Hydrocarbons) regulation
- 6) Asbestos regulation
- 7) Report LCPFAC, PFOA, and PFAS substances in SNUR
- 8) Do not use copper in brake friction materials
- 9) TSCA 5 PBTs Substance Regulations
- 10) Use of harmful substances in leather products prohibited
- 11) Regulations on Hazardous Substances for Peruvian Industry and Public Health
- 12) Safety Guidelines for Formaldehyde in New Zealand Fabrics
- 13) Regulations on PCB substances by country
- 14) Biocidal Products Regulation (528/2012/EU)
- 15) Act on the Safety Management of Domestic Chemical Products and Biocides (Chemical Products Safety Act)
- 16) Integrated Chemical Regulations_Regulatory Obligations
- 17) Regulations on persistent organic pollutants
- 18) Substances in the Global Automotive Industry Regulatory Substances List (GADSL)

1) Prohibition of 4 heavy metals

The following four kinds of heavy metals ‘Lead(Pb), Hexavalent Chromium(Cr6+), Mercury(Hg), and Cadmium(Cd)’ shall not be used in automotive parts and materials. The regions and target vehicles are shown in the table 1.

Table 1. Applied regions and target vehicles

Applied Region	Target vehicle
EU Member States, Countries adopting EU regulation ^{note1)}	M1, N1 categories defined in EU Directive Commercial vehicle preemptive response target vehicle(1.Nov.2024~)
Turkey	M1, N1 categories defined in EU Directive
Korea	M1, N1 categories defined in EU Directive and mini-buses less than nine seats
China	M1, N1 categories defined in EU Directive (Brake Friction Materials applied to M1, N 1, M2 defined in EU Directive)
Japan	All of Passenger Car, truck and commercial Cars (1.Nov.2023~) ^{note2)}
USA California state Washington State ^{note3)}	Brake Friction Materials

Note1) Israel, Swiss, Norway, Iceland, Liechtenstein, Canary Islands, Melilla, Ceuta, Reunion, French Guiana, Guadeloupe, Martinique

Note2) EU commercial and Japanese vehicles shall be subject to the heavy metal ban in accordance with EU ELV Annex II.

Note3) Exemptions condition

- California State : Sales for purpose of inventory handling (~31. Dec. 2023)
- Washington State : Product previous in 2015 (~31. Dec. 2024), A/S parts for car in produced before 1. Jan. 2015

1) Prohibition of 4 heavy metals

4 heavy metals can only be used not intentionally when homogeneous material contains them within the range given at Table 2. The heavy metals content shall be analyzed with reference to the analytical standards given in attachment 1. Although 4 heavy metals are prohibited, they can be used exceptionally before the expiry date of a given exemption in each regulation (See attachment 2).

Table 2. Maximum concentration value when used not intentionally (for homogeneous material ^{note1)})

Type of Materials	Maximum Concentration Value wt% ^{note2)} (ppm)
Lead	0.1 (1000)
Hexavalent Chromium ^{note3)}	0.1 (1000)
Mercury	0.1 (1000)
Cadmium	0.01 (100)

Note1) Homogeneous material : Material that cannot be mechanically separated into different materials

Note2) wt% represents the percentage by weight

Note3) California state, Washington State : It refers to the Chromium(VI)-salts, including Hexavalent chromium.

2) EU Battery Regulation

Followed by Restrictions on substances in EU battery regulations [(EU)2023/1542(EU Battery/Waste Battery)], all the industrial batteries including portable batteries and LMP batteries shall be met as shown in Table 3 since from 18 February 2024.

However, batteries (general purpose portable batteries, etc.) that do not have a separate Hyundai-Kia part number must be separately entered in IMDS. (Refer to the IMDS input guidelines for detailed input methods)

Table 3. RESTRICTION ON SUBSTANCES ((EU)2023/1542 Article 6,Annex I ^{note1)})

Heavy metals	Conditions of restriction
Mercury (CAS No 7439-97-6) and its compounds	Batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0.0005 % of mercury (expressed as mercury metal) by weight
Cadmium CAS No 7440-43-9) and its compounds ^{note2)}	Portable batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0.002 % of cadmium (expressed as cadmium metal) by weight.
Lead (CAS No 7439-92-1) and its compounds ^{note2)}	From 18 August 2024, portable batteries, whether or not incorporated into appliances, shall not contain more than 0.01 % of lead (expressed as lead metal) by weight. 2. The restriction set out in the above shall not apply to portable zinc-air button cells until 18 August 2028.

