



ENGINEERING
TOMORROW

Danfoss

Material Data Reporting - CDX

General guideline 2024

Guideline Overview

- Objectives and Key Points
- CDX - Registration
- CDX - 1st Start
- CDX - What is an MDS?
- CDX - Answering a Request
- How to - Create/ Search for a Material MDS
- How to - Create Component MDS
- How to - Assign Material/Component
- How to - Submit Data to Danfoss directly
- How to - Get Additional Support
- Useful tips

Objectives and Key Points



Danfoss Objectives

- Strengthen Danfoss compliance processes
- Effectively follow up on customer / regulatory requirements
- Support Danfoss ESG ambitions

Key Message

Danfoss is accelerating at full speed on the transformation journey of sustainable technologies and solutions. Detailed knowledge of hazardous/critical substances in our products is imperative to achieve our goals. Tools for compliance data exchange have been designated to assist us in reaching this ambitious target.

Tools for Data reporting



CDX – [Go to Website](#)

is an abbreviation for Compliance Data Exchange system. It is a data exchange tool accessible as a portal, designed to satisfy latest regulatory requirements of various industries.

IMDS – [Go to Website](#)

is an abbreviation for International Material Data System, represents the automotive industry's compliance data exchange tool. Given that multiple Danfoss customers are Automotive OEMs, we currently facilitate reporting through IMDS as part of our commitment to compliance.



Requested Data format

Material Datasheet (MDS) on Full Material Disclosure (FMD) Level

is a comprehensive and detailed disclosure of all the materials used in a product or a component. It includes information about the composition, concentration, and presence of specific substances in a product.

▼		O-ring NBR70 138x4
▼		6.1g NBR
		35.0 - 45.0% Carbon black
		1.0 - 3.0% Zinc oxide
		0.1 - 3.0% Thiram
		40.0 - 50.0% 2-Propenenitrile, polymer with 1,3-butadiene
		5.0 - 8.0% Further Additives, not to declare
		0.1 - 3.0% Sulphur

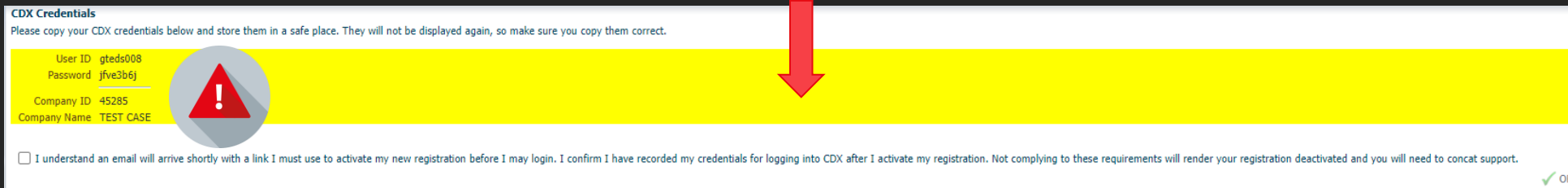
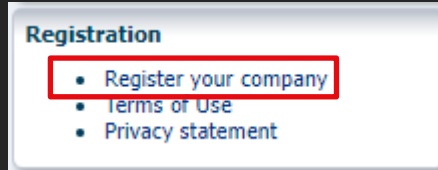


CDX - Registration



■ If you are new to CDX reporting, your first action should be company registration. Registering your company will allow you to submit your Material Datasheets to Danfoss:

1. Go to – CDX Login page and click on
2. Fill all the mandatory fields in registration form
3. After Registration, copy and save your credentials



4. You will receive an e-mail confirming your registraion. Activation by clicking the link is required.

Please click on the following link in your browser to activate your company in CDX:
<https://www.cdssystem.com/cdx/faces/login?op=reg&l=en&i=E2GqYL4dxvjYgdr97hr25TwJiPm44bm9LqR>

5. You will be relocated to a CDX page, where you can finally Activate your account



6. Your registration is now completed and you can finally start using the CDX platform.

Additional resources:

- [CDX User Manual \(cdssystem.com\)](https://www.cdssystem.com)
- [Recorded registration instructions](#)



