



IMDS/CDX Training for Cummins Suppliers

2023

Public Use-Intended for Cummins Direct Suppliers

IMDS/CDX Training for Cummins Suppliers

03

Course Features

27

Cummins Requirements

05

Introduction

30

IMDS/CDX Resources

09

Key Concepts

32

Cummins Resources





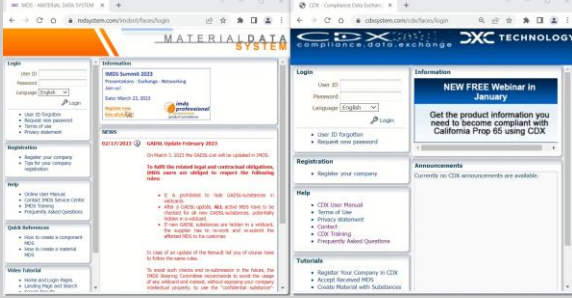

20

Basic Navigation

Course Features

Course Features



Feature	Symbol	Description	Action	Practice
Text		This symbol will be present on the slide when there are no audio, video, or hyperlinks	Read the slide only	Symbols in the upper right corner indicate if the slide has just text or other features
Audio		This symbol will be present on the slide when there is an audio element	Read the slide, click the speaker icon and then play button to listen	
Video		This symbol will be present on the slide when there is a video element	Read the slide, click the video and then play button to watch	
Link		This symbol will be present on the slide when there is a hyperlink to a website	Read the slide and click the underlined word	We will learn about IMDS and CDX today

Introduction

Introduction



To sell products globally, Cummins must be able to demonstrate product compliance to global regulations and customer requirements. Cummins can assess compliance to multiple regulations/requirements without having to resurvey the supply chain by reviewing supplier products Full Material Declarations (FMDs); and in some cases, additional specific information.



Purpose of this training is to:

- Provide an overview of the software tools (IMDS/CDX) Cummins requires supplier use for their FMD submissions
- Provide details regarding Cummins data requirements for acceptance

Unreported data leads to loss in market share as compliance cannot be verified.



What are IMDS & CDX?

- International Material Data System (IMDS)
- Compliance Data Exchange (CDX)
- Both are internet-based software by DXC Technology (DXC)
- IMDS was developed and financed by the automotive industry's OEMS and is free to suppliers
- CDX was developed by DXC to support other industries. It is financed by license purchases, but basic use is free
- Supports compliance to regulatory and other requirements
- Most customers require suppliers to report data in IMDS or CDX as part of PPAP
- Cummins requires Full Material Declaration (FMD) of the supplied product from each Tier 1 supplier (including distributors)
- IMDS and CDX assign an Identification Number (ID) for each entry. The ID of the salable product is entered on the PPAP Warrant

The screenshot displays the IMDS/CDX software interface. The left pane shows a hierarchical list of components under the heading "Module, Doser Fluid Supply". A green arrow points from the "2.1g EN AW-ALSi1MgMn" component in the list to the "Details" pane on the right. The "Details" pane shows information for the selected component, including a table of "Common Information" and a table of "Amounts and Weights".

Common Information	
Type	Component (own MDS)
ID / Version	1054546144 / 2
Node ID	1055752846
Node count	2502
MDS Supplier	Cummins Inc.
Description	Module, Doser Fluid Supp
Part/Item No.	A066S538
Preliminary MDS	No
Multi Sourced	No

Amounts and Weights	
Measured weight per item	1287.0396 g
Calculated weight per item	1287.0396 g
Deviation	0.0%

