

January 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
<a href="#">Axial piston units</a>				
Axial piston units	D1P	X		Free machining steel, axial sliding bearings, brass, soldering
	S90	X		Free machining steel, axial sliding bearings, brass, soldering
	T90 Series	X		Free machining steel, axial sliding bearings, brass, soldering
	H1P	X		Free machining steel, axial sliding bearings, brass, soldering
	H1T	X		Free machining steel, axial sliding bearings, brass, soldering
	S45	X		Free machining steel, axial sliding bearings, brass, soldering
	M46 -PT/PV	X		Free machining steel, axial sliding bearings, brass, soldering
	M25, S40, S42, S46	X		Free machining steel, axial sliding bearings, brass, soldering
	BDA	X		Free machining steel, axial sliding bearings, brass, soldering
	MP1	X		Free machining steel, axial sliding bearings, brass, soldering
	LPV	X		Free machining steel, axial sliding bearings, brass, soldering

	M53	X		Free machining steel, axial sliding bearings, brass, soldering
	M35/44	X		Free machining steel, axial sliding bearings, brass, soldering
	S51	X		Free machining steel, axial sliding bearings, brass, soldering
	T90	X		Free machining steel, axial sliding bearings, brass, soldering
	H1B	X		Free machining steel, axial sliding bearings, brass, soldering
	M46 -MF/MV MMC	X		Free machining steel, axial sliding bearings, brass, soldering
	L/K	X		Free machining steel, axial sliding bearings, brass, soldering
	Fairfield Units	X		Free machining steel, axial sliding bearings, brass, soldering
	45° Kit	X		Free machining steel, axial sliding bearings, brass, soldering
	DDC20 / LDU20	X		Free machining steel, axial sliding bearings, brass, soldering
	CUT M51/44	X		Free machining steel, axial sliding bearings, brass, soldering
	BDU	X		Free machining steel, axial sliding bearings, brass, soldering
	BMV/BMVT	X		Free machining steel, axial sliding bearings, brass, soldering
	DCM	X		Free machining steel, axial sliding bearings, brass, soldering
	PV10	X		Free machining steel, axial sliding bearings, brass, soldering
	OPV1	X		Free machining steel, axial sliding bearings, brass, soldering
	H1 AC	X		Soldering
	Sensors	X		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		Machined parts, soldering
	Ehi	X		Die casts and machined parts, soldering
	EH	X		Die casts and machined parts, soldering
Hydraulic steering	SU - OSPB/C	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

	SV - OSQ	X		Machined parts
	SV - OVPL	X		Machined parts
	SV - OLS	X		Machined parts
	SV - OLSP	X		Machined parts
Hydraulic steering	SU - S70	X		Machined parts
	SV - PV160	X		Machined parts
	SU - LAGC	X		Machined parts
	SU - LAGZ	X		Machined parts
	SU - LAGS	X		Machined parts
	SU - LAGU	X		Machined parts
	SV - LPS	X		Machined parts

<a href="#">Valves</a>				
PVG proportional valves	PVG 16	X		Machined parts
	PVG 32	X		Machined parts
	PVG 100	X		Machined parts
	PVG 120	X		Machined parts
	PVG 128/256	X		Machined parts
PVE electrohydraulic actuators	PVED	X		Machined parts
	PVE S7	X		Machined parts
	PVE-EX	X		Machined parts
DCV directional control valves	ECO 80	X		Machined parts

<a href="#">Electronic controls</a>				
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® 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
Electric Machines	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

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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

<a href="#">BUICS (Comatrol) products</a>				
HIC	Aluminium housings	X		Aluminum alloys
	Aluminium HIC	X		Aluminum alloys, free machining steel
Valves	Mechanical valves	X		Free machining steel, aluminum alloys (when includes housing)
	Solenoid valves	X		Free machining steel, aluminum alloys (when includes housing)
	Proportional Valves	X		Free machining steel, aluminum alloys (when includes housing)