Note1) In addition to the restrictions set out in Annex XVII to Regulation (EC) No 1907/2006 and in Article 4(2), point (a), of Directive 2000/53/EC, batteries shall not contain substances for which Annex I to this Regulation contains a restriction unless the conditions of that restriction are complied with.

Note2) (EU)2023/1542 Article 13, all batteries containing more than 0.002 % cadmium or more than 0.004 % lead, shall be marked with the chemical symbol for the metal concerned: Cd or Pb (from 18. Aug. 2026).

3) Prohibition of mercury and lead

① EU Mercury Regulations

Mercury-added product shall not be manufactured, imported, exported and used in manufacturing process from 1st, Jan, 2018.

※ 'mercury' means metallic mercury (Hg, CAS NO.7439-97-6)

※ 'mercury compound' means any substance consisting of atoms of mercury and one or more atoms of other chemical elements that can be separated into different components by only chemical reactions.

※ 'mercury-added product' means a product or product component that contains mercury or a mercury compound that was intentionally added.

3) Prohibition of mercury and lead

② Mercury and lead regulation in USA and Canada

- Mercury and Lead regulation in NEW JERSEY, USA

Wheel weights containing mercury or lead shall not be used to vehicle in NEW JERSEY.

- Mercury regulation in USA and Canada

Mercury can be used in some parts in USA and Canada only if they meet the requirements shown in table 4.

3) Prohibition of mercury and lead

Table 4. Requirements of mercury regulation in USA and Canada

Responsibility	USA	Canada
Prohibition	1. If suppliers use the part(HID lamp/LCD PNL etc.) that contain mercury or mercury compound intentionally added to perform specific function, it can be used in the parts up to 10 mg and comply the duty of notification and labeling 2. Mercury shall not be used in switches, relays, button cell battery.	Mercury (Hg) shall not be used in parts & materials except the below condition ('17MY~). 1. Exemption parts (See the attachment 3) 2. A part having a mercury content of 0.09% or less by weight in homogeneous materials. * Battery : mercury content of 0.0005% or less by weight in homogeneous materials (button cell battery : 1. Jan. 2016~) 3. When manufacturer or importer has a permit issued by Environment Canada
Notification	1. If Mercury (Hg) is used intentionally in the part, such as HID lamps and LCD, the purpose of mercury use and its contents, part name and part number should be reported to the relevant design team prior to Pilot 1 stage. (See the reporting format in the attachment 3) 2. If the reported information is changed, the changes should be reported immediately as well as the reason for the change.	1. If Mercury (Hg) is used intentionally in the products such lamps and cold cathode fluorescent lamp, the purpose of mercury use and its contents, its part name and part number should be reported to the relevant design team prior to Proto 1 stage. (See the reporting format in the attachment 3) 2. If the reported information is changed, it should be reported immediately as well as the reason for the change.
Labeling	1. If the mercury added parts are used, must label both the door post including mercury-containing parts installed in vehicle and either the package of substituted part or an owner's manual. 2. If the mercury added HID lamps are used, must label both the product and either the package of substituted part or owner's manual. 3. If the backlighting mercury-containing lamps(for LCD part) are used, must label either the product or an owner's manual.	If the mercury added parts are used, must label at a readily visible location on the vehicle or attach a notice on the vehicle or express in an owner's manual. Button cell battery does not apply to this responsibility.
Hg Symbol marking	-	1. If the mercury added head lamp is used, must mark the Hg symbol in a readily visible location on the head lamp. 2. If the mercury added cold cathode fluorescent lamp is used in Liquid Crystal Display (LCD), must mark the Hg symbol in a readily visible location on an external surface of the part

3) Prohibition of mercury and lead

③ Brazilian Mercury Regulations

From 25.4.25, all companies in Brazil are restricted from manufacturing, importing, selling, and distributing metallic mercury and mercury-added products.

In the case of such regulations, the scope of Table 5-1 shall be limited to "Metal mercury" products pursuant to Article 4 (1) of the Minamata Convention.

Mercury compounds and added products Table 5-2 are not eligible.