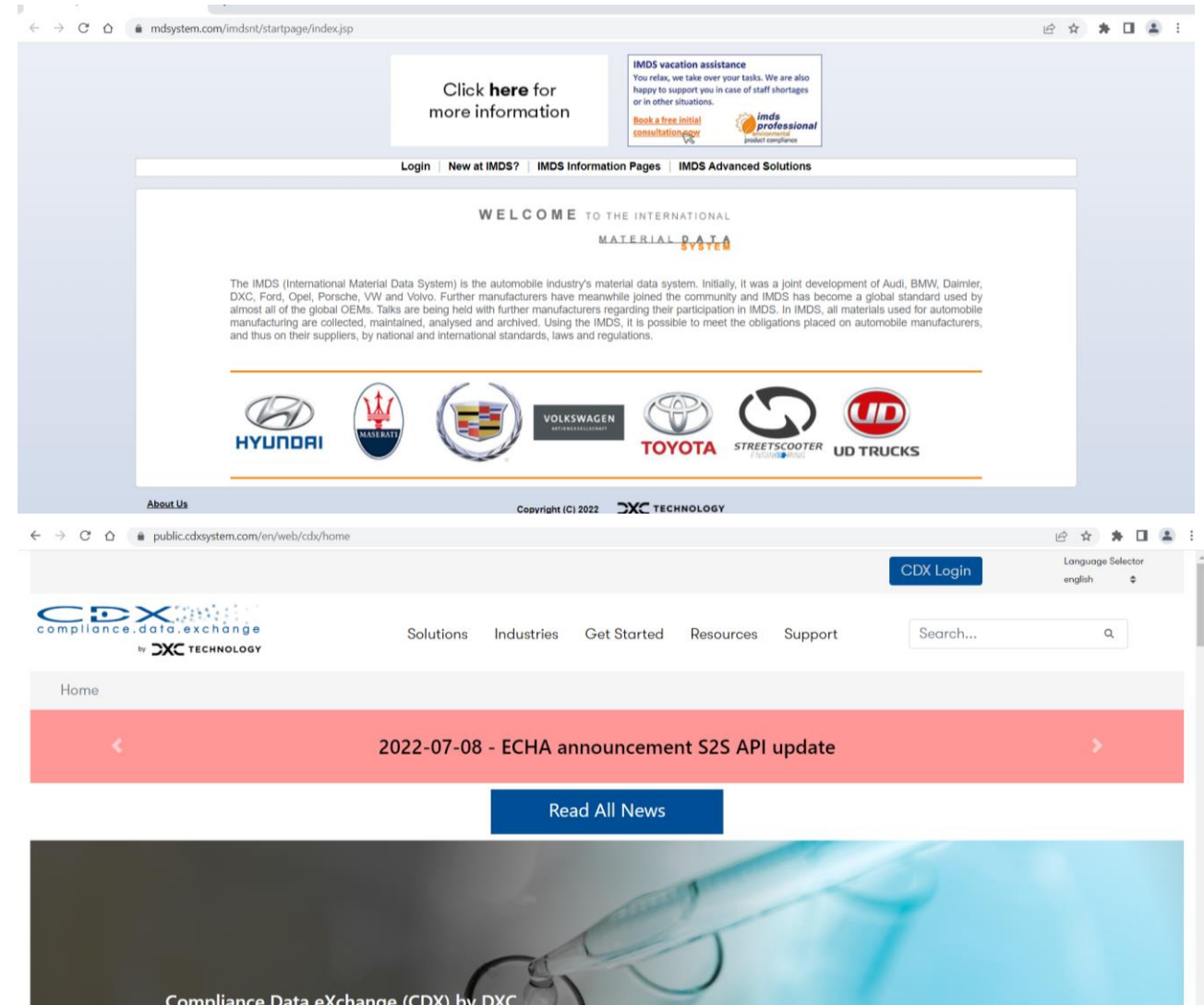
Accessing IMDS & CDX



Websites

www.mdsystem.com

www.cdxsystem.com



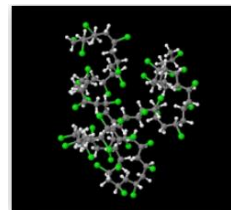
Key Concepts

Key Concepts

Note: Substance restrictions can occur at various levels of the assembly, depending on the regulation.



- Component (Assembly)
- Component (Sub-Component)
- Semi-Component (Bulk item)
- Material
- Basic Substances (Chemicals)



PVC - Poly(vinyl chloride)



Copper - Wikipedia

Symbols Used in IMDS/CDX



Component



Semicomponent



Material




Basic Substances





Basic Substances



- Represented by blue triangles 
- Thousands of substances exist in IMDS/CDX
 - Substances with CAS/Einecs/EU Index Numbers
 - Substances without identification (pseudo-substances, generally polymers)
 - Wildcard substances (“system” as the CAS number)
- IMDS - Key substances are identified by **blue** text (GADSL* declarable), **red** text (GADSL prohibited), and/or underlined (REACH SVHC**)
- CDX – Identification of key substances is available only when using the filter in the ingredients part tree view

*GADSL: Global Automotive Declarable Substance List, www.gadsl.org

**SVHC: Substance of Very High Concern, echa.europa.eu/candidate-list-table

Basic Substances



MDS - MATERIAL DATA SYSTEM

mdsystem.com/imdsnt/faces/datasheetSearch?Adf-...

