



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                                        |

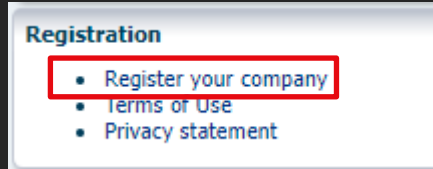


# CDX - Registration



- 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



**CDX Credentials**  
Please copy your CDX credentials below and store them in a safe place. They will not be displayed again, so make sure you copy them correct.

|              |           |
|--------------|-----------|
| User ID      | gteds008  |
| Password     | jfve3b6j  |
| Company ID   | 45285     |
| Company Name | TEST CASE |



☐ I understand an email will arrive shortly with a link I must use to activate my new registration before I may login. I confirm I have recorded my credentials for logging into CDX after I activate my registration. Not complying to these requirements will render your registration deactivated and you will need to contact support.

 OK

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

Please click on the following link in your browser to activate your company in CDX:  
<https://www.cdxsystem.com/cdx/faces/login?op=reg&l=en&l=E2GqYL4dxvjYgdr97hr25TwJlPm44bm9LqR>

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 (cdxsystem.com)
- Recorded registration instructions

# CDX - 1st Start



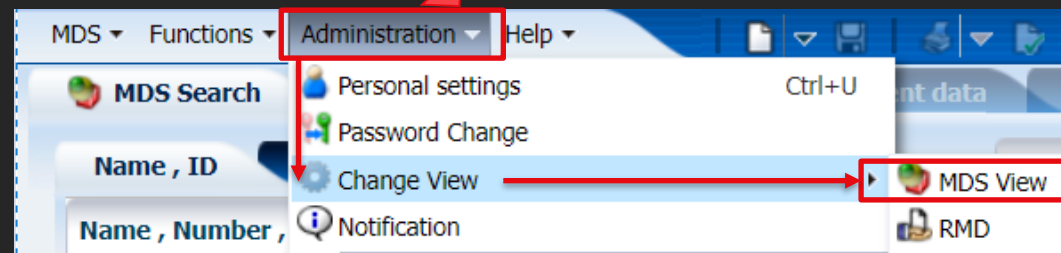
## Login after registration

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

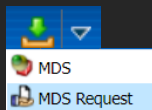
Login form with fields: User ID, Password, Language (English), and a Login button.

## MDS View

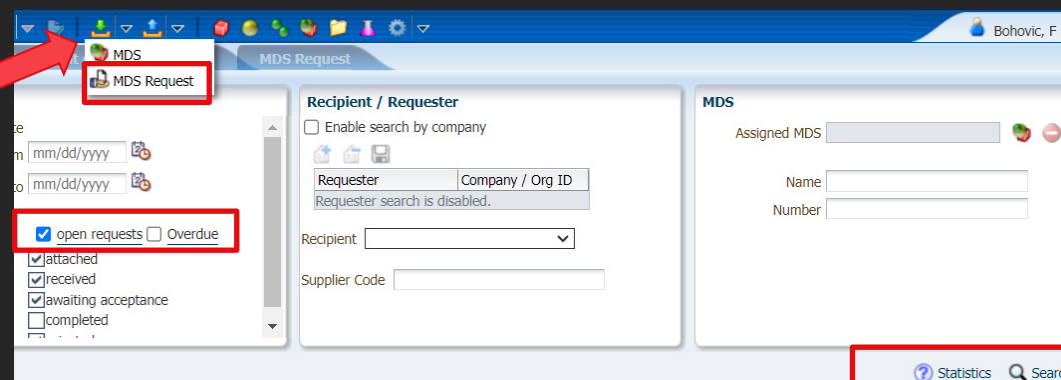
- As CDX is supporting various compliance areas (chemical compliance, Conflict Minerals,..), it is necessary to ensure that you use the correct 'system view'. For our needs, 'MDS View' is the correct option.
- Administration > Change View > MDS View



