

July 2021

REACH Candidate List substances in Danfoss products

Danfoss supports the objectives of REACH and has a process to ensure compliance with the EU regulation for **Registration, Evaluation, Authorization and restriction of Chemicals** as described in the [Danfoss Position on REACH](#).

The REACH Candidate List is published by the European Chemicals Agency (ECHA) and is updated with new substances every six months.

As a part of the REACH Article 33 obligations, Danfoss informs customers directly if articles in supplied products contain Candidate List substances in a concentration above 0.1% (w/w).

This document is intended as a service to our customers providing an overview of Danfoss products containing Candidate List (CL) substances in a concentration above 0.1% (w/w).

Danfoss Power Solutions:

Product Type	Product Family	Metallic Lead CAS 7439-92-1	Diborontrioxide CAS 1303-86-2	Note
Axial piston variable displacement pumps				
Closed circuit axial piston pumps	MP1	X		Free machining steel, axial sliding bearings, brass, soldering
	H1P	X		Free machining steel, axial sliding bearings, brass, soldering
Open circuit axial piston pumps	S45	X		Free machining steel, axial sliding bearings, brass, soldering
	D1P	X		Free machining steel, axial sliding bearings, brass, soldering
Bent axis and axial piston motors				
Closed circuit axial piston motors	H1 Bent Axis	X		Free machining steel, axial sliding bearings, brass, soldering
	K and L Motors	X		Free machining steel, axial sliding bearings, brass, soldering
	T90 Series	X		Free machining steel, axial sliding bearings, brass, soldering
Open circuit reverse displacement	RDM	X		Free machining steel, axial sliding bearings, brass, soldering
Orbital motors				
Orbital motors	Orbital X	X		Die casts and machined parts
	O-Series	X	X	Die casts and machined parts, sealings
	T-Series	X		Die casts and machined parts
	W-Series	X		Die casts and machined parts

	R-Series	X		Die casts and machined parts
Steering Components and systems				
Electrohydraulic steering	EHPS	X		Die casts and machined parts, soldering
	OSPE	X		Die casts and machined parts, soldering
	Ehi	X		Die casts and machined parts, soldering
	PVED CLS	X		Die casts and machined parts, soldering
Hydraulic steering	SU - OSPC	X		Machined parts
	SU - OSPD	X		Machined parts
	SU - OSPF	X		Machined parts
	SU - OSPL	X		Machined parts
	SU - OSPM	X		Machined parts
	SU - OSPU	X		Machined parts
	SU - VSP	X		Machined parts
	Flow amplifiers	X		Machined parts
	SV - OVPL	X		Machined parts
	SV - OLS	X		Machined parts
	SV - OLSP	X		Machined parts
Valves				
PVG proportional valves	PVG 16	X		Die casts and machined parts
	PVG 32	X		Die casts and machined parts
	PVG 100	X		Die casts and machined parts
	PVG 120	X		Die casts and machined parts
	PVG 128/256	X		Die casts and machined parts
PVE electrohydraulic actuators	PVED	X		Die casts and machined parts
	PVE S7	X		Die casts and machined parts
	PVE-EX	X		Die casts and machined parts
DCV directional control valves	ECO 80	X		Die casts and machined parts
Electronic controls				
PLUS+1® controllers	MC microcontrollers	X		Some products have lead-free soldering
	SC microcontrollers	X		
	Input/output modules	X		Some products have lead-free soldering
PLUS+1® remote controls Transmitters	Ikontrol family	X		Soldering
	New Handheld transmitters	X		Soldering
	Legacy handheld transmitters	X		Soldering
PLUS+1® remote controls receivers	R06	X		Soldering
	R13 B	X		Soldering
	R13 F	X		Soldering
	R70	X		Soldering
	R70 PLUS	X		Soldering
	MPCAN	X		Soldering
	MP08	X		Soldering
	MP20	X		Soldering
PLUS+1® sensors	SASA steering sensor	X		Soldering