Eckermann, Mayrie
Cummins Inc. [3664]

MDS ▾ Functions ▾ Administration ▾ Help ▾

MDS/Module Search Ingredients Supplier Data Recipient data Analysis MDS Request

Filter GADSL show regulatory information

Widget

- 2.0g Brass
 - 71.0 - 73.0% Copper
 - 0.0 - 0.05% Iron
 - 0.0 - 0.05% Lead
 - Rest 27.8% Zinc (metal)
 - 0.0 - 0.3% Misc., not to declare

Details

Common Information

Type Component (own MDS)
ID / Version 1204635708 / 0.01
Node ID 1204635708
Node count 7
MDS Supplier Cummins Inc.
Description Widget
Part/Item No. MEE1
Preliminary MDS
Multi Sourced No

Dates

Create Date 3/14/2023
Check/Release Date not available Recommendation

Amounts and Weights

Measured weight per item 2.0 g
Calculated weight per item 2.0 g
Deviation 0.0%

SCIP

SCIP No.
SCIP Submission

CDX - Compliance Data Exchange

cdxsystem.com/cdx/faces/searchDatasheet

Eckermann,

MDS Search Ingredients * Supplier data Recipient data Analysis MDS Request

Filter Common Regulations (No Filter)

Widget

- 2.0g Brass
 - 71.0 - 73.0% Copper
 - 0.0 - 0.05% Iron
 - 0.0 - 0.05% Lead
 - Rest 27.8% Zinc (metal)
 - 0.0 - 0.3% Misc., not to declare

Details

Common Information

Type Component
ID / Version 64636236 / 0.01
Node ID 64636236
MDS Supplier Cummins Inc.
100% declaration
SCIP Compliance
External SCIP number
Brand
Type
Model

Article Category

Name(s)

Name Widget
Additional Names

Identifier(s)

Part/Item No. Choose File No file chosen

Materials



- Represented by 2 green dots
- Made from other materials (pigmented plastics) or basic substances
- IMDS – Must be pre-existing (cannot be created in part tree)
- Created Internally*, Submitted by Supplier, or Published (IMDS) / Standard (CDX)
- *CAUTION* - If you are not the material manufacturer, avoid creating the material
- Several IMDS Recommendation 001 (REC001) Requirements exist for materials (Note: Even though REC001 is specific to IMDS, Cummins considers REC001 as part of the CDX acceptance criteria.)



Materials

- Confidential substances in materials are considered:
 - Non-GADSL, Non-Regulated substances, marked as Confidential
 - A Wildcard Substance
- A pseudo-substance is not considered a “confidential substance”
- Users MUST update the material if/when confidential substances become declarable. Per the IMDS Rule:

"The Data-Providing USER has the responsibility to disclose confidential substances if these are added to any legal regulation."

Example

PA6 - Pseudo-substance (no CAS No.)


Misc., not to declare – Wildcard (CAS=“system”)

6,15-Dihydroanthrazine.. – Non-GADSL substance marked confidential

The screenshot displays a software interface with two main panels. The left panel, titled 'PA6', shows a list of components with their percentages: 'Rest 52.9% PA6', '40.0% Nonanedioic acid, polymer with 1,6-hexanediamine', '5.0% Misc., not to declare', '2.0% C.I. Pigment Yellow 183', and '0.1% 6,15-Dihydroanthrazine-5,9,14,18-tetrone'. The last item is highlighted with a blue selection box. The right panel, titled 'Details', shows 'Common Information' for the selected substance. It lists: 'Type: Basic Substance', 'Name(s): 6,15-Dihydroanthrazine-5,9,14,18-tetrone', 'CAS No.: 81-77-6', 'EINECS-No.: 201-375-5', 'EU-Index: -', 'GADSL Category: -' with a link to 'GADSL.org', 'REACH-SVHC: No' with a question mark icon, and 'Confidential: ☒'. The interface has a standard Windows-style title bar and toolbar.