CDX - 1st Start



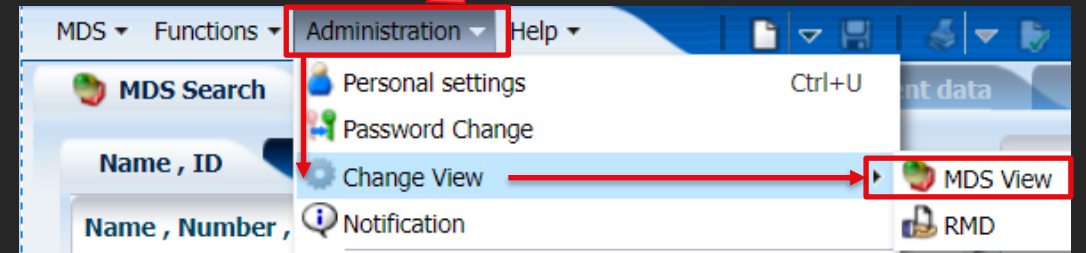
Login after registration

1. Go to CDX login page at <https://www.cdxsystem.com/cdx/faces/login> and login using your credentials

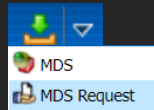


MDS View

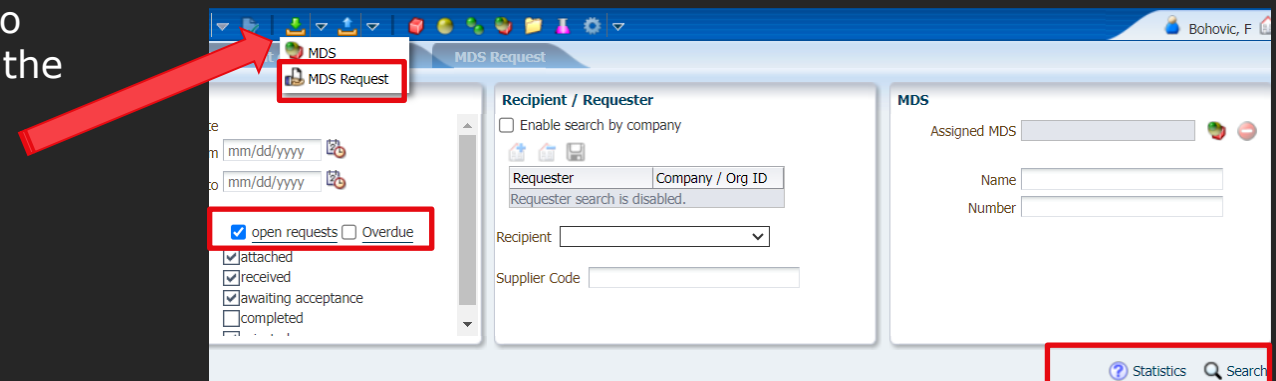
- As CDX is supporting various compliance areas (chemical compliance, Conflict Minerals,..), it is necessary to ensure that you use the correct 'system view'. For our needs, 'MDS View' is the correct option.
- Administration > Change View > MDS View



MDS Request inbox



- If your company's CDX Account ID is already known to Danfoss, you might receive requests directly through the platform.
- To search for any potentially received requests, go to *Inbox > MDS Request* and search for *open requests*.

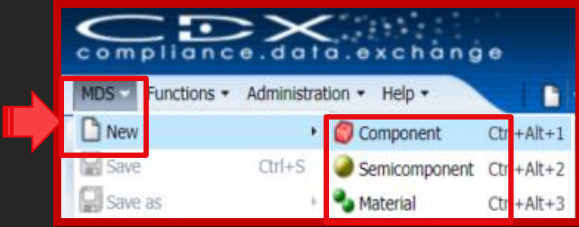


CDX - Answering a request



- You may receive a request from Danfoss through an e-mail or directly through CDX.
- In order to answer an MDS request, you are required to:

1. Create a Material Datasheet (MDS) or Assign existing MDS to a request



- Datasheets can be components, semicomponents or materials (see manual)
- If needed, follow detailed process on how to create a component / material in CDX

2. Submit an MDS to Danfoss

- Directly by searching for Danfoss account (based on which Danfoss segment you supply to) **or**
- By answering to a Danfoss MDS request received in CDX