Table 5-1 List of mercury-added products of Brazil

NO	Products with added mercury (Mercury-containing products)	Prohibition date
1	Zinc-silver oxide button batteries with a mercury content of mercury content < 2% and zinc-air button batteries with a mercury content < 2%	2025,4/25
2	Very high precision and high loss capacitance measuring bridges and radio frequency switches and relays in monitoring and control instruments with a maximum mercury content of 20 mg per b ridge switch or relay, except those used for research and development purposes	2025,4/25
3	Compact Fluorescent Lamps (CFLs) for general lighting purposes that are > 30 watts	2025,4/25
4	Compact fluorescent lamps with integrated ballast (CFL,i) for general lighting purposes £ 30 watts with a mercury content not exceeding 5 mg per lamp burner	2025,1/2
5	Compact fluorescent lamps with non-integrated ballast (CFL,ni) (LFC,ni) for general lighting purposes £ 30 watts with a mercury content not exceeding 5 mg per lamp burner	2025,4/25
6	Linear Fluorescent Lamps (LFL) for general lighting purposes: (a) phosphor halophosphate £ 40 watts with a mercury content not exceeding 10 mg per lamp (b) phosphor halophosphate > 40 watts	2025,4/25
7	Linear Fluorescent Lamps (LFL) for general lighting purposes: (a) Triband phosphor < 60 watts with mercury content not exceeding 5 mg/lamp (b) Triband phosphor < 60 watts with mercury content not exceeding 5 mg/lamp (c) Triband phosphor < 60 watts with mercury content exceeding 5 mg/lamp	2025,4/25
8	Non-Linear Fluorescent Lamps (NLFL) (e.g. U-bends and circular) for general lighting purposes general lighting purposes: (a) triband phosphor, all wattages	2025,4/25
9	Non-Linear Fluorescent Lamps (NLFL) (e.g. U-bends and circular) for general lighting purposes general lighting purposes: (b) halophosphate-phosphor, all wattages	2025,4/25
10	Cold Cathode Fluorescent Lamps (CFLs) and External Electrode Fluorescent Lamps (EEFLs) of all lengths for electronic displays, not listed in the initial text of the convention	2025,1/2
11	Cosmetics, including soaps and skin lightening creams, and not including cosmetics for the eye area where mercury is used as a preservative and there is no substitute preservative with the same efficacy and safety	2025,4/25
12	Strain gauges for use in plethysmographs	2025,1/2
13	The following electrical and electronic measuring devices, except those installed in large equipment or those used for high-precision measurements, where there is no suitable mercury-free alternative available: (a) Melt pressure transducers, melt pressure transmitters and melt pressure sensors	2025,1/2
14	Mercury vacuum pumps	2025,1/2
15	Tire balancers and wheel weights	2025,1/2
16	Film and photographic paper	2025,1/2
17	Propellant for satellites and spacecraft	2025,1/2

3) Prohibition of mercury and lead

Table 5-2. Excluded Products

No.	Eligible for exemption
1	Essential products for civil defense or military use
2	Products for research, instrument calibration, and standard reference
3	Spare parts, switches, relays, cold-cathode fluorescent lamps (LFCF), external electrode fluorescent lamps (LFEE) (for electronic displays and measuring equipment) in the absence of mercury-free substitutes
4	Products used for traditional or religious practices
5	Vaccines containing thimerosal as a preservative

3) Prohibition of mercury and lead

⑤ New Zealand Waste Minimization Act

Subject to the prohibition in Table 6 below, New Zealand ratifies the Minamata Convention and prohibits the manufacture and sale of certain mercury products from January 2021.

Table 6. New Zealand_Mercury prohibited products

No.	Substance	CAS No.	GADSL #
1	Mercury and its compounds, all members	55728-51-3 and others	134
No.	제품	제외	
1	Battery	- Zinc silver oxide button type battery with a mercury content of less than 2 % - Zinc air button type battery with a mercury content of less than 2%	
2	Switch and relay	-High frequency radio frequency switches, monitoring relays, and control devices with a maximum mercury content of 20 mg (bridge, switch, relay)	
3	Lamps containing mercury ① Small fluorescent lamp for general lighting (CFL) with a mercury foam amount of not more than 5 mg per lamp burner of not more than 30 watts ② Load-type fluorescent lamp (LFL) for general lighting - Tri-wavelength fluorescent lamps with a mercury content of less than 60 watts exceeding 5 mg per lamp - Tri-wavelength fluorescent lamps with a mercury content of not more than 40 watts per lamp exceeding 10 mg ③ High-pressure mercury vapor lamp for general lighting ④ Cold cathode fluorescent lamp (CCFL) and external electrode fluorescent lamp (EEFL) for electronic display - a lamp with a short length (not more than 500 mm) in which the mercury content per lamp exceeds 3.5 mg - lamps of medium length (greater than 500 mm, less than 1,500 mm) with mercury content per lamp exceeding 5 mg - lamps with a long length (greater than 1,500 mg) of mercury content per lamp exceeding 13 mg		

4) Prohibition of flame retardants

The flame retardants shall not be used in car sold in the below regions after the each applied date shown as table 7.