Semi-Components



- Represented by yellow circle 
- Made from semi-components and/or materials
- Weight – weight/unit – Until attached to a component
- Examples: bulk wire or tubing (not cut to size), castings (before they are machined)



Components



- Represented by a red square
- Made from other components, semi-components, and/or materials
- Has a defined weight





Key Concepts

- Material Data Sheet (MDS): The main “currency” of IMDS/CDX
- Ingredients (MDS & Module): Expanded Bill of Material of product, “Part Tree”
- Supplier Data (MDS): Internal Contact
- Recipient Data (MDS): Customer or Internal
- Node: An item in the part tree
- Referenced Node: Has its own ID. May be internally created data, supplier accepted data, or published (IMDS), or a standard material (CDX)



Key Concepts

MDS - MATERIAL DATA SYSTEM

mdsystem.com/imdsnt/faces/datasheetSearch?Adf-...

Eckermann, Mayrie
Cummins Inc. [3664]

MDS Functions Administration Help

MDS/Module Search Ingredients Supplier Data Recipient data Analysis MDS Request

Filter GADSL show regulatory information

Widget

- 2.0g Brass
 - 71.0 - 73.0% Copper
 - 0.0 - 0.05% Iron
 - 0.0 - 0.05% Lead
 - Rest 27.8% Zinc (metal)
 - 0.0 - 0.3% Misc., not to declare

Details

Common Information

Type	Component (own MDS)
ID / Version	1204635708 / 0.01
Node ID	1204635708
Node count	7
MDS Supplier	Cummins Inc.
Description	Widget
Part/Item No.	MEE1
Preliminary MDS	<input type="checkbox"/>
Multi Sourced	No

Dates

Create Date 3/14/2023

Check/Release Date not available

Recommendation

Amounts and Weights

Measured weight per item 2.0 g

Calculated weight per item 2.0 g

Deviation 0.0%

SCIP

SCIP No.

SCIP Submission

CDX - Compliance Data Exchange

cdxsystem.com/cdx/faces/searchDatasheet

Eckermann, M

MDS Search Ingredients * Supplier data Recipient data Analysis MDS Request

Filter Common Regulations (No Filter)

Widget

- 2.0g Brass
 - 71.0 - 73.0% Copper
 - 0.0 - 0.05% Iron
 - 0.0 - 0.05% Lead
 - Rest 27.8% Zinc (metal)
 - 0.0 - 0.3% Misc., not to declare

Details

Common Information

Type	Material
ID / Version	24851 / 2
Node ID	46501
MDS Supplier	CDX Standard Materials
100% declaration	<input checked="" type="checkbox"/>
External SCIP number	
Brand	
Type	
Model	
Is Article	<input type="checkbox"/>

Name(s)

Name Brass

Additional Names

Identifier(s)

Internal Material No.

Additional Identifiers

Dates

Query Lists

Product Business Info

Module vs. Material Data Sheet (MDS)



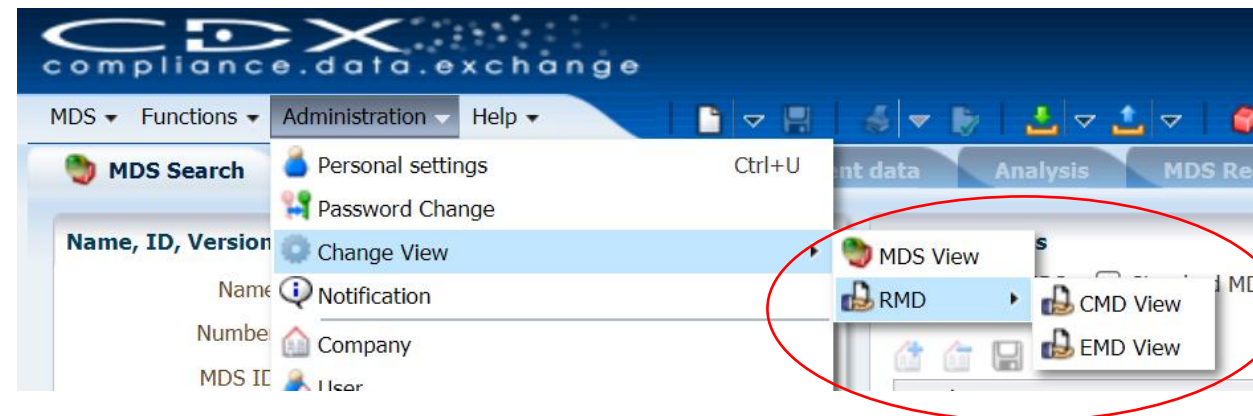
- Modules Only Exist in IMDS (Not CDX)
- Modules Do Not have a Supplier Data or Recipient Data Chapter
- Modules Can be Created from a Node
- Modules Cannot be tagged to Org Unit
- Modules Cannot be updated using the MDS Update Feature
- Modules Can be converted to an MDS (before it is internally released)
- Cummins suggests all datasheets be created as MDSs, instead of Modules