PLUS+1® displays	DP700 Series	X		Soldering
	DP600TM Series	X		Soldering
	DP570 Series	X		Soldering
	DP250 Series - Legacy	X		Soldering, mechanical detents, brass inserts
PLUS+1® Joystics	JS1000	X		Soldering
	JS2000	X		Soldering
	JS120	X		Soldering
	Legacy Joystics	X		Soldering, mechanical detents, brass inserts
PLUS+1® Foot Pedals	KEP	X		Soldering
	KEP3	X		Soldering
PLUS+1® Operator interfaces	HMC programmable HMI controllers	X		Soldering
Position controls and sensors	MCX 103 CAN	X		Soldering
	CLS1000	X		Soldering
	CMSS1000	X		Soldering
	CSS1000	X		Soldering
	CYPR1	X		Soldering
	MCX103A	X		Soldering
	MCX103B,D	X		Soldering
	ACX104C	X		Soldering
	MCX120-CAN	X		Soldering
Ultrasonic Controller Sensor	X		Soldering	
Mobile electrification				
Electric Converters	EC-C1200-450	X		Brass Parts
	EC-IDC24	X		Brass Parts
	EC-LTS1200-410	X		Brass Parts
Electric Machines	EM-PMI240-T180	X		Brass Parts
	EM-PMI300-T310	X		Brass Parts
	EM-PMI375-T200	X		Brass Parts
	EM-PMI375-T500	X		Brass Parts
	EM-PMI375-T800	X		Brass Parts
	EM-PMI375-T1100	X		Brass Parts
	EM-PMI540-T1500	X		Brass Parts
	EM-PMI540-T2000	X		Brass Parts
	EM-PMI540-T3000	X		Brass Parts
	EM-PMI540-T4000	X		Brass Parts
	EM-PME375-T150	X		Brass Parts
	EM-PME375-T200	X		Brass Parts
BU GEARS (Turolla) products				
Aluminium Gear Pumps	Group 1	X		Steel backed bronze material
	Group 2	X		Steel backed bronze material
	Group 3	X		Steel backed bronze material
	Group 4	X		Steel backed bronze material
Shhark® low noise gear pumps	Group 2	X		Steel backed bronze material

D-Series Gear Pump	DE1 - DE2 - DE3 - DE4	X		Steel backed bronze material
Aluminium Gear Motors	Group 1 - SKM1	X		Steel backed bronze material
	Group 2 - SNM2/SNU2	X		Steel backed bronze material
	Group 3 - SNM3/SNU3	X		Steel backed bronze material
Fan Drive Gear Motors	Group 2 - SGM2	X		Steel backed bronze material
	Group 3 - SGM3	X		Steel backed bronze material
D-Series Gear Motors	DEM	X		Steel backed bronze material
BU ICS (Comatrol) products				
Housings	Aluminium housings	X		Aluminum alloys
HICS	Fan drive HICS	X		Aluminum alloys
	Motor mount HICS	X		Aluminum alloys
	Proportional flow divider	X		Aluminum alloys
	Traction control HICS	X		Aluminum alloys
	Spreader valves HICS	X		Aluminum alloys

Danfoss Cooling Segment:

Product type		CL Substance above 0.1% (w/w)	CAS number
Compressors	Turbocor		Lead 7439-92-1
	Compressors for air conditioning and heating		Lead 7439-92-1
	Compressors for refrigeration	MLZ	Lead 7439-92-1
			Diisodecyl phthalate (DIDP) 26761-40-0
			Diisononyl phthalate (DINP) 28553-12-0
Others	Lead 7439-92-1		
Condensing units	Condensing units		Lead 7439-92-1
Switches	Industrial pressure switch		Lead 7439-92-1
	Industrial temperature switch		Lead 7439-92-1
	Electronic pressure switch		Lead 7439-92-1
	Pressure switches and thermostats for refrigeration		Lead 7439-92-1
Sight glasses	Sight glasses		Lead 7439-92-1
		Cobalt Dichloride 7646-79-9	
Sensors and transmitters	Gas detecting sensor		Lead 7439-92-1
	Position sensors		Lead 7439-92-1
	Industrial pressure transmitters	AKS, MBS, EMP	Lead 7439-92-1
			Dodecamethylcyclohexasiloxane (D6) 540-97-6
			Others
	Industrial temperature sensor	AKS, MBT	Lead 7439-92-1
			Dodecamethylcyclohexasiloxane (D6) 540-97-6
	Others	Lead 7439-92-1	
	Liquid level sensors		Lead 7439-92-1
	Refrigeration pressure transmitters		Lead 7439-92-1
Refrigeration temperature sensors		Lead 7439-92-1	
Valves	Shut-off valves		Lead 7439-92-1
	Check valves		Lead 7439-92-1