449113	Volvo CE PPAP
449112	
449111	
449110	
449109	
449108	
449107	

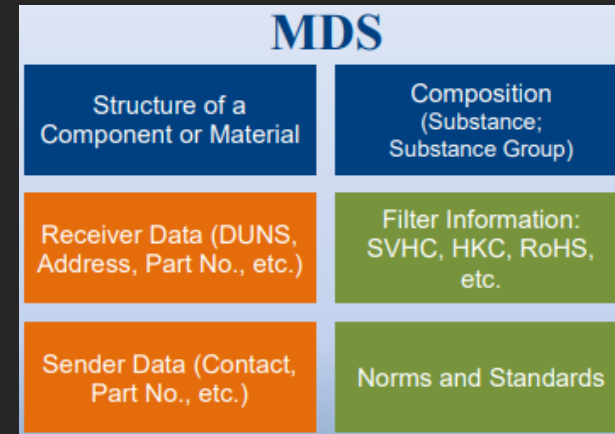


CDX – WHAT IS AN MDS?






Material Datasheet (MDS)

- Can be thought of as a container consisting of various component and/or material related data.



MDS Types

- There are several MDS Types in CDX

MDS Type	Description	Used in	Can have sub-MDS
Material 	Represents a homogeneous structure – meaning if you took a vertical slice through the product, you would not see layers	Materials Semicomponents Components	Material, Basic Substance
Semicomponent 	Similar to a Material, it represents a structure that will require further processing before it is assembled and given a final weight. Examples are a steel blank or a coated wire. Usage is by length, by volume, or by area.	Semicomponents, Components	Semicomponent, Material, Basic Substance
Component 	Used to represent an assembly Component that has a defined weight and is used in whole number quantities. Examples would be an engine block, a seat, etc. The weight of a Component MDS is defined at creation and cannot be reduced in the structure.	Components	Component, Semicomponent, Material, Basic Substance

- More detailed information on MDS and other areas of CDX reporting is available in the user manual at: [CDX User Manual \(cdxsystem.com\)](http://cdxsystem.com)



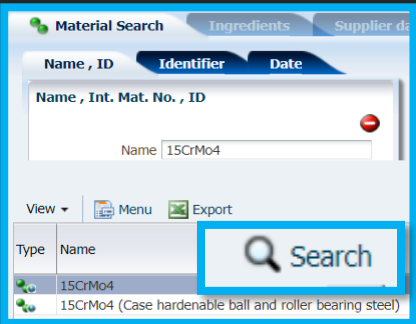
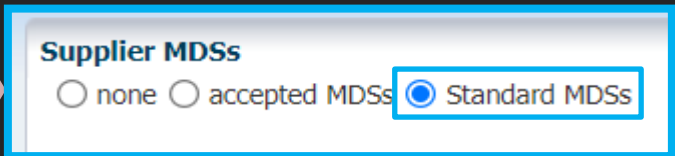
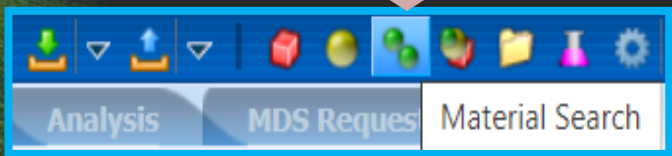
How to – Create/Search for a Material MDS



- A Material is the lowest level of MDS a user can create
- At first, try to find a material you use in your components or supply to Danfoss in CDX **database of standard materials**
- If a material used in your component / supplied to Danfoss cannot be found in database of standard materials, proceed with **Create Material**.

Search in CDX Database of Standard Materials

There are multiple ways on how you can search for a standard material, if unsuccessful initially, try to search using various fields.

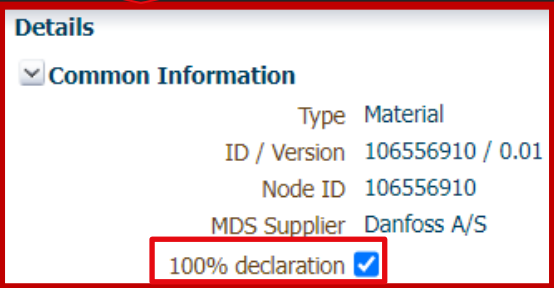
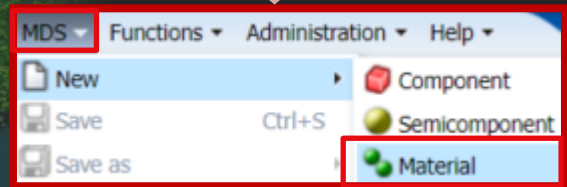