Basic Navigation

General



- Basic Entry - IMDS and CDX Similar Navigation
- Multiple Ways to Navigate the same action
- Menu Options Become Selectable When Appropriate
- CDX/IMDS – Additional menu options depending on the system and authorization profile
- Log Off – do NOT close (“X”) your browser without logging off first. “X”: If you close your browser without logging off, you may be able to log back in right away
- Do not use browser back button for navigation
- CDX – CMD (Conflict Minerals Declaration Manager) vs MDS Views





Searching

- Search fields – Different criteria for each datasheet type
- Flexible Searching – Use the asterisk *
- Data Location – Published/Standard, Own (Internal), Supplier “Accepted”
- Supplier data must be “Accepted” in order to find it in the search

The screenshot displays the 'MDS/Module Search' window with the following sections:

- Name, ID, Version, Date:**
 - Name: [Text Field]
 - Part/Item No., Item-/Mat.-No., Material No.: [Text Field]
 - ID: [Text Field] with a 'Current versions' dropdown
 - Preliminary MDS: [Dropdown]
 - Date: ☐ published / accepted / internally released, ☐ created
 - from: 02/22/2023 to: 03/22/2023
 - Regulation Request: ☐ Received request for regulation update
 - from: 02/22/2023 to: 03/22/2023
- Supplier MDSs, Own MDSs/Modules:**
 - ☐ accepted MDSs, ☐ published MDSs, ☒ own MDSs, ☒ own Modules
 - ☐ Enable search by supplier
 - Supplier: [Text Field], Company- / Org.: [Text Field]
 - Supplier search is disabled.
 - ☐ last edited by me
 - Assigned Org Unit: [Dropdown]
 - Assigned Contact: [Dropdown]
 - ☐ obsolete

A 'Search' button is located at the bottom right of the interface.



Receiving / Accepting / Rejecting

- Supplier Data comes into the Inbox
- Data must be viewed before the Accept or Reject buttons are available
- Reviewing Data
 - Check Feature – Serves as a “spell check” only
 - Part Tree Must be Expanded and all Nodes checked for Cummins acceptance standards

The screenshot displays the 'MDS/Module Search' window with the 'Supplier Data' tab selected. The interface includes a top navigation bar with 'MDS', 'Functions', 'Administration', and 'Help'. Below this, a tabbed menu shows 'Ingredients', 'Supplier Data', 'Recipient data', 'Analysis', and 'MDS Request'. The main search area is divided into two panels. The left panel, titled 'Name, ID, Version, Date', contains input fields for 'Name', 'Part/Item No., Item-/Mat.-No., Material No.', 'ID', and a 'Preliminary MDS' dropdown. It also features date pickers for 'Date' (with options for 'published / accepted / internally released' and 'created') and 'Regulation Request' (with an option for 'Received request for regulation update'). The right panel, titled 'Supplier MDSs, Own MDSs/Modules', includes checkboxes for 'accepted MDSs', 'published MDSs', 'own MDSs' (checked), and 'own Modules' (checked). It also has an 'Enable search by supplier' checkbox and a 'Supplier search is disabled.' message. Below this, there are fields for 'Supplier' and 'Company - / Org.:', a 'last edited by me' checkbox, and dropdowns for 'Assigned Org Unit' and 'Assigned Contact'. An 'obsolete' checkbox is at the bottom. A 'Search' button is located in the bottom right corner.

Creating MDSs



MDS ▾ Functions ▾ Administration ▾ Help ▾

MDS/Module Search Ingredients Supplier Data Recipient data Analysis MDS Request

Name, ID, Version, Date

Name

Part/Item No., Item-
/Mat.-No., Material No.

ID Current versions ▾

Preliminary MDS ▾

Date ☐ published / accepted / internally released
☐ created

from 02/22/2023 to 03/22/2023

Regulation Request ☐ Received request for regulation update

from 02/22/2023 to 03/22/2023

Supplier MDSs, Own MDSs/Modules

☐ accepted MDSs ☐ published MDSs ☒ own MDSs ☒ own Modules

☐ Enable search by supplier

☐ last edited by me

Assigned Org Unit

Assigned Contact

☐ obsolete

Supplier search is disabled.