Table 7. Applied date of the prohibition of flame retardants in each region

Region	Obligation	Applied date	Target vehicle
USA ^{note 1)}	Prohibition of Octa, Penta BDE	Apr. 2011	All vehicles
	Prohibition of Deca BDE	'2016 MY	
Canada	Prohibition of HBCD	'2020 MY	
Norway	Prohibition of HBCD(Hexabromocyclo dodecane) ^{note 2)} to contain more than 0,1wt% in individual component in module part ^{note 3)}	12. Feb. 2015	
EU	Prohibition of HBCD to contain more than 0,01wt%	22. Mar. 2016	
	Prohibition of Deca BDE equal to or more than 0,05wt% ^{note4)}	2. Mar. 2019	
Türkiye	Prohibition of Deca BDE equal to or more than 0,05wt%	14. Nov. 2018	
Korea	Prohibition of Deca BDE	1. Feb. 2020	
	Prohibition of HBCD	24. Mar. 2015	
China	Prohibition of PBBs, PBDEs ^{note 5)} to contain more than 0,1wt% in homogeneous material. But, Deca BDE is exempted	New vehicle : 1,Jan,2015 In production vehicle : 1,Jun,2016	Passenger vehicles and trucks having a maximum mass not exceeding 3,5 tons
	Prohibition of HBCD	26. Dec. 2016	All Vehicles

note1) Applied date has taken from the earliest effective date mentioned in each state's regulation in USA. See attachment 4 for the detailed document.

note2) Example of Individual component in module part : EPS foam in Crash pad, PU foam in seat back, etc.

note3) HBCD CAS No. : 25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8

note4) POP regulations in detail (attachment 8).

note5) PBBs : Poly Brominated Biphenyls / PBDEs : Poly Brominated Diphenyl Ethers. Analysis methods of PBBs, PBDEs should follow the analysis standard in attachment 1

5) PAHs (Polycyclic Aromatic Hydrocabons) regulation

PAHs and their mixtures, part containing PAHs(Table 8) shall comply with regulatory requirements in Table 9.

Table 8. List of PAHs

CAS No.	Substance name	CAS No.	Substance name
50-32-8	Benzo(a)pyrene(BaP)	192-97-2	Benzo(e)pyrene(BeP)
56-55-3	Benzo(a)anthracene(BaA)	218-01-9	Chrysen(CHR)
205-99-2	Benzo(b)fluoranthene(BbFA)	205-82-3	Benzo(j)fluoranthene(BjFA)
207-08-9	Benzo(k)fluoranthene(BkFA)	53-70-3	Dibenzo(a,h)anthracene(DBAhA)

Table 9. Requirements

Object	Requirement	Date
Extender oil placed on and used in EU for tire	- PCA(Polycyclic Aromatic) shall not be used at extender oil over 3wt% by weight. - If PCA is used at extender oil higher than 3wt% by mass, BaP(one substance of PAHs) shall not be used higher than 1ppm or total amount of PAHs shall not be used higher than 10ppm.	1. Jan. 2010~
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	- Shall not be contained more than 1 ppm (0.0001 % by weight of this component) of any of the listed PAHs. - In case of toys(including activity toys) and childcare articles, shall not be contained more than 0.5 ppm (0.00005 % by weight of this component) of any of the listed PAHs. ※ Example of Automotive part : the parts contactable with human skin such as Steering Wheel, Gear Shift Lever, Arm Rest, Fabrics etc.	27. Dec. 2015~

6) Asbestos regulation

Asbestos shall not be used in vehicles sold in the below regions after the each prohibited date in Table 10.

