



Danfoss Negative List – the Black List

3rd issue, November 2011

Danfoss' Negative List bans or restricts the use of chemical substances in Danfoss' products and production processes and by Danfoss' suppliers, contractors and tenants.

This Negative List shall be complied with throughout the entire Danfoss Group and by all tenants, suppliers and contractors working on Danfoss premises.

Requirements for suppliers, contractors and tenants

Suppliers and subcontractors to Danfoss are required to comply with the Black list and shall on request be able to document the type and amount of any hazardous substances present in materials, subassemblies or components and used in processes.

Suppliers and subcontractors must not supply products, components or materials containing substances on the Black List to Danfoss.

Suppliers and subcontractors must not use any chemicals from the Black List in processes manufacturing parts for Danfoss.

If new substances are put on the Black List, all suppliers and subcontractors must ensure that the new substance is removed from products delivered to Danfoss within a time period not exceeding one year.

Contractors, tenants or their suppliers working on Danfoss' owned property must not bring substances on the Black List onto Danfoss premises.

All suppliers, subcontractors, contractors, tenants or their suppliers working on Danfoss' owned property are responsible for keeping themselves updated with the current version of the Negative List. The Danfoss Negative List in force at any given time is available on:

<http://www.danfoss.com/AboutUs/Corporate+Citizenship/NegativeList.htm>

On the same webpage Suppliers shall register as recipient of updates to the Danfoss Negative List and remain registered for the term of the co-operation.

The Black List (banned substances)

Banned substances shall under no circumstances be present in products supplied to the market, nor in products purchased from our suppliers.

Banned substances shall not be used in production or maintenance processes at Danfoss factories neither in pure form nor in mixtures with other substances.

The entire Black List is on the following pages.

The Black List (for more detailed information please see the extended version on Danfoss.com)

Group name	Substance name	Examples of occurrence	Comments For further exemptions see "Black list in extended version"
Metals	Arsenic	Pb and Cu alloys, metal adhesives, soft solders, electronics and pigments	Prohibited as a salt not in an alloy
	Arsenic compounds		
	Cadmium	Stabilizers in polymers like PVC, Used in pigments in paints and plastics, present also in electronics. In soldering materials	Restricted in electronic and electric parts (RoHS). Lead is not prohibited as an alloy in non electronic components (like brass in a valve). The sum of Lead, Mercury, Cadmium and Chromium+6 has a limit on 0,01% (100 ppm) in packaging.
	Cadmium compounds		
	Chromium 6+ compounds	Chromium pigments, chromated surfaces, corrosion inhibitors.	
	Lead	Lead as an element in metals and alloys, lead compounds (stabilizers), pigment, corrosion inhibitor.	
	Lead compounds		
	Mercury	In lamps, electronic switches, luminescent materials	
	Mercury compounds		
	Organotin (Mono-, di-, and trialkyl and -aryl tin compounds) Stannum	In plasticisers and metals	
	Thallium	Semiconductors, thermometers and optical instruments, photometrical cells, in solutions and as catalyst	
	Thallium compounds		
Conflict minerals from Congo (DRC)	Columbite-tantalite (coltan, niobium, and tantalum), cassiterite (tin), gold and wolframite (tungsten), their derivatives, and any others.		
Lubricants and additives 1)	Amines (secondary) which facilitate the formation of nitrosamines	Corrosion protection, pH stabilisator	
	Chlorinated paraffins (C10-C13)	Extreme pressure additive	
	Formaldehyde	Biocide	See also Formaldehyde below
	Formaldehyde releasing substances		
	Isothiazolones	Biocide	
	Mercaptobenzothiazoles	Biocide	
	Mineral oil with PAH	Base oils	
	Morpholine	Biocide in lubricants	
	Morpholine releasing substances		
	Nitrite	Corrosion protection	
	Nonylphenol	Surface active agents	See also Nonylphenol below.
	Nonylphenol ethoxylates		
	Tall oil distillates which contains adipinic acid	Extreme pressure additive	
Impregnation and dye	Azo Dye	In dyes for textiles etc., packaging materials	
	Creosote	In wood preservatives, packaging materials etc..	
	Cresylphosphates	Plasticiser additives in nitrocellulose, PVC, acrylate lacquers, varnishes	
	Dicresylphosphates		
	Tricresylphosphate		
DMF (dimethylfumarat)	The substance is normally used as an additive to silica gel sold in small packs. The packs release DMF during transport of products in order to avoid mould, mostly in furniture, textiles and footwear		
Green House gases	HFC (Hydrofluorocarbons)	In refrigeration plants, heat pumps and air-conditioning plants. Also in spray containers. For PFC: also in fire extinguisher and equipment. DK: R-134a in spray containers for detecting leakage in electrical systems need a dispensation from the government	
	Methylbromide		
	PFC (Perfluorocarbons)		
	SF6 (Sulfurhexafluoride)		

