

Environmental declaration

DSI-TDS / DSI-TS

		Yes	No	No information	Not relevant for this product	See comment
Produkt						
1.	Plastic components in the product (except electronic ballasts in lighting fittings)					
1.1	Is PVC used in cables and electrical conductors? (1)	X				
1.2	Does any other part of the product contain PVC? (1)		X			
1.3	Have plastic flame retardants containing PBB or PBDE been used in components in the product (2)		X			
1.4	Do the plastic components contain any of the following additives?					
1.4.1	Lead (incl. compounds) (3, 4, 5)		X			
1.4.2	Phthalates (3, 4)		X			
1.4.3	Chlorated paraffins (3, 4)		X			
1.4.4	Organic-tin compounds (3)		X			
1.5	Are environmentally hazardous metallic pigments used in the plastics? (3, 4, 5)		X			X1
1.6	Has the titanium oxide used as a pigment in plastic components been made by any method other than the one specified in the EU Commission Directive 92/112/EEG? (6)		X			
2.	Electronics and soldering (Includes ballasts)					
2.1	Are the following environmentally hazardous substances used in the electronics and soldering					
2.1.1	Arsenic (incl. compounds) (3, 4)		X			
2.1.2	Lead incl. compounds) (3, 4, 5)	X				
2.1.3	Cadmium (incl. compounds) (3, 4, 5)		X			
2.1.4	PCB (Polychlorinated biphenyls) (4)		X			
2.1.5	PCT (Polychlorinated terphenyls) (4)		X			
2.1.6	Silver compounds (4)		X			
2.1.7	PBB or PBDE		X			
3.	Metallic components in the product					
3.1	Are the following environmentally hazardous substances found in the product's metal components?					
3.1.1	Arsenic (incl. compounds) (3, 4)				X	
3.1.2	Lead incl. compounds) (3, 4, 5)				X	
3.1.3	Cadmium (incl. compounds) (3, 4, 5)				X	
3.1.4	Chromium (incl. compounds)				X	
3.1.5	Mercury (incl. compounds)				X	
4.	Other components					
4.1	Does the product contain glass components with lead additives? (2)		X			
4.2	Does the product contain any wood components made from tropical rain forests? (7)		X			
5.	Paint / Varnish					
5.1	Are there any powder coated metal surfaces in the product?				X	
5.2	Are there any solvent-based painted metal surfaces in the product?				X	
5.3	Are there any chemical products in paints/varnishes which are classed as environmentally hazardous? (8)				X	X2

		Yes	No	No information	Not relevant for this product	See comment
5.4	Are environmentally hazardous metallic pigments used in paint/varnish? (3, 4, 5)				X	X1
5.5	Do metallic paints contain additives with the following substances?				X	
5.5.1	Halogenated organic binders				X	
5.5.2	Phthalates				X	
Manufacture						
6.	Solvents					
6.1	Are aromatic hydrocarbons included in the solvents used in the production of the product or packaging? (5)		X			X3
6.2	Are the substance groups (chloroflourocarbonates / flourocarbonates) used in the production of the product or packaging?		X			
6.3	Are chlorated solvents used in the production of the product or packaging?		X			X5
6.4	Are cyanides used in surface treatment of metal components?				X	
6.5	Are there any metal surfaces which are degreased with chlorated organic solvents?		X			
6.6	Is only water-based de-greasing of metal surfaces used, or no degreasing at all?	X				
6.7	Are nonylphenoethoxylates (environmentally hazardous tensides) used in degreasing metal surfaces?				X	
6.8	Do any of the metal paints contain more than 5 percent by weight of organic solvents?				X	
6.9	Is the VOC content (Volatile Organic Compounds) in the paints/varnishes used more than 25 percent by weight? (8)				X	
6.10	Are aromatic hydrocarbons used in the paints/varnishes? (5)				X	X3
6.11	Are water or environmentally acceptable solvents used in in the paints/varnishes? (9)				X	X4
7.	Other surface treatment of metals					
7.1	Report the methods for surface treating metal components (zinc plating, chrome plating, etc.):				X	
Packages and recycling						
8.	Packaging (refers to individual packages)					
8.1	The package contains the following pure (not compound) material:					
8.2	Is shock-absorbing plastic material used in the package?		X			
8.3	Are ozone-destroying compounds used in making the shock-absorbing plastic material in the package?				X	
8.4	Are compound materials used in the packages?		X			
8.4.1	The packages consist of the following compound materials:					
8.5	Are all plastic materials used in the packages marked in accordance with the DIN 6120 standard specification to facilitate recycling?		X			
9.	Recycling					
9.1	Is the company a member of the Electrical Recycling Organisation?		X			
9.2	Is the company a member of the REPA register?		X			
9.3	Has the product been prepared for disassembly by making all materials possible to separate?		X			
9.4	Are all larger plastic components (more than 100 g) marked in accordance with the ISO 11 469 standard specification?		X			

