SAMSUNG

January 2019

REACH and Samsung Electronics' Products

Regulation No 1907/2006 on the *Registration, Evaluation, Authorisation and Restriction of Chemicals* (REACH)[1] entered into force on 1st June 2007. Under REACH, companies operating in the EU face certain obligations as manufacturers, importers and/or downstream users. One of the key requirements is the *Duty to Communicate Information on Substances in Articles* (Article 33).

Article 33: Information for Recipients & Customers

Article 33 of REACH requires suppliers to inform recipients and respond to consumer enquiries if an article contains more than 0.1% (by weight per article) of any substance on the SVHC candidate list[2] published by the European Chemicals Agency (ECHA).

Samsung Electronics Co. Ltd (SEC) provides Article 33 information as follows. In addition, all consumers can use the contacts below to submit queries relating to the REACH obligations in Samsung Electronics' products.

With kind regards,

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[1] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF

[2] SVHC = Substances of Very High Concern. Considered as candidates for inclusion in Annex XIV of REACH. The latest revision to the candidate list was published by the European Chemicals Agency on 15th January 2019 at: https://echa.europa.eu/candidate-list-table

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The majority of products and packaging as manufactured and/or supplied by Samsung Electronics Co. Ltd (SEC) do not contain substances on the REACH SVHC candidate list in concentrations greater than 0.1% by weight per article[3]. The limited numbers of articles affected are listed below. This is the status as of January 2019.

Substance	CAS No	Individual articles affected	Application	Safe use information
1,3-propanesultone	1120-71-4	Electrolyte for battery from Samsung Electronics products may potentially contain 1,3-propanesultone above 0.1% by weight.	Battery electrolyte	This product and its accessories are not a toy and should not be sucked or placed in the mouth. Please keep out of reach of very young children. In accordance with the European WEEE Directive this product and its electronic accessories (e.g. charger, USB cable) should not be disposed of with other household waste at the end of their working life. Please see WEEE instructions supplied with the product on correct disposal and recycling channels.
Lead monoxide (lead oxide)	1317-36-8	Resistor in Samsung Electronics products may potentially contain Lead monoxide above 0.1% by weight.	Hardener in R-chip, Glass	
Lead titanium trioxide	12060-00-3	Capacitor in Samsung Electronics products may potentially contain Lead titanium trioxide above 0.1% by weight.	Component of Capacitors	
Lead titanium zirconium oxide	12626-81-2	Ceramic resonator in Samsung Electronics products may potentially contain Lead titanium zirconium oxide above 0.1% by weight.	Main material of Ceramic	
Diboron Trioxide	1303-86-2	Passive component, thermistor and chip resistor in Samsung Electronics products may potentially contain Diboron Trioxide above 0.1% by weight.	Resistive element	
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	PSR Ink of PCB in Samsung Electronics products may potentially contain TGIC above 0.1% by weight.	Curing agent	

[3] Reference: ECHA Guidance on requirements for substances in Articles.

Substance	CAS No	Individual articles affected	Application	Safe use information
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	Displays in Samsung Electronics products may potentially contain UV-328 above 0.1% by weight.	Preventing UV, Polarizer	This product and its accessories are not a toy and should not be sucked or placed in the mouth. Please keep out of reach of very young children. In accordance with the European WEEE Directive this product and its electronic accessories (e.g. charger, USB cable) should not be disposed of with other household waste at the end of their working life. Please see WEEE instructions supplied with the product on correct disposal and recycling channels.
4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-07	Dielectric layer in Samsung Electronics products may potentially contain Bisphenol A above 0.1% by weight.	Impurity and by product in dielectric layer	
Diazene-1,2-dicarboxamide (C,C`-azodi(formamide)) (ADCA)	123-77-3	Packaging in Samsung Medical Devices may potentially contain ADCA above 0.1% by weight.	Blowing agent(Cushion)	
Hexahydromethylphthalic anhydride	25550-51-0	Semiconductor Chip in Samsung Electronics products may potentially contain Hexahydromethylphthalic anhydride above 0.1% by weight.	Semiconductor Chip(HBM package), Protect a wafer, Hardner	
Lead	7439-92-1	Resistors, inductors, capacitors, diodes, cables in Samsung Electronics products may potentially contain lead above 0.1% by weight.	Solder, Ceramic, Glass. Copper alloy	
Boric acid, Boric acid(crude natural)	10043-35-3, 11113-50-1	Displays and Semiconductor Chip in Samsung Electronics products may potentially contain Boric acid above 0.1% by weight.	PVA crosslinking agent, PH buffer	
4,4'-Diaminodiphenylmethane (MDA)	101-77-9	Thermistor in Samsung Electronics products may potentially contain MDA above 0.1% by weight.	Thermistor	
Ethylenediamine	107-15-3	Semiconductor Chip in Samsung Electronics products may potentially contain Ethylenediamine above 0.1% by weight.	Plating, Stabilizer	
N,N-dimethylacetamide	127-19-5	Semiconductor Chip in Samsung Electronics products may potentially contain N,N-dimethylacetamide above 0.1% by weight.	Impurity	
Cadmium oxide	1306-19-0	Thermistor in Samsung Electronics products may potentially contain Cadmium oxide above 0.1% by weight.	Thermistor	

Substance	CAS No	Individual articles affected	Application	Safe use information
1-Methyl-2-pyrrolidone (NMP)	872-50-4	TFT in Samsung Electronics products may potentially contain Cadmium above 0.1% by weight.	TFT stripping process	
Cadmium	7440-43-9	Brass in Samsung Electronics products may potentially contain Cadmium above 0.1% by weight.	Brass	