Table 10. Requirements and prohibited date of regulation of asbestos

Region	Requirements
Korea	Crocidolite/amosite shall not be used.
	Asbestos or asbestos-containing part shall not be produced/imported/sold/provided or used.
EU	Asbestos or asbestos-containing part shall not be used or placed on the market.
USA	The part containing over 1% of asbestos by weight shall not be produced/imported/sold.
	- Target parts : asbestos-containing part is applied to corrugated paper, flooring Felt and new applications.
	Prohibition of asbestos to contain more than 0.1% for brake friction material ^{note1)} (California state, Washington State).
Australia	Use of asbestos and sales of asbestos-containing products are prohibited. (New Jersey).
	Prohibition to using crocidolite/amosite.
	Prohibition to using chrysotile.
Canada	Prohibition to using all asbestos except on research and analysis purposes.
	Do not import, sell or use and manufacture as follows ^{note2)} .
	(a) processed asbestos fibres
China	(b) a product containing processed asbestos fibres unless those fibres are the result of the degradation of asbestos integrated into a product, a structure or infrastructure
	(c) a consumer product containing asbestos in greater than trace amounts.
Peru	- Prohibition of asbestos to contain for brake friction material (drum lining used for vehicles of categories M1, M2, N1)
Peru	- Use of products and materials including asbestos prohibited
	- If white asbestos is used, apply for permission (Refer to Attachment 10 for the list of regulated substances)

* Exemptions condition Note1) California State : Sales for purpose of inventory handling (~31. Dec. 2023), Washington State : Product previous in 2015 (~31. Dec. 2024), A/S parts for car in produced before 1. Jan. 2015

Note2) processed asbestos fibres and a product containing processed asbestos fibres and for a consumer product containing asbestos in greater than trace amounts that is in transit for disposal

7) Notification of LCPFAC * / PFOA ** and PFAS *** in SNUR ****

The following acts must be reported to the EPA at least 90 days prior in the USA.

1. Fabrication/import/disposal of LCPFAC chemicals aren't reported for ongoing use after December 31, 2015
2. Manufacture/Import/Treatment of all other LCPFAC chemicals that have not been in continuous use as of 21 January 2015
3. When importing parts using LCPFAC chemicals for surface coating
4. When importing products containing PFAS chemicals in carpets

- Date : After 25 SEP, 2020

- Material lists refer to Table 11-1 and Table 11-2.

* LCPFAC : Long-Chain Perfluoroalkyl Carboxylic

** PFOA : Perfluorooctanoic acid

*** PFAS : Perfluoroalkyl Sulfonate

**** SNUR : Significant New Use Rule

7) Notification of LCPFAC / PFOA and PFAS in SNUR

Table 11-1. LCPFAC chemicals subject to reporting if they have not been reported for existing use since December 31, 2015

Substance	CAS No.
Perfluorooctyl iodide	507-63-1
Tetrahydroperfluoro-1-decanol	678-39-7
Perfluoro-1-dodecanol	865-86-1
Perfluorodecyl iodide	2043-53-0
1,1,2,2-tetrahydroperfluorododecyl iodide	2043-54-1
Perfluorodecylethyl acrylate	17741-60-5
1,1,2,2-Tetrahydroperfluorodecyl acrylate	27905-45-9
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-Pentacosafuoro-14-iodotetradecane	30046-31-2
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-Pentacosafuorotetradecan-1-ol	39239-77-5
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-Nonacosafuorohexadecan-1-ol	60699-51-6
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-Nonacosafuoro-16-iodohexadecane	65510-55-6
Sodium;2-methylpropane-1-sulfonate	68187-47-3
1,1,2,2-Tetrahydroperfluoroalkyl (C8-C14) alcohol	68391-08-2
Thiols, C8-20, gamma-omegaperfluoro,telomers with acrylamide	70969-47-0
Silicic acid (H4SiO4), sodium salt(1:2), reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol	125476-71-3
Thiols, C4-20, gamma-omegaperfluoro,telomers with acrylamide and acrylic acid, sodium salts	1078712-88-5
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(2-((gamma omega-perfluoro-C4-20-alkyl)thio)acetyl) derivs.,inner salts	1078715-61-3
Polyfluoroalkyl betaine	CBI
Modified fluoroalkyl urethane	CBI
Perfluorinated polyamine	CBI
Perfluorooctyl iodide	507-63-1

7) Notification of LCPFAC / PFOA and PFAS in SNUR

Table 11-2. PFOA and related salt chemicals subject to reporting if they have not been reported for existing purposes since 31. Jan. 2015

Substance	CAS No.
Pentadecafluorooctanoyl fluoride	335-66-0
Perfluorooctanoic acid	335-67-1
Silver perfluorooctanoate	335-93-3
Sodium perfluorooctanoate	335-95-5
Potassium perfluorooctanoate	2395-00-8
Ammonium perfluorooctanoate	3825-26-1
Pentadecafluorooctanoyl fluoride	335-66-0

8) Prohibition of copper in Brake Friction Materials

Copper in brake friction material shall comply with the requirement in table 12 in California State and Washington State.