How to add substances to a Material is described on next slide

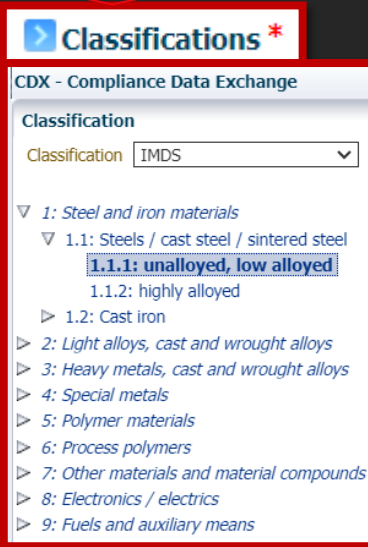
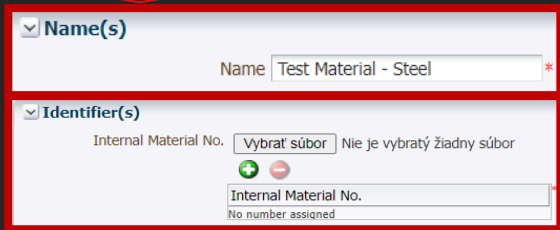
The Classification is mandatory for Materials

Create a Material

100% Declaration = FMD Component hierarchy with all materials and substances required



Assign name and internal part number for the created material



How to – Add Substance to a Material



- A Substance is a chemical element (e.g. Iron, Copper, etc.) or a compound (acrylic resin, zinc oxide).
- Basic Substances are defined by either a specific Chemical Abstract Number (CAS#) or generically by function.
- Substances in CDX can be:
 1. CAS-numbered Substance – Substance with a CAS# assigned to it, meaning it is a clearly defined Substance, example: Iron (CAS# 7439-89-6).
 2. Pseudo-Substance – A pseudo-substance gives an accurate description of the substance or the substance group but does not have a CAS# assigned to it, example: "Acrylic resin". These substances are accepted as real substances.
 3. Joker or Wild card – These substances do not define a specific substance. There is a limited number of wild cards available in the database and all have "system" in the CAS# field. An example is "Miscellaneous." It is not allowed to use a Joker or Wild card in place of a substance that is declarable or prohibited (restricted) on Danfoss Negative List

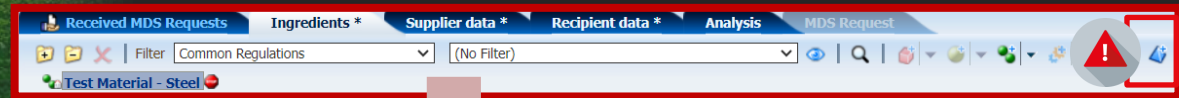
Read more on Danfoss Negative List on our [Product Compliance Page](#)

How to Add Substance to a Material

Repeat the step of adding substances until you have 100% of the material weight covered

There are multiple options on how you can describe content range

Make sure to perform system check and save your progress

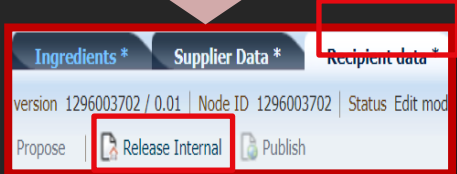
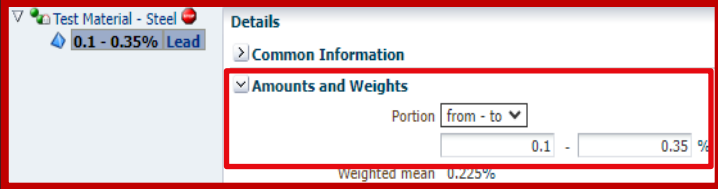


Enter the Name or CAS# and click search, then apply the substance

Search Criteria
CAS No. 7439-92-1
Name/Synonym

Name	CAS No.	EU-Index	Einecs-No.	Node ID	Synonym
Lead	7439-92-1	-	231-100-4	1009	-

Rows Selected: 1 | M Apply



When you release your finalized material internally, you may use it repeatedly in any components.