## 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*.

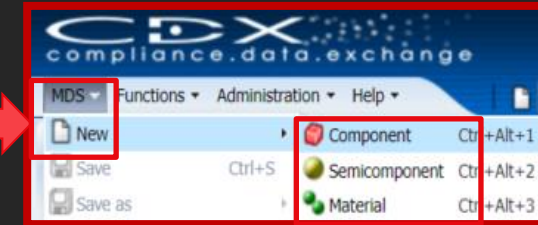


# CDX - Answering a request



- 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:

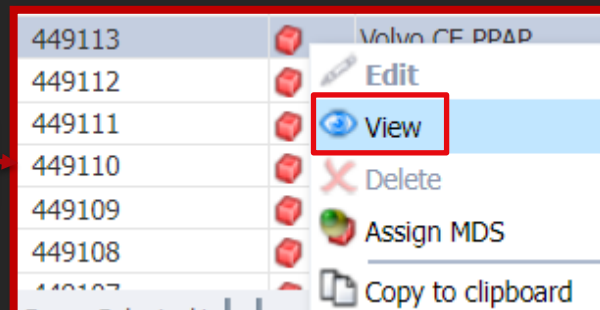
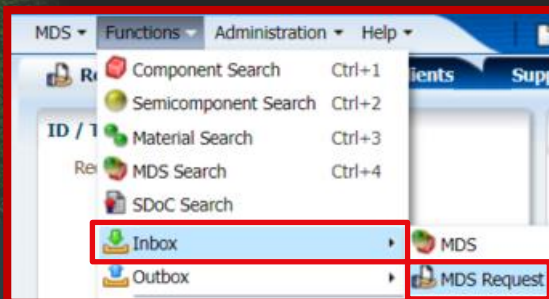
## 1. Create a Material Datasheet (MDS) or Assign existing MDS to a request



- 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



Assign if you have already created requested MDS

Create MDS for Component or Material, you supply to Danfoss



# CDX – WHAT IS AN MDS?

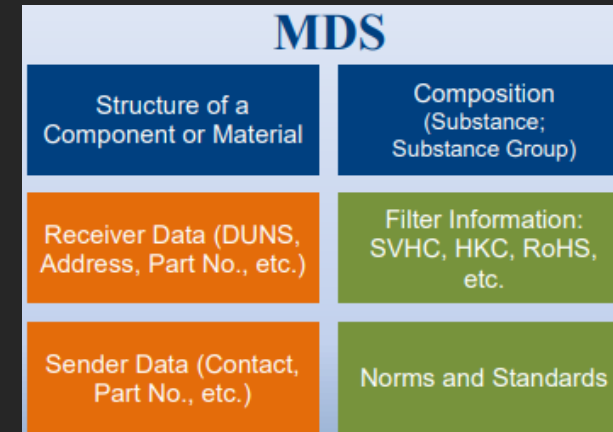


## Material Datasheet (MDS)

- 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                                             |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------|
| <b>Material</b><br>       | Represents a homogeneous structure – meaning if you took a vertical slice through the product, you would not see layers                                                                                                                                | Materials<br>Semicomponents<br>Components | Material,<br>Basic Substance                                 |
| <b>Semicomponent</b><br> | 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,<br>Components             | Semicomponent,<br>Material,<br>Basic Substance               |
| <b>Component</b><br>    | 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,<br>Semicomponent,<br>Material,<br>Basic Substance |

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

Received MDS Requests | Ingredients \* | Supplier data \* | Recipient data \* | Analysis | MDS Request

Filter: Common Regulations | (No Filter)

Test Material - Steel

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 Selected1 |           |          |            |         |         |

Apply

There are multiple options on how you can describe content range

Test Material - Steel

0.1 - 0.35% Lead

Details

Common Information

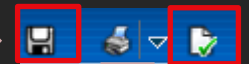
Amounts and Weights

Portion from - to

0.1 - 0.35 %

Weighted mean 0.225%

Make sure to perform system check and save your progress



Ingredients \* | Supplier Data \* | Recipient data \*

version 1296003702 / 0.01 | Node ID 1296003702 | Status Edit mod

Propose | Release Internal | Publish

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

# How to - Create Component MDS

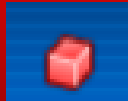


Component represents a final part for which weight cannot be changed

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)