Table 12. Requirement and Prohibited date

Applied region	Maximum Concentration Value	Prohibited date	Exemptions condition
California State	5%	1. Jan. 2021	Vehicles produced before 1.Jan. 2021
	0,5%	1. Jan. 2025	Vehicles produced before 1.Jan. 2025
Washington State	5%	1. Jan. 2021	Friction material produced before 1.Jan.2021 can be used by 31.Dec.2030. A/S parts for produced vehicles before in 1. Jan. 2021
	0.5	1. Jan. 2025	Sales prohibited after that point

9) Prohibition of 5 PBTs in TSCA

Products containing five substances corresponding to Table 13 are prohibited from manufacturing, importing, processing and distribution in the United States (See the Attachment 5 in the detail document).

Table13. TSCA 5 PBTs substances and requirements

Substance	Requirements
Decabromodiphenyl ether (DecaBDE) (1163-19-5)	- deca-BDE and production / processing of products containing deca-BDE is prohibited since 8. March, 2021 - deca-BDE and distribution of products containing deca-BDE is prohibited since 6. Jan. 2022
Phenol, isopropylated phosphate (3:1) (PIP (3:1)) (68937-41-7)	- PIP (3:1) and processing / distribution of products containing PIP (3:1) is prohibited since 5. Feb. 2021
2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP) (732-26-3)	- 2,4,6-TTBP and distribution of products containing 2,4,6-TTBP is prohibited since 6. Jan. 2026
Hexachlorobutadiene (HCBd) (87-68-3)	- HCBd and production / import / processing / distribution of products containing HCBd is prohibited since 5. Feb. 2021
Pentachlorothiophenol (PCTP) (133-49-3)	- PCTP and production / import / processing of products containing PCTP is prohibited 8. March, 2021 - The use of PCTP and distribution of products containing PCTP is prohibited 6. Jan. 2022

10) Prohibition of hazardous substances in leather product

According to Article 28 of the ELECTRICAL APPLIANCES AND CONSUMER PRODUCTS SAFETY CONTROL ACT in Korea, substances corresponding to Table 14 contained in leather products of vehicle sold in Korea shall not be used over the maximum concentration value.

Table14. Allowed threshold of substance for leather product ^{note)}

Substance	Maximum Concentration Value (ppm)	Applied product
Formaldehyde	300	All leather products
PCP and its compounds	5.0	All leather products
Hexavalent chromium	3.0	All leather products
DMF	0.1	All leather products
Arylamine	30	pigment, dyes, etc, used for color expression
Organotin compounds (TBT, tributyltin)	1.0	Application of coating, printing, etc. But printing product using dyes only is excluded without pigment and resin.
Nickel($\mu\text{g}/\text{cm}^2/\text{week}$)	0.5	Metal product contacting skin continuously under wearing condition

note) Leather product means the product which the natural leather, artificial leather and natural fur occupy equal to or more than 60% of surface leather area.

11) Regulations on Hazardous Substances for Peruvian Industry and Public Health

Regulations effective June 2024, as provided by the Stockholm Convention in Products the use of substances and the manufacture, import, distribution and sale of products containing these substances;

Storage and packaging are prohibited. The list of regulated substances can be found in Appendix 10.

12) Safety Guidelines for Formaldehyde in New Zealand Fabrics

An allowable limit is required for formaldehyde of clothing and textiles in New Zealand, including the limits in Table 15 below. Fibers in vehicles that come into indirect contact with the skin, such as carpets and lugs in vehicles, are also subject to the guidelines. The allowable limits for formaldehyde vary depending on the type of fiber, and Follow EN ISO 14184-1:2011 Textiles – Determination of Formaldehyde – Part 1: Free and Hydrolyzed Formaldehyde.

Table 15. Regulations on formaldehyde in New Zealand textiles

No.	Type	Regulatory value
1	Infant clothing for children under 2 years of age	≤ 30 ppm(30 mg/kg)
2	Sensitive skin clothing	≤ 30 ppm(30 mg/kg)
3	Clothing/fiber in direct contact with the skin	≤ 100 ppm(100 mg/kg)
4	Clothes/fibers in indirect contact with skin	≤ 300 ppm(300 mg/kg)

13) Regulations on PCB substances by country

According to the prohibited targets in Table 16 below, the PCB regulatory requirements for each country under the Stockholm Convention are similar, and the timing of introduction and removal deadline are different.