How to - Create Component MDS



Component represents a final part for which weight cannot be changed

It can be a:

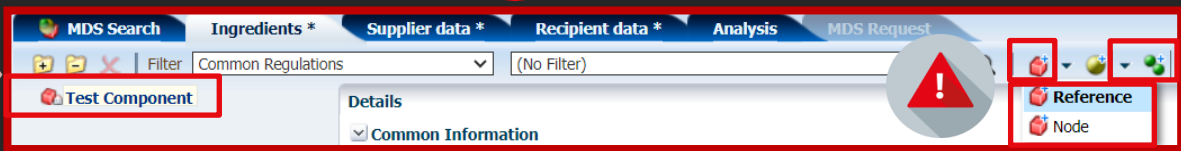
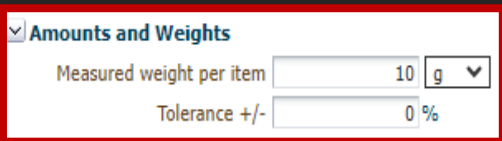
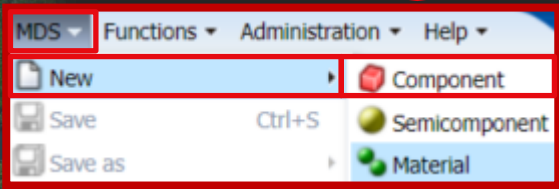
- low-complexity part containing a simple material (steel screw)
- high-complexity part / product containing sub-components made of various materials (Controller)

Create a Component

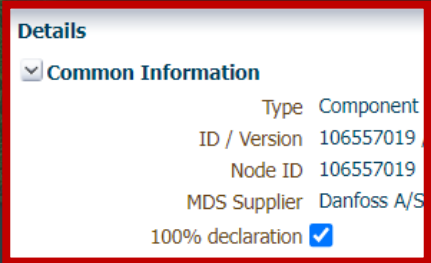
Go to:
MDS – New – Datasheet – COMPONENT

Add weight of the component
Tolerance is not allowed

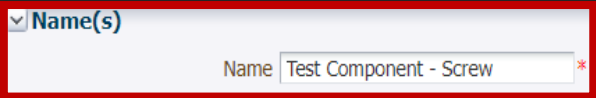
Next steps consists of assigning subcomponents and/or materials to the component we have created



100% Declaration = FMD



Assign name and internal part number for the newly created Component



Now it is time to start assigning sub-components / materials
Options are:


- To refer to datasets that were already created (either internally or by CDX (database of standard materials))
- To Create new datasheet directly through „Node“
- These steps are described in detail on the next slide



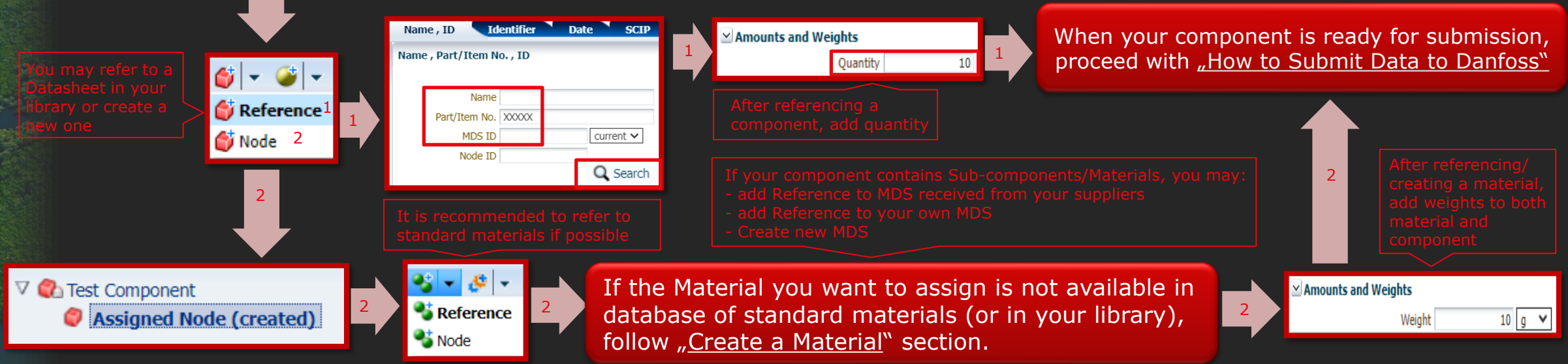
How to – Add Material/Component to a Component