	Control and regulation valves	KV, CPCE	Lead Diisopentylphthalate (DIPP)	7439-92-1 605-50-5
		Others	Lead	7439-92-1
	Electric expansion valves	With sight glass	Lead Cobalt Dichloride	7439-92-1 7646-79-9
		Without sight glass	Lead	7439-92-1
	Shut-off ball valves for re-frigeration		Lead	7439-92-1
	Solenoid valves		Lead	7439-92-1
	Thermostatic expansion valves		Lead	7439-92-1
	Thermostatic valves		Lead	7439-92-1
Externally operated valves		Lead	7439-92-1	
Solutions	Flexline		Lead	7439-92-1

Danfoss Heating Segment:

Product	CL Substance above 0.1% (w/w)	CAS number
Burner Components (Oil nozzles, oil pumps and ignition units)	Lead	7439-92-1
Differential pressure and flow controllers (Differential pressure, flow and temperature controllers)	Lead	7439-92-1
Energy Metering (Energy meters)	Lead	7439-92-1
Floor heating; ice and snow melting <ul style="list-style-type: none"> Electric underfloor heating – thermostats: Danfoss Next Plus, Veria T45, DEVIreg Opti, easy&cosy Digital Controller, Wireless Devidry Kit Veria, Clickkit Electric underfloor heating – accessories: Fitting for DEVI aqua, Heating cables Ice and snow melting – thermostats: Ground sensor for DEVIreg 850, Roof sensor for DEVIreg 850 Pipe tracing – cables: DEVI aqua heating cables <p>Hydronic underfloor heating:</p> <ul style="list-style-type: none"> Room controls: Danfoss ECtemp Next, Basic Plus, Basic Plus2, FH-CWF Floor Sensor Manifolds and actuators <p>Mixing shunts</p>	Lead	7439-92-1
Heat exchangers <ul style="list-style-type: none"> Brazed heat exchangers Gasketed heat exchangers Welded heat exchangers <p>Sondex fresh water distillers</p>	Lead	7439-92-1
Heat Pumps	Lead	7439-92-1
Radiator and room thermostats <ul style="list-style-type: none"> Radiator sensors: Radiator thermostats with a M30 and M28 connection, all remote setting thermostats, all remote sensor thermostats, all FJVR sensors Radiator valves Room thermostats and time controls: Programmable room thermostat, TPone <p>Motorized Zone Valves</p>	Lead	7439-92-1
Stations and domestic hot water systems Flat stations, Domestic hot water systems, Substations	Lead	7439-92-1
Valves Hydronic balancing and control, Motorized control valves and actuators, Shut-off ball and butterfly valves for district energy	Lead	7439-92-1

Danfoss Drives Segment:

DDS Product Family	Metallic Lead (CAS 7439-92-1)
VLT®	
VLT® FC-51	X
VLT® FC-101	X
VLT® FC-102	X
VLT® FC-103	X
VLT® FCM/FCP-106	X
VLT® FC-202	X
VLT® FC-301	X
VLT® FC-302	X
VLT® FCD-302	X
VLT® LD302	X
VLT® FC-322	X
VLT® FC-360	X
VLT® FC-361	X
VLT® FC-280	X
ISD 401	X
ISD 410	X
ISD 510	X
MCB 150, MCB151, MCB152	X
OneGearDrive®	X
VLT® Advanced Active Filter AAF06	X
VLT® Multiaxis Servo Drive MSD 510 System	
PSM 510	X
DAM 510	X
SDM 511	X
SDM 512	X
EXM 510	X
Vacon®	
Vacon® 20	X
Vacon® 20 Cold Plate	X
Vacon® 20X	X
Vacon® 100	X
Vacon® 100X	X
Vacon® NX	X
Danfoss Silicon Power (DSP)	
Power Modules Product Type*	
1x07xx	X
1x16xx	X
1x17xx	X

1x20xx	X
1x27xx	X
1x28xx	X
1x51xx	X
<p>* The product type is coded in the last six digits of the product name (which is given on the product data sheet): The relevant digits are the third and fourth last ones. Example: DP15F1200TO101910 => 101910 => 1x19xx</p>	

For more information about REACH see www.echa.europa.eu

Should you require further information or have any questions on the affected products, please contact your sales representative.