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The Ericsson lists of banned and restricted substances

1 Application

This directive is valid for the entire Ericsson group and is applicable for design, purchasing and manufacturing of products and packaging that Ericsson places on the market. This directive is not applicable for defense material exempted by legislation.

2 Purpose

These lists of banned, restricted and observation substances have been compiled to meet existing and anticipated legal requirements and market demands.

3 Directive

Products and packaging that Ericsson places on the market, and manufacturing operations at Ericsson and supplier sites, shall comply with the requirements in the Banned, Restricted and Observation lists.

4 Definitions

There are three lists that are applicable to products and three lists that are applicable to manufacturing operations. The lists are sub-grouped in terms of banned, restricted and observation status.

The requirements in the lists apply to substances that are intentionally added regardless of the concentration. The lists do not apply in cases where the substance is present due to natural impurities below limits specified in applicable legislation. The lists are based on existing and anticipated legal requirements and market demands, mainly from EU and in most cases also USA and Japan. The legislation listed in the banned lists are examples of applicable laws; please note that the legislation may have been amended and is not to be used as a complete list of laws applicable to the substance in question. Other environmental legislation may exist on specific markets.

<u>Banned</u>
The banned list documents substances that are banned for the application(s) specified in the list.

<u>Restricted</u>
The restricted list documents substances that shall be substituted no later than the date specified in the list.

<u>Observation</u>
The observation list documents substances that shall be substituted as soon as technically, economically and environmentally acceptable alternatives are available.

The Ericsson list of banned substances (in products), 1(2)

	Group of substances	Substance	Banned application	Principal legislation	Main use	Main risk
1	**Metals and their compounds**	Arsenic and its compounds	Protection of wood	2003/2/EC adds arsenic to 76/769/EEC	Not applicable since the substances are banned in specific applications (see “Banned application” column)	Toxic
		Cadmium and its compounds	As pigments for plastics	91/338/EEC adds Cd to 76/769/EEC, 99/51/EEC, Austria: BGBI.I 1993/855 & 1997/53, Sweden: SFS 1998:944, Switzerland: SR814.013		
			As stabilizer of plastics			
			In paints & enamels			
			As protective surface coating			
			In packaging	94/62/EEC		
		Chromium(VI) compounds	In packaging	94/62/EEC		
		Lead and its compounds	In packaging & paints	94/62/EEC, 89/677/EEC adds lead to 76/769/EEC		
		Mercury and its compounds	All applications except in backlighting for LCDs	91/157/EEC, 93/86/EEC, 98/101/EEC, 89/677/EEC adds Hg to 76/769/EEC, 94/62/EEC, 91/338/EEC, Japan: Waste Disposal Law	Electronic equipment	
2	**Halogenated hydrocarbons**	CFCs-chlorofluorocarbons	All applications	Regulation (EC) 2037/2000, Montreal Protocol, US Clean Air Act, Japan: Ozone Layer Protection Act	Refrigerants & solvents	Ozone depletion
		HCFCs-hydrochlorofluorocarbons	All applications			
		PBB - Polybrominated biphenyls	All applications	Banned by Ericsson decision. Industry commitment, 2003/11/EC (76/769/EEC), 2002/95/EC	Flame retardants in plastics	Bioaccumulative. Formation of toxic brominated dibenzodioxins and -furans at uncontrolled fire
		PBDE - Polybrominated diphenylethers				
		Halons -bromofluorochlorocarbons	All applications	Regulation (EC) 2037/2000, Montreal Protocol, US Clean Air Act	Fire extinguisher	Ozone depletion
		Chloroparaffins (C10-C13)	All applications	2000/60/EEC, 2002/45/EC, 76/769/EEC, 82/828/EEC,85/467/EEC, 89/677/EEC, Japanese legislation	Lubricants & plasticisers	Bioaccumulative
		PCB - Polychlorinated biphenyls				
		PCT - Polychlorinated terphenyls				
		PCN - Polychlorinated naphtalenes				

The Ericsson list of banned substances (in products), 2(2)