This section describes how materials / sub-components can be assigned to a component

- We can add multiple materials and / or components to a component while in edit mode
- CDX system check can help us understand, which actions are required to finalize the MDS 

Assigning Datasheets



How to - submit data to Danfoss Direct Submission



After successfully creating your component, you can submit to Danfoss for review:

1. Go to recipient data while editing your component
2. Add recipient based on which Danfoss organisation you supply to / unmark „only root companies“
3. Add Danfoss Part Number – enter a code which Danfoss uses to identify your component / material
4. Send or Propose your Datasheet to Danfoss for review (do not submit data to Danfoss A/S - ID 8059)

Step 1: MDS Search - Recipient data *

Step 2: Component Search - Recipient data *
 There are no recipients assigned to this MDS yet.
 CDX - Compliance Data Exchange
 Company Name: Danfoss
 only root companies
 similar companies

Company Name	Org Unit	ID	Zip Code	City	State
Danfoss A/S	Danfoss A/S	8059	6430	Nordborg	
Danfoss A/S	Danfoss Climate Solutions	23051	6430	Nordborg	
Danfoss A/S	Danfoss Drives	30070		Grästen	
Danfoss A/S	Danfoss Power Solutions	23049	6430	Nordborg	
Danfoss A/S	Danfoss Silicon Power	23048		Flensburg	
Danfoss A/S	Danfoss Technologies Pvt Ltd.	31779	411014	Magarpatta City	Pune

Step 3: MDS Search - Recipient data *
 Part/Item No. 150-0361

Step 4: MDS Search - Recipient data *
 Send Propose

Danfoss Power Solutions CDX ID: 23049	Danfoss Climate Solution CDX ID: 23051	Danfoss Drives CDX ID: 30070	Danfoss Silicon Power CDX ID: 23048	Danfoss Technologies Pvt Ltd. CDX ID: 31779	
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Additional Support



- [CDX „FAQ“ section](#) provides answers to common concerns and process-related questions
 - Questions and Answers are categorized for easy reference



Frequently Asked Questions
What is CDX?
Why do I need CDX?
What is the benefit of using CDX for Responsible Minerals reporting?
What is the benefit of using CDX if my suppliers are not registered in CDX?
What is the benefit for my suppliers using CDX?
How do I register in CDX?
Once I register our company, when can I begin to use CDX?
Who owns and has access to the CDX information?
How do I respond to a customer request?

- For more information
 - Visit [CDX Login Webpage](#)
 - Visit CDX – Material reporting section on [public.mdsystem.com](#)
 - Visit [Supplier requirements](#) & [Product Compliance](#) on Danfoss.com
 - Request support through [CDX Contacts](#)

▪ If more information/training is needed, please contact your responsible Danfoss buyer

- [Tips to Create Material MDS](#)
- [Tips to Create Component MDS](#)

These tips are originally for IMDS, but information contained is relevant for CDX reporting, too

Useful Tips



■ CDX License

- After registration, users can create datasheets, evaluate owned MDSs against legislations and submit to customers
- Data sheets for own components can also be imported from other formats (IMDS, IPC1752, IPC1754 or IEC62474)
- However, if you want to receive and review data sheets from your suppliers, CDX MDS License is required

■ CDX System check

- Any time when editing your datasheet, you may execute a system check to see if any system / structure errors affect your component

No.	Type	Tab	Node / Recipient	Message
1	Information	Ingredients	Component_106578440	The measured weight per item needs to be greater than zero.
2	Error	Ingredients	Component_106578440	Replace the default name of this datasheet with a meaningful name.
3	Information	Ingredients	Component_106578440	The one level declaration should have at least one attachment

MDS Administration menu items:
Personal settings
Password Change
Change View
Notification
Company
User
Trust user
MDS Admin
CDX Licenses

■ Confidential substances in CDX

Confidential

- If you have confidential substances (your know-how) in your materials, you may mark a specific substance „confidential“. Please be aware that substances marked as declarable/restricted in Danfoss Negative List cannot be designated as 'confidential'."

[Read more on Danfoss Negative List on our Product Compliance Page](#)





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