Supplier Company- / Org.-:

Search



Submitting MDS

- Cummins Requests Proposing
- Propose
 - Internally Releases the MDS
 - Maintains Data History
 - Allows for Multiple Customers
- Sending
 - MDS stays in Edit mode, until Accepted
 - Additional customers cannot be added until first customer responds
 - No record of revisions due to rejections

The screenshot displays the MDS software interface. The top menu bar includes 'MDS', 'Functions', 'Administration', and 'Help'. Below this, a navigation bar shows 'MDS/Module Search', 'Ingredients', 'Supplier Data', 'Recipient data', 'Analysis', and 'MDS Request'. The 'MDS Request' tab is active, showing a search filter 'GADSL' and a list of items including 'Widget' and '2.0g Carbon Steel (1008)'. The 'Details' section on the right contains the following information:

Common Information	
Type	Component (own MDS)
ID / Version	1206633404 / 0.01
Node ID	1206633404
Node count	7
MDS Supplier	Filtration Org Unit
Description	Widget
Part/Item No.	OwnPN001
Preliminary MDS	<input type="checkbox"/>
Multi Sourced	No

Below the 'Common Information' section, the 'Dates' section shows:

Dates	
Create Date	3/22/2023
Check/Release Date	not available

A 'Recommendation' button is visible at the bottom right of the 'Dates' section.

Revising – Editing, Modifying, Coping, New Version

- Editing – All MDS chapters can be edited, if datasheet is still in Edit mode (version a decimal)
 - Note: If MDS was Sent to a customer, and is waiting status, it CANNOT be Edited
- Modifying – If MDS was Rejected by Customer, the Company Data can be Edited (aka Modified) and re-Sent/Proposed (without having to make a New Version)
- Copy>New Version vs. Copy>New Datasheet (Refer to REC001)
 - New Version: Maintains the MDS ID (use this to update the ingredients page of an internally released/proposed MDS)
 - New Datasheet: Assigns a New MDS ID (to use as a template for a new part number)
- Ideally – One PN has One MDS ID

Cummins Requirements

KEY IMDS Recommendation 001 Rules



- Cummins Standard for both IMDS and CDX
- Datasheet Structure
- 10% max unspecified substances per homogenous material
- New Datasheets (new Cummins PN) vs New Version (updates/revisions to an existing MDS for the SAME PN)
- IMDS Recommendation 001 may be found under the Help menu after logging into IMDS
- Additional information may be found here:
<https://public.mdsystem.com/en/web/imds-public-pages/faq>



Before Submitting to Cummins

- Cummins PN and Supplier Code must be entered into the Recipient Data – Company Information Section
 - Note: Supplier Code = SIM ID, S360ID, Vendor Code, or Internal Supplier ID as referenced in the MDS Request e-mail notification
- Verify the integrity of the IMDS/CDX ID (One ID per Cummins PN)
- Materials: Naming, Classifications, and Compositions
- Hidden / Deleted Substances
 - Percent of Confidential Substances
 - Restricted / Prohibited Substances
 - Applications / Exemptions
- IMDS/CDX Check Feature – Serves as a “spell check” only. Passing the check does not guarantee the MDS will be Accepted by Cummins



IMDS/CDX Resources



IMDS/CDX Training

<https://public.cdssystem.com/en/web/cdx/training>

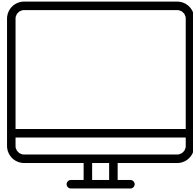
<https://public.mdsystem.com/en/web/imds-public-pages/imds-training-courses>

DXC IMDS/CDX Contacts

<https://public.cdssystem.com/en/web/cdx/contact>

<https://public.mdsystem.com/en/web/imds-public-pages/imds-service-centers>

Cummins Resources



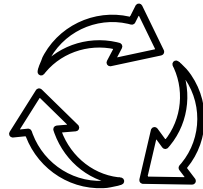
[Cummins Supplier Portal](#)



General Contacts for FMD (IMDS-CDX)
supplier.compliance@cummins.com



Conflict Materials
conflictminerals.reporting@cummins.com



Cummins Green Supply Chain
getenvolved@cummins.com

Thank you!





®