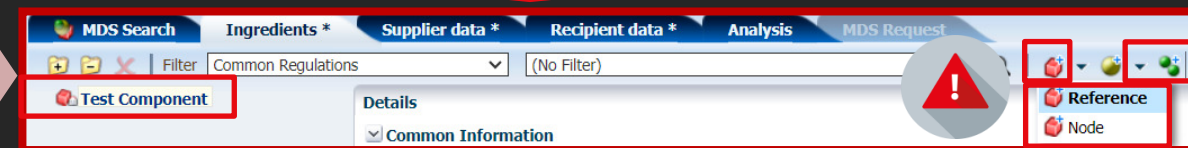
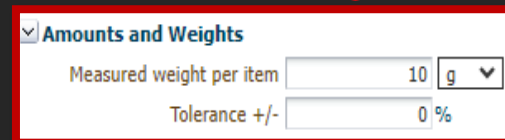
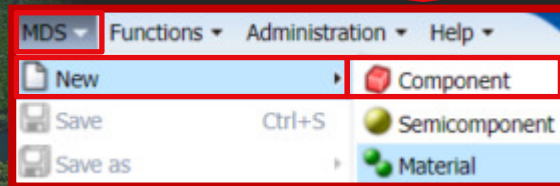
## Create a Component



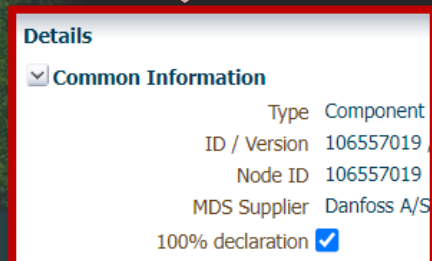
Go to:  
MDS - New - Datasheet - COMPONENT

Add weight of the component  
Tolerance is not allowed

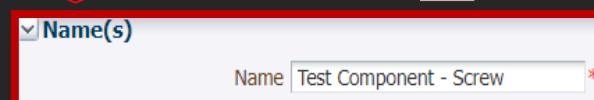
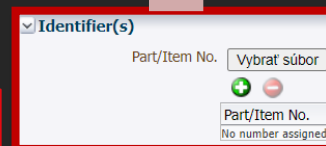
Next steps consists of assigning subcomponents  
and/or materials to the component we have created



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

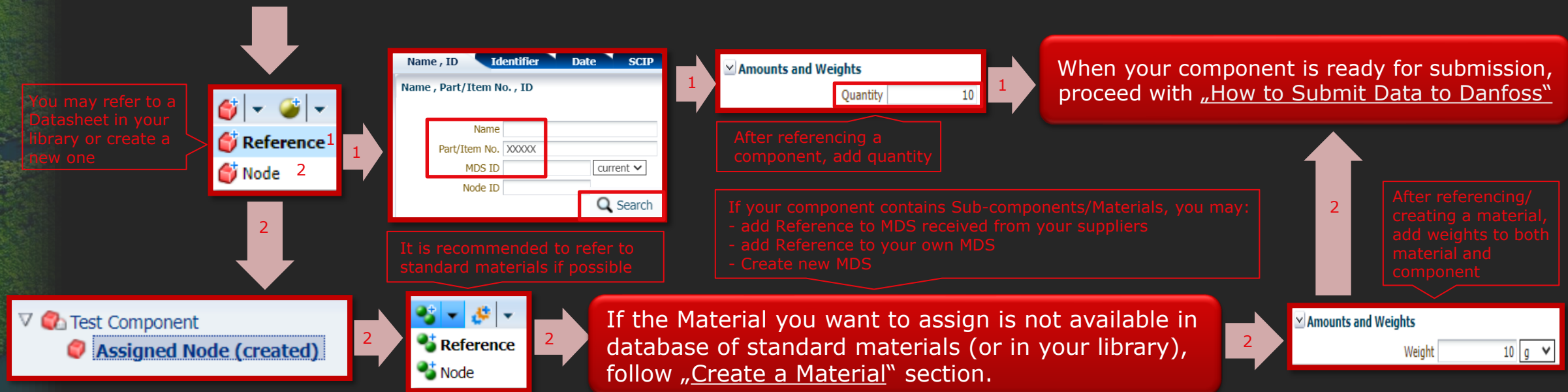
# How to – Add Material/Component to a Component