### Danfoss Cooling Segment:

Product type			CL Substance above 0.1% (w/w)	CAS number
Compressors	<a href="#">Turbocor</a>		Lead	7439-92-1
	<a href="#">Compressors for air conditioning and heating</a>		Lead	7439-92-1
	<a href="#">Compressors for refrigeration</a>	MLZ	Lead	7439-92-1
			Diisodecyl phthalate (DIDP)	26761-40-0
			Diisononyl phthalate (DINP)	28553-12-0
	Others	Lead	7439-92-1	
Condensing units	<a href="#">Condensing units</a>		Lead	7439-92-1
Switches	<a href="#">Industrial pressure switch</a>		Lead	7439-92-1
	<a href="#">Industrial temperature switch</a>		Lead	7439-92-1
	<a href="#">Electronic pressure switch</a>		Lead	7439-92-1
	<a href="#">Pressure switches and thermostats for refrigeration</a>		Lead	7439-92-1
Sight glasses	<a href="#">Sight glasses</a>		Lead	7439-92-1
			Cobalt Dichloride	7646-79-9
Sensors and transmitters	<a href="#">Gas detecting sensor</a>		Lead	7439-92-1
	<a href="#">Position sensors</a>		Lead	7439-92-1
	<a href="#">Industrial pressure transmitters</a>	AKS, MBS, EMP	Lead	7439-92-1
			Dodecamethylcyclohexasiloxane (D6)	540-97-6
		Others	Lead	7439-92-1
	<a href="#">Industrial temperature sensor</a>	AKS, MBT	Lead	7439-92-1
			Dodecamethylcyclohexasiloxane (D6)	540-97-6
		Others	Lead	7439-92-1
	<a href="#">Liquid level sensors</a>		Lead	7439-92-1
	<a href="#">Refrigeration pressure transmitters</a>		Lead	7439-92-1
<a href="#">Refrigeration temperature sensors</a>		Lead	7439-92-1	
Valves	<a href="#">Shut-off valves</a>		Lead	7439-92-1
	<a href="#">Check valves</a>		Lead	7439-92-1
	<a href="#">Control and regulation valves</a>	KV, CPCE	Lead	7439-92-1
			Diisopentylphthalate (DIPP)	605-50-5
		Others	Lead	7439-92-1
	<a href="#">Electric expansion valves</a>	With sight glass	Lead	7439-92-1
			Cobalt Dichloride	7646-79-9
		Without sight glass	Lead	7439-92-1
	<a href="#">Shut-off ball valves for refrigeration</a>		Lead	7439-92-1
	<a href="#">Solenoid valves</a>		Lead	7439-92-1
<a href="#">Thermostatic expansion valves</a>		Lead	7439-92-1	
<a href="#">Thermostatic valves</a>		Lead	7439-92-1	
<a href="#">Externally operated valves</a>		Lead	7439-92-1	
Solutions	<a href="#">Flexiline</a>		Lead	7439-92-1

**Danfoss Heating Segment:**

Product	CL Substance above 0.1% (w/w)	CAS number
<a href="#">Burner Components</a> (Oil nozzles, oil pumps and ignition units)	Lead	7439-92-1
<a href="#">Differential pressure and flow controllers</a> (Differential pressure, flow and temperature controllers)	Lead	7439-92-1
<a href="#">Energy Metering</a> (Energy meters)	Lead	7439-92-1
<a href="#">Floor heating: ice and snow melting</a> <ul style="list-style-type: none"> <li>Electric underfloor heating – thermostats: Danfoss Next Plus, Veria T45, DEVIreg Opti, easy&amp;cosy Digital Controller, Wireless Devidry Kit Veria, Clickkit</li> <li>Electric underfloor heating – accessories: Fitting for DEVI aqua, Heating cables</li> <li>Ice and snow melting – thermostats: Ground sensor for DEVIreg 850, Roof sensor for DEVIreg 850</li> <li>Pipe tracing – cables: DEVI aqua heating cables</li> </ul> Hydronic underfloor heating: <ul style="list-style-type: none"> <li>Room controls: Danfoss ECtemp Next, Basic Plus, Basic Plus2, FH-CWF Floor Sensor</li> <li>Manifolds and actuators</li> </ul> Mixing shunts	Lead	7439-92-1
<a href="#">Heat exchangers</a> <ul style="list-style-type: none"> <li>Brazed heat exchangers</li> <li>Gasketed heat exchangers</li> <li>Welded heat exchangers</li> </ul> Sondex fresh water distillers	Lead	7439-92-1
<a href="#">Heat Pumps</a>	Lead	7439-92-1
<a href="#">Radiator and room thermostats</a> <ul style="list-style-type: none"> <li>Radiator sensors: Radiator thermostats with a M30 and M28 connection, all remote setting thermostats, all remote sensor thermostats, all FJVR sensors</li> <li>Radiator valves</li> <li>Room thermostats and time controls: Programmable room thermostat, TPone</li> </ul> Motorized Zone Valves	Lead	7439-92-1
<a href="#">Stations and domestic hot water systems</a> Flat stations, Domestic hot water systems, Substations	Lead	7439-92-1
<a href="#">Valves</a> 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)
<b>VLT®</b>	
<b>VLT® FC-51</b>	<b>X</b>
<b>VLT® FC-101</b>	<b>X</b>
<b>VLT® FC-102</b>	<b>X</b>
<b>VLT® FC-103</b>	<b>X</b>
<b>VLT® FCM/FCP-106</b>	<b>X</b>

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
<b>VLT® Multiaxis Servo Drive MSD 510 System</b>	
PSM 510	X
DAM 510	X
SDM 511	X
SDM 512	X
EXM 510	X
<b>Vacon®</b>	
Vacon® 20	X
Vacon® 20 Cold Plate	X
Vacon® 20X	X
Vacon® 100	X
Vacon® 100X	X
Vacon® NX	X
<b>Danfoss Silicon Power (DSP)</b>	
<b>Power Modules Product Type*</b>	
1x07xx	X
1x16xx	X
1x17xx	X
1x20xx	X
1x27xx	X
1x28xx	X
1x51xx	X
* 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: DP15F1200TO10 <b>1910</b> => 10 <b>1910</b> => 1x <b>19xx</b>	

For more information about REACH see [www.echa.europa.eu](http://www.echa.europa.eu)

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