Countries that are not limited to specific equipment and are prohibited from using PCB in all forms and removing/PCB-containing equipment are as follows.

Table 16. Prohibited PCB

No.	Substance	CAS No.	GADSL #
1	Polychlorinated Biphenyls (PCBs)	1336-36-3 and others	218
No.	Target countries	Removal deadline	
1	Argentina	2010.12.31	
2	Peru	2021.12.31	
3	Brazil	2024.11.24	
4	Kazakhstan	2025.12.31	
5	Indonesia	2028.12.31	

14) Biocidal Products Regulation (528/2012/EU)

If biocidal product ^{note1)} is used in part or material sold in EU region, Active substance ^{note2)} by product type ^{note3)} shall be approved by ECHA(European Chemicals Agency). Approval status of Active substances by product type can be seen on the website of ECHA. (<https://echa.europa.eu/information-on-chemicals/biocidal-active-substances>)

note1) 'Biocidal product' means any substance or mixture containing or generating one or more active substances, with the intention of controlling or destroying any harmful organism for human and animal health.

note2) 'Active substance' means substance or a micro-organism that has an action on or against organisms

note3) 'Product type' means classification of biocidal product with purpose of use.

(Annex V : BIOCIDAL PRODUCT-TYPES AND THEIR DESCRIPTIONS AS REFERRED TO IN ARTICLE 2(1) in 528/2012/EU)

15) Act on the Safety Management of Daily Chemical Products and Biocidal Products (K-BPR)

When using biocides for parts and materials sold in Korea, biocides approved by the National Institute of Environmental Research shall be used. Results of approval of biocides by product group can be found in the Chemical Product Management System (<https://chemp.me.go.kr>). Approval of biocidal substances shall be applied to the product by referring to the grace period of approval attached.

However, if it is not reported as an existing biocidal substance subject to approval suspension, it can only be used until 31. December, 2022.

According to the Korean Chemical Products Safety Act, biocides are collectively referred to as "biocidal substances, biocidal products, and biocidal treatment products."

- ① Biocidal substances: Chemicals, natural substances, or microorganisms used to remove, harmless, or suppress (remove) harmful substances
- ② "Biocidal products" means products that fall under any of the following items whose main purpose is the removal of harmful organisms.
 - A. Products composed of one or more biocidal substances or mixed with biocidal substances and non- biocidal substances, Natural substances or microorganisms.
 - B. Products that produce biocidal substances from chemical substances or mixtures of chemical substances or microorganisms.
- ③ Biocidal treatment product : It refers to a product that uses biocidal products for additional purposes such as removal of harmful organisms other than the main purpose of the product. (See the attachment 9 of Existing Biocidal substances).

16) Integrated Chemical Regulations_Regulatory Obligations

① EU REACH (EC 1907/2006)

- Duty to communicate information on substances in articles (REACH Art. 33)

When substances listed on the REACH SVHC CL (Substance of Very High Concern Candidate List, <https://echa.europa.eu/candidate-list-table>) are used in Automotive parts supplied to HKMC, suppliers shall use IMDS(International Material Data System, www.mdssystem.com) to fulfill their reporting obligation under consideration of the 'Hyundai Motor · Kia IMDS guidance'.

- Requirements for using the substances listed in REACH Annex XIV (Authorization)

If suppliers use the substances listed on the Annex XIV for authorization, must enter the relevant material information into IMDS. If suppliers are approved by ECHA for usage of the substances included on the Annex XIV 18 months before the prohibited date, suppliers must certify with HKMC before using these substances. For substitution of substances on the Annex XIV list, the date of application for re-developed parts and materials has to be in-line with the date mentioned in section 4(date of application) of this specification.

(<https://echa.europa.eu/authorisation-list>)

- Requirements for using the substances listed on REACH Annex XVII (Restriction)

The substances included on the Annex XVII cannot be manufactured or imported for use if suppliers do not implement the requirements on the Annex XVII. Automotive parts and materials must be in line with the conditions of restriction of Annex XVII. For substitution, the date of application for re-developed parts and materials has to be in-line with section 4(date of application) of this specification.