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



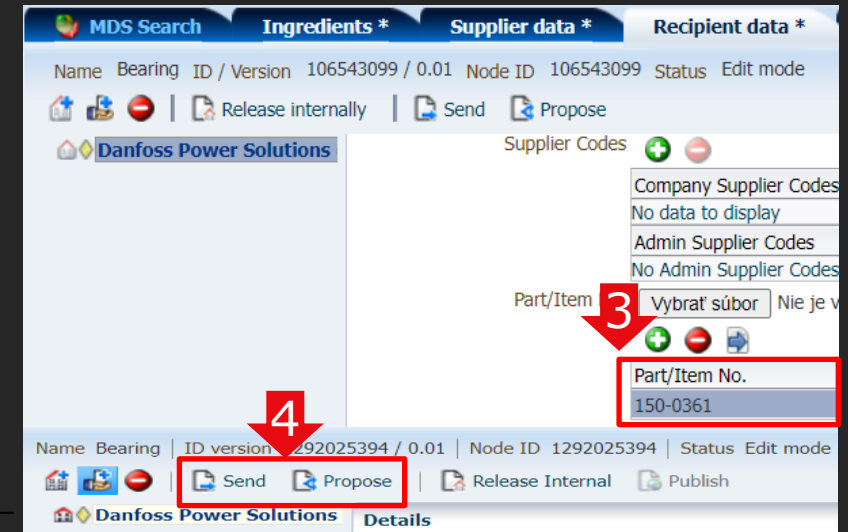
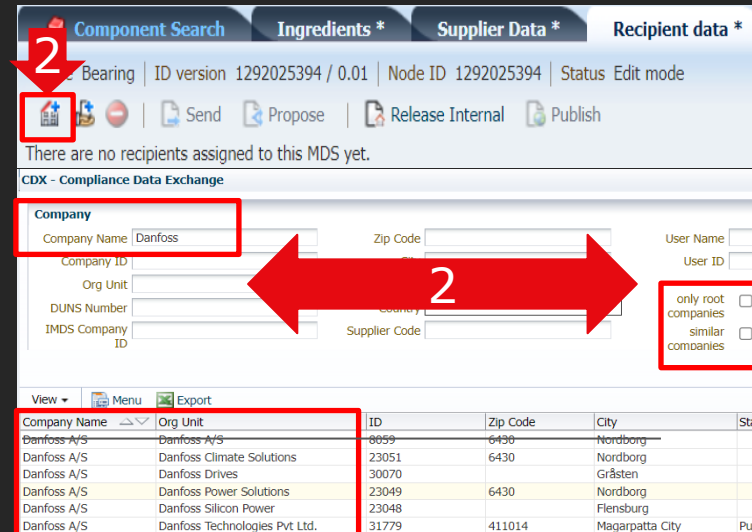
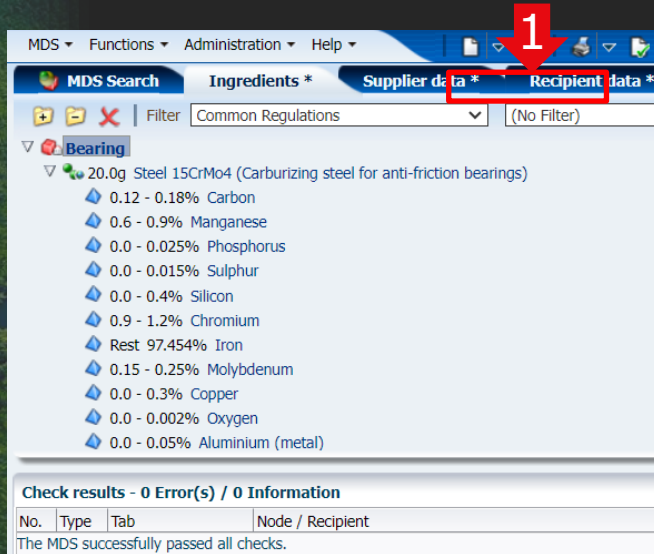
# How to - submit data to Danfoss