Group name	Substance name	Examples of occurrence	Comments For further exemptions see "Black list in extended version"	
Ozone depleting substances	Bromochlorodifluoromethane (R-1211)	In cleaning agents, refrigerants, propellants in aerosol spray, blowing agents for making foam and in air-conditioning system.		
	Bromotrifluoromethane (R-1301)			
	1,2-dibromotetrafluoroethane (R-2402)			
	CFC (Chlorofluorocarbons)			
	HCFC (Hydrochlorofluorocarbons)			
Solvents, aromatic and chlorinated	Musk Xylene	A fragrance enhancer used in detergents	Banned except in gasoline	
	4,4 Diaminodiphenylmethane (MDA)	A hardener used in epoxy resins and adhesives.		
	Benzene	Solvent		
	Carbontetrachloride	Solvent, degreasing agent		
	Chlorobenzene			
	Methylenechloride			
	Tetrachloroethylene ("PER")			Banned except in thermobulbs for fireextinguishing equipment
	Trichlorobenzene			
	Trichloroethane (1,1,1-)			
	Trichloroethylene ("TRI")			
Plasticisers and monomers	BBP(butylbenzyl phthalate)		Plasticiser	
	DBP (dibutyl phthalate)			
	DEHP (di-2-ethylhexyl phthalate)			
	Acrylonitrile	Monomer in ABS and other copolymers		
	Butadiene (1,3 -)			
	Vinylchloride	copolymers Monomer in PVC and other		
Flame retardants	Octabromodiphenylethers	In electronic and electrical parts, in plastics and polymers etc.		
	Pentabromodiphenylethers			
	Polybrominated biphenyls (PBB)			
	Polybrominated diphenylethers (PBDE)			
	Hexabromocyclododecane (HBCDD)	In polystyrene (insulation)		
Persistent Organic Pollutants (POP)	All POP (e.g. below)		Banned except in wood treatment	
	Aldrin			
	Chlordan			
	DDT			
	Dibenzofuranes			
	Dieldrin			
	Dioxins			
	Endosulfan			Insecticide
	Endrin			
	Heptachlor			
	Hexachlorobenzene			
	Mirex			
	PCB			
	Pentachlorophenol			
	PFOS (Perfluoro octylsulfonates)			extinguishing equipment In fire
	Toxaphene			
	Trifluralin			Pesticide
	Nonylphenols			Nonylphenol
Nonylphenoethoxylate				
see also lubricants				

Group name	Substance name	Examples of occurrence	Comments For further exemptions see "Black list in extended version"
Formaldehyde	Formaldehyde	Paper products, cleaners, disinfectants, textile materials intended for skin contact	
	see also lubricants		
Asbestos	Actinolite	In insulating material in buildings and in products. Severe precautions should be taken in refurbishing asbestos containing buildings	
	Amosite		
	Anthophyllite		
	Chrysotile		
	Crocidolite		
	Tremolite		
Mineral wool fibres	Man made mineral fibres with carcinogenic effects	material Insulating	
	Aluminosilicate, Refractory Ceramic Fibres		
	Zirconia Aluminosilicate, Refractory Ceramic Fibres		
PAH (Poly Aromatic Hydrocarbons)	All PAH (e.g. below)	Softening oils in rubber compounds/chemicals and as pollutants in many materials	
	Benzo(a)pyrene		
	Dibenzo(a,h)anthracene		
	Benzo(a)anthracene		
	Benzo(ghi)perylene		
	Benzo(e)pyrene		
	Indeno(1,2,3-cd)pyrene		
	Benzo(j)fluoranthene		
	Benzo(b)fluoranthene		
	Benzo(k)fluoranthene		
	Chrysene		
	several others		
	see also lubricants		
	REACH		
Musk Xylene			
MDA (4,4 Diaminodiphenylmethane)			
Chlorinated paraffins (C10-C13)			
HBCDD (Hexabromocyclododecane)			
DEHP (di-2-ethylhexyl phthalate)			
BBP (butylbenzyl phthalate)			
DBP (dibutyl phthalate)			
		The substances are not prohibited, but if the conc. is above 0.1%, information must be provided to the recipient of the article. Please check the latest update of the list on Danfoss.com or the ECHA homepage	
	Candidate list substances:		

Notes
In general: The substances are arranged in groups like metals, impregnation etc. All substances are prohibited/restricted, regardless where they are used and in which group they are mentioned.
Exemptions to RoHS or other regulations are accepted.
Please find the "Black list in extended version" on Danfoss.com.

Text highlighted in yellow are updates from the 2nd issue.