(<https://echa.europa.eu/substances-restricted-under-reach>)

14) Chemical regulations having various duties

② Türkiye KKDIK (Türkiye REACH)

Restriction

The substances included on the Annex XVII cannot be manufactured or placed on the market and used in Türkiye if suppliers do not implement the requirements on the Annex XVII. Automotive parts and materials must be in line with the conditions of restriction of Annex XVII (See attachment 6 in details).

16) Chemical regulations having various duties

③ Act on Registration, Evaluation, Etc. of Chemicals (K-REACH)

Restriction and Prohibition

- Restricted Substance Lists : The substances included on Restricted Substance Lists cannot be manufactured, imported, sold, stocked · stored, transported or use in Korea for specific purpose.
- Prohibited Substance Lists : The substances included on Prohibited Substance Lists cannot be manufactured, imported, sold, stocked · stored, transported or use in Korea for all kinds of purpose. (<https://www.law.go.kr/행정규칙/제한물질·금지물질의지정>)

16) Chemical regulations having various duties

④ Duty of toxic chemical regulation in Canada

The prohibited substances should not be used to automotive parts and materials in vehicles sold for Canada shown as table 17. But prohibited substances can be used to some applications with the exemptions in regulation. The prohibited or restricted substances lists is in the attachment 7 and they should be substituted before the expiration date of given exemption in the regulation if the expiration date is described in the regulation.

Table 17. Toxic chemical regulation under Canada

Content	Exception
Schedule 1- part 1	- Incidentally present
Schedule 1- part 2 ^{note1)}	- Incidental presence - Used a manufactured item that is formed into a specific physical shape or design during its manufacture and that has, for its final use, a function or functions dependent in whole or in part on its shape or design
Schedule 2- part 1 ^{note2)}	- Applied the permitted use
Schedule 2- part 2	- Applied before the expiry date - Applied the permitted use ※ Schedule2-part2 is the regulation for BNST only which used as an additive in lubricants
Schedule 2- part 3	- Applied the permitted use in a concentration less than or equal to the limit.

NOTE1) Do not contain more than 0.1% lead in wheel weight (in wheel balance) for passenger/commercial vehicles (3,Mar. 2024~)

NOTE2) Duty of Benzenamine,N-phenyl-, reaction products with styrene and 2,4,4-Trimethylpentene(BNST) can be used for additive in rubber, except in tires(Schedule 2-part 1). But it should not be used for other purpose without an additive in rubber.

16) Chemical regulations having various duties

⑤ Persistent Organic Pollutants (POPs)

It is a chemical that is difficult to decompose in the environment and has a harmful property that is prone to accumulation in the body.

Stockholm Convention Countries (182 countries) decided whether to adopt substances by country and set them as regulated substances.

It can be found in Attachment 8 of the regulated substance list for each country.

17) The substances listed in GADSL (Global Automotive Declarable Substance List)

GADSL is the substance list that contains the substances expected to be used in the automotive parts and materials among the regulated substances. GADSL is classified 'P(Prohibited)' substances and 'D(Declarable)' substances. 'P' substances in GADSL are prohibited only the region stated in GADSL. (You can download the GADSL at homepage(<http://gadsl.org>)). GADSL is continuously updated according to chemical regulation enactments/revisions, so it must be managed with the latest version.

'P'(Prohibited) substances

'P' substances of GADSL shall not be used in automotive parts and materials. (However, it can be used for exceptions.) If a substance is used in a part or materials delivered to Hyundai • KIA and becomes prohibited, the supplier has to immediately inform Carbon Neutrality Technology Innovation Team and related Part Development Team in Hyundai Motor • KIA to discuss possible substitution.

'D'(Declaration) substances

Since 'D' substances are candidates for 'P'(Prohibited) substances. Then it is highly recommended not to use 'D' substances if the suppliers use 'D' substances.

ATTACHMENT DOCUMENT

Attachment 1. Standard for heavy metal analysis (use as reference)

Attachment 2. Exemptions from heavy metals ban

Attachment 3. Exemptions of mercury regulation in Canada and Notification foam for the mercury added parts in USA, Canada

Attachment 4. Prohibition of the brominated flame retardant restricted in USA

Attachment 5. Requirements and exceptions for each of the five PBT substances of TSCA

Attachment 6. Restricted substance lists in Turkey REACH

Attachment 7. Prohibited substance list in toxic chemical regulation under Canada

Attachment 8. Persistent Organic Pollutants Regulation

Attachment 9. Existing Biocidal substances

Attachment 10. List of regulated substances in emerging countries_Peru