## 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)



|                                                                                    |                                                 |                                                  |                                        |                                               |                                                       |                                                                                       |
|------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | <b>Danfoss Power Solutions</b><br>CDX ID: 23049 | <b>Danfoss Climate Solution</b><br>CDX ID: 23051 | <b>Danfoss Drives</b><br>CDX ID: 30070 | <b>Danfoss Silicon Power</b><br>CDX ID: 23048 | <b>Danfoss Technologies Pvt Ltd.</b><br>CDX ID: 31779 |  |
|------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------|----------------------------------------|-----------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------|

# 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?                                                              |
| <del>What is the benefit of using CDX for Responsible Minerals reporting?</del> |
| 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

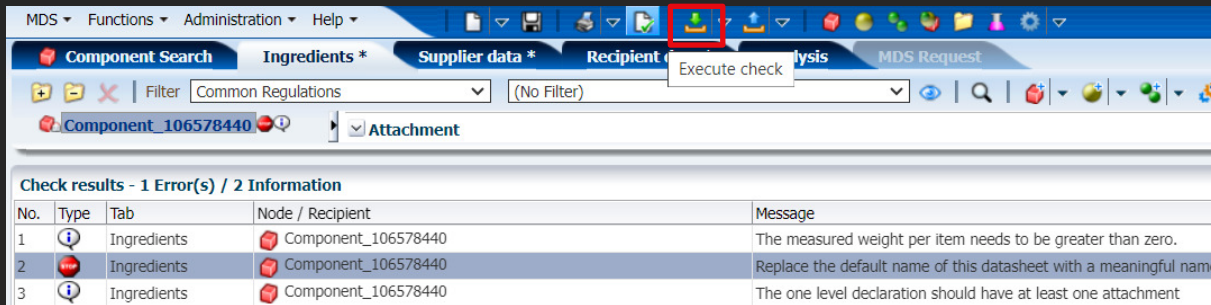


## ■ CDX License

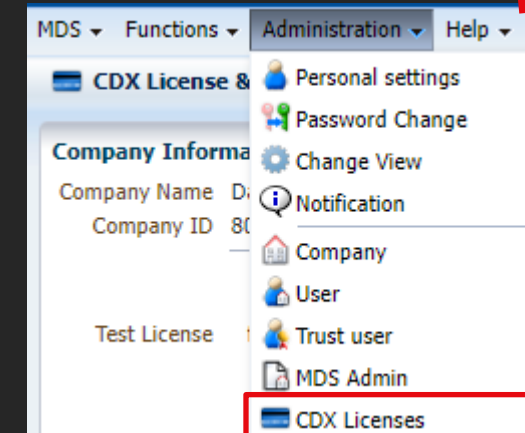
- After registration, users can create datasheets, evaluate owned MDSs against legislations and submit to customers
- Data sheets for own components can also be imported from other formats (IMDS, IPC1752, IPC1754 or IEC62474)
- However, if you want to receive and review data sheets from your suppliers,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



| Check results - 1 Error(s) / 2 Information |             |             |                     |                                                                    |
|--------------------------------------------|-------------|-------------|---------------------|--------------------------------------------------------------------|
| 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      |



## ■ 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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