Comments:**X1**

Pigments Environmentally hazardous pigments are the following:

- Arsenic (including compounds) (3, 4)
- Lead (including compounds) (3, 4, 5)
- Cyanides (including compounds) (5)
- Cadmium (including compounds) (3, 4, 5)
- Copper (including compounds) (4)
- Chromium (including compounds) (4)
- Mercury (including compounds) (3, 4, 5)
- Nickel (including compounds) (5)

X2

“Environmentally hazardous chemical products” are the following:

- Pure substances marked by one of the following risk classifications:
R52, R53, R54, R55, R56, R57, R58, R59
- Preparations where the percentage of pure substances marked by one of the following risk classifications exceeds 2% by weight:
R52, R53, R54, R55, R56, R57, R58, R59

X3

Aromatic hydrocarbons:

- Benzene (5)
- Toluene (Methylbenzene) (5)
- Xylene (Dimethylbenzene) (5)

Manufacturer: KNOBEL AG
Lighting Components
CH-8755 Ennenda

CH-8755 Ennenda, 22.05.02



Ruedi Hug
Managing Director

X4

Environmentally acceptable solvents are as follows (as ref. 9):

- Water
- Ethanol (not denatured with phthalals)
- i-Propanol
- Propylene glycol
- n-Paraffins
- Glycerol (= alcohols with more than 4 carbon atoms)
- Acetone
- Isopropyl laurate
- Isopropyl palmitate
- Isopropyl myristat
- Methyl pyrrolidon
- Gamma-Butyrolactone
- Ethylacetate

X5

- Chlorated solvents:
- Hexachlorbutadiene
- Methylene chloride
- Tetrachlormethane
- 1, 2, 4-Trichlorbenzene
- 1, 1, 1-Trichloretane
- Trichloretylene
- Trichlormethane



Felix Tobler
R & D Manager

References

- 1 Greenpeace list over municipalities that are positive to the liquidation of their PVC-usage.
- 2 "Environmental aspects when setting agreement upon furnishing". Miljöförvaltningen, Göteborgs kommun, PM 1994-06-15, Maria Berglund.

Miljöförvaltningen
Göteborgs kommun
Box 360
401 25 Göteborg
Tel: 031-61 26 10
- 3 Chemicals authority. Kemikalieinspektionen, Limitationlist.
- 4 Chemicals authority, OBS-list may 1996.
- 5 US Environmental Protection Agency: Industrial Toxics Project (1990). A list over high prioritized environmentally hazardous chemicals for which the discharge shall decrease with a minimum of 50 percent until 1996.
- 6 The councils directive 92/112/EEG of the 15 of december 1992, regarding "Measures to be taken to decrease and finally eliminate pollution through waste from the titandioxindustry.
- 7 Good Wood Guide, Friends of the Earth U.K. 1987.

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- 8 "Marque NF-Environment aux peintures, vernis et produits connexes", 3:e audited version 1994-06-10. AFNOR, Frankrike.

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- 9 Judgement and comparison of solvent in the households chemicaltechnical - Basis för Naturskydds-föreningens work within the projectarea Buy Environmental Friendly. Anders Östman and Ulf Karlström, march 1993 (the list is audited 1993).

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- 10 The Montrealprotocol 1987 (inkl. the Londonamendment 1990 and the Köpenhamnemendment 1992) regarding certain states undertaking of the liquidation of ozone-destroying compounds, and the Regulation of CFC and Halon etx, SFS 1988.716.