	Group of substances	Substance	Banned application	Principal legislation	Main use	Main risk
3	**Other organic compounds**	Certain azo compounds with carcinogenic amines	All applications	2002/61/EC adds certain azo colorants to 76/769/EEC	LCDs & plastics	Carcinogenic
		Creosotes	All applications	94/60/EEC	In wood preservation	Toxic
		Formaldehyde (CAS-no. 50-00-0)	All applications	ChemVerbotsV (Germany)	As preservative	Allergenic
		Tributyltin compounds Triphenyltin compounds	All applications	89/677/EEC, 99/51/EEC, Japanese legislation	In paint	Toxic
4	**Other compounds**	Asbestos	All applications	76/769EEC, 83/478EEC, 85/610EEC, 91/659EEC	As insulation material	Carcinogenic

The Ericsson list of restricted substances (in products)

	Group of substances	Substance	Restriction	Banned application	Main risk
1	**Metals and their compounds**	Cadmium and its compounds	Banned from 1 July 2006	According to RoHS directive (2002/95/EG)	Toxic
		Chromium(VI) compounds	Banned from 1 July 2006	According to RoHS directive (2002/95/EG)	Allergenic & toxic
		Lead and its compounds	Banned from 1 July 2006	According to RoHS directive (2002/95/EG)	Bioaccumulative & carcinogenic

The Ericsson list of substances for observation (in products)

	Group of substances	Substance	Main area of use	Main risk
1	**Metals and their compounds**	Antimony and its compounds	Electronic equipment	Toxic
		Beryllium and its compounds		
		Bismuth and its alloys	Surface finish, additive in solder	Negative for recycling
		Nickel and its alloys except in steel alloys. Applicable only when in daily skin contact when using the equipment	Electronic equipment	Allergenic
2	**Halogenated hydrocarbons**	TBBA - Tetrabromobisphenol-A (reactive or additive), (CAS-no. 79-94-7)	In plastics as flame retardant	Bioaccumulative
		All other halogenated flame retardants		
		FCs - fluorocarbons	Refrigerants & solvents	Global warming
		HFCs - fluorohydrocarbons		
		Chlorinated polymers	Electronic and mechanical equipment	Corrosion & formation of toxic halogenated dibenzodioxins and - furans at uncontrolled fire
3	**Other organic compounds**	Phthalates	Plasticisers in plastics	Toxic
4	**Radioactive substances**	All	Spark gap and overvoltage protections	Carcinogenic

The Ericsson list of banned substances (in production)

	Group of substances	Substance	Banned application	Principal legislation	Main use	Main risk
1	**Halogenated hydrocarbons**	CFCs-chlorofluorocarbons	All applications	Regulation (EC) 2037/2000, Montreal Protocol, US Clean Air Act, Japan: Ozone Layer Protection Act	Refrigerants & solvents	Ozone depletion
		HCFCs-hydrochlorofluorocarbons	All applications			
		Carbon tetrachloride (CAS-no. 56-23-5)	All applications	Regulation (EC) 2037/2000, Montreal Protocol, US Clean Air Act, Japan: Ozone Layer Protection Act	As solvents	Ozone depletion
		Chlorobromomethane (CAS-no. 74-97-5)				
		1.1.1-trichloroethane (CAS-no. 71-55-6)				
		Methylene chloride (CAS-no. 75-09-2)	All applications	94/60/EEC, Japan: Waste disposal law	As solvents	Carcinogenic
		Tetrachloroethylene (CAS-no. 127-18-4)				
		Trichloroethylene (CAS-no. 1979-01-06)				

The Ericsson list of restricted substances (in production)

	Group of substances	Substance	Restriction	Banned application	Main risk
1	**Halogenated hydrocarbons**	Methyl bromide (CAS-no. 74-83-9)	Banned from 2005	Applications other than quarantine and pre-shipment applications (Regulation (EC) 2037/2000)	Ozone depletion
			Banned from 2015	Quarantine and pre-shipment applications (Regulation (EC) 2037/2000)	

The Ericsson list of substances for observation (in production)

	Group of substances	Substance	Main area of use	Main risk
1	**Halogenated hydrocarbons**	FCs - fluorocarbons	Refrigerants	Global warming
		HFCs - fluorohydrocarbons	Solvents & refrigerants	
2	**Other organic compounds**	Nonylphenolethoxylates (CAS-no. 9016-45-9)	As surfactant in cleaning agents	Bioaccumulative