

Nuernberg, 04.11.2011

## Conformity with electrical and electronic equipment law

even though SEMIKRON products are not subject to the electrical and electronic equipment law (ElektroG), SEMIKRON produces the products according to §5 of the ElektroG (banned substances) as well as article 4 of the directive 2002/95/EC of the European parliament (RoHS) on the restriction of the use of certain hazardous substances in electrical and electronic equipment. The ElektroG is the German legal implementation of the European directive.

The China RoHS does not explicitly specify any forbidden substances.

Basically all of our products are compliant with the following legal regulations concerning electrical and electronically materials components and devices:



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### List of Banned Substances

Material Group	Substance	Limit value (wt.%)	Exceptions	Legal regulations
Heavy metal	Lead	0.1	materials with more than 85% lead	EU 2002/95/EC (RoHS) EU 2005/618/EC
	Cadmium	0.01.	yes	EU 2002/95/EC (RoHS) EU 2005/618/EC
	Mercury	0.1		
	Hexavalent chromium	0.1		
Phenyl(ether)s	Polybrominated biphenyls (PBBs)	0.1.		EU 2002/95/EC (RoHS)
	Polybrominated diphenylethers (PBDEs)			
	Octabromodiphenylether (OBDE)	0.1		EU 76/769/EEC, DE ChemVerbotsV
	Pentabromodiphenylether (PeBDE)			
Aliphatic CHCs	Tetrachloromethane	0.1 (total)	yes	EU 76/769/EEC
	1,1,2,2-Tetrachloroethane			
	1,1,1,2-Tetrachloroethane			
	Pentachloroethane			
	Trichloromethane (Chloroform)			
	1,1,1-Trichloroethane			
	1,1,2-Trichloroethane			
	1,1-Dichloroethylene			
Asbestos	Aktinolite	0.1 (total)	yes	EU 76/769/EEC, DE ChemVerbotsV
	Amosite	n.g.	yes	StoV Anh. 3.3
	Anthophyllite			
	Chrysotile			
	Crocidolite			
	Tremolite			
Biopersistent Fibres	Man-made vitreous (silicate) fibres with random orientation with oxide of sodium, potassium, calcium, magnesium and barium content >18 % by mass	0.1 (total)	yes	DE ChemVerbotsV

Material Group	Substance	Limit value (wt.%)	Exceptions	Legal regulations
Polychlorinated/Poly-brominated dioxins and furans	2,3,7,8-Tetra-CDD	Group limit values 0.000 000 5	yes	DE ChemVerbotsV
	1,2,3,7,8-Penta-CDD			
	2,3,7,8-Tetra-CDF			
	2,3,4,7,8-Penta-CDF			
	1,2,3,4,7,8-Hexa-CDD			
	1,2,3,7,8,9-Hexa-CDD			
	1,2,3,6,7,8-Hexa-CDD			
	1,2,3,7,8-Penta-CDF			
	1,2,3,4,7,8-Hexa-CDF			
	1,2,3,7,8,9-Hexa-CDF			
	1,2,3,6,7,8-Hexa-CDF			
	2,3,4,6,7,8-Hexa-CDF			
	1,2,3,4,6,7,8-Hepta-CDD			
	1,2,3,4,6,7,8,9-Octa-CDD			
	1,2,3,4,6,7,8-Hepta-CDF			
	1,2,3,4,7,8,9-Hepta-CDF			
	1,2,3,4,6,7,8,9-Octa-CDF			
	2,3,7,8-Tetra-BDD			
	1,2,3,7,8-Penta-BDD			
	2,3,7,8-Tetra-BDF			
	2,3,4,7,8-Penta-BDF			
	1,2,3,4,7,8-Hexa-BDD			
	1,2,3,7,8,9-Hexa-BDD			
1,2,3,6,7,8-Hexa-BDD				
1,2,3,7,8-Penta-BDF				

Material Group	Substance	Limit value (wt.%)	Exceptions	Legal regulations
Halogenated materials	HCFCs (C1 to C3), HBrFCs (C1 to C3), Methyl bromide	n.g.	yes	CH StoV Anh. 3.4, 4.9, 4.14-15
	Halogenated aromatic compounds	0.05/0.005 (mono-/polyhalogenated)		CH StoV Anh. 4.8
	Pentachlorophenol (PCP) Pentachlorophenol, sodium salt, other PCP salts and compounds	0.0005 (total)	yes	EU 76/769/EEC
	Halogenated biphenyls, terphenyls, naphthalenes	n.g.		(CH StoV Anh. 3.1)
	Sulfur hexafluoride (SF6)	n.g.	yes	AT AT BGBl. Nr. 447/2002, CH StoV Anh. 3.5
Polychlorinated biphenyls / terphenyls and Monomethyl-tetrachloro/ dichloro/ dibromodiphenylmethane	Polychlorinated biphenyls (PCBs)	0.005 (total)	yes	EU 76/769/EEC
	Polychlorinated terphenyls (PCTs)	n.g.	yes	CH StoV Anh. 4.8
	Monomethyltetrachlorodiphenylmethane (Ugilec 141)			EU 76/769/EEC
	Monomethyldichlorodiphenylmethane (Ugilec 121 or 21)			CH StoV Anh. 4.8
	Monomethyldibromodiphenylmethane (DBBT)			

1) 'n.g.' = 'not given', means that no limit value is given in the legislation. In these cases the legally given concentration limits for taking substances into account are to be observed.

Best regards



Thomas Grasshoff  
Product Management