IMDS user guide for MANN+HUMMEL suppliers

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| Revision | Date | Change | Author |
|----------|------------|--|--------------------|
| Rev. 0 | 01.09.2021 | Initial issue | Global IMDS Expert |
| | | Added MANN+HUMMEL Molecular GmbH ID 256848 where related. | |
| Rev. 1 | 10/2023 | Added chapter 7 RECIEVE MDS FROM SUBSUPPLIER AND ADDING THEM TO OWM MDS. Added information about Application codes to chapter 8. | Global IMDS Expert |
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GENERAL INFORMATION

This document contains manual for creation and submission of material data sheets to MANN+HUMMEL Company. Except specific MANN+HUMMEL requirements all rules are taken from IMDS Recommendation which can be found on International Material Data Systém website <u>http://www.mdsystem.com</u> and from our customer's requirements which are published in the respective customer specifications.

General information on registering can be found on IMDS Information Pages.

https://public.mdsystem.com/en/web/imds-public-pages.

IMDS Recommendation can be found after login into IMDS System in section Help.



The flow of data through IMDS using companies must reflect flow of materials and components through the automotive supply chain. Material data are passed along the supply chain from the very first sub supplier to the automobile manufacturer.

Providing complete material information in IMDS system is MANDATORY for all automotive suppliers.

This manual has been created to guide you through the most important issues and provide explanation of the most re-occuring errors causing rejection of MDS.

If you need further information or help to finish your MDS please visit the IMDS Information Pages on <u>https://public.mdsystem.com/en/web/imds-public-pages</u> where detailed manuals in several languages are available or send your question directly to our MDM department <u>mdm@mann-hummel.com</u> and we will do our best to help you.

For questions regarding your login, password, invalid account etc. please contact your local IMDS Service center <u>https://public.mdsystem.com/en/web/imds-public-pages/imds-service-centers</u> provided by DXC system.

IMDS USER GUIDE

1. WHEN NEW MDS HAS TO BE CREATED

A new MDS ID needs to be created when part or material is introduced for the first time to the customer. A new customer part number requires a new IMDS ID.

e.g. If part number is changed from 1234567S01 to 1234567S02, new IMDS ID has to be created.

For one part number from one company ID (one supplier) only one IMDS ID should exist. Only exemption is when product supplied is made from 2 alternative materials in the same time. In this case two different IMDS IDs are acceptable.

A need for revision of existing datasheets is caused by several circumstances e.g. change of the material, change of the weight, change of the sub supplier. In this case new version or previously accepted ID has to be made.

e.g. IMDS ID 123456/1.00 will be updated to 123456/2.00

New version can be made by editing previously accepted MDS. You have to stay on accepted MDS, then click right mouse button and choose copy - new version. Then you can modify the entry and resubmit.

| 4 0 | IN DITLED THRACE AIN A | | | | |
|-------------|------------------------|------|----------------------|----------|-----------------|
| 6 | BUSHING | | | | |
| | RSON & TUB ASY ENG AII | 45-8 | Edit | | |
| Contraction | CLEAN AIR DUCT ASSY | 3 | View | | |
| 20 | PA6-GF30 | - | | _ | |
| | REINLUFTLEITUNG VST | G | Сору | <u>+</u> | 🗅 new Datasheet |
| | ZB REINLUFTLEITUNG OB | × | Delete | - 1 | new version |
| Ch | SYMPOSER ASSY / SYMPC | | Create MDS Report | -4 | _ |
| | ASS ASPIRATOR SILENCE | ~ | Create MD3 Report | | AEMPFER |
| | ZB ANSAUGGERAEUSCHD | | Check | | |
| | ACTIVE INTKE. MODULE | b | Copy to clipboard | | |
| | JET WASH / SCHEIBENWA | ND. | channel and a second | _ | |
| | ECENTRIC ROD ASSY | | Snow reject reason | | |
| - | | | | | |

2. WHERE TO SEND YOUR MDS

With exception of MDSs for MANN+HUMMEL Filtration Technology ID 172844, MANN+HUMMEL Filtration Technology Poland Sp. z o.o ID 206036 and MANN+HUMMEL Molecular GmbH ID 256848 data for all MANN+HUMMEL production locations are to be sent to the central company IMDS account MANN+HUMMEL GmbH ID 1126.

3. WHAT IS THE CORRECT MANN+HUMMEL FORMAT OF PART NUMBER

The most important information in MDS is MANN+HUMMEL part number. In case you don't use correct part number we are not able to find your product in our database and your MDS will be rejected immediately.

Standard MANN+HUMMEL part number has 10 characters, 1 of them can be a letter. e.g. 1013099S01, 2901400642, 1179912P01

Except these standard part numbers, specific formats of part number for some regions and plants are also possible.

- For Brazil, part number can have 13 characters instead of 10 and the first one is letter "R".

e.g. R390004713100, R210100411901. This "R" replaced number "5" in older part numbers and last two digits were added (usually 00).

- Korean part numbers can have more letters in the part number and also can begin with letter "D" for parts transferred from Dongwoo plant. In this case the part number has 11 characters.

e.g. D1267310301, D4403520101

- Original part numbers of MANN+HUMMEL Purolator are also different, they have usually less characters and begin always with letter "U". New part numbers have standard MANN+HUMMEL format.

e.g. UM524000, U6954728, UR027900

Exceptionally can part number for other plant also has different format. (e.g. MANN+HUMMEL Filtration Technology, Filtration Technology Poland and MANN+HUMMEL Molecular)

Part number is always specified by MANN+HUMMEL and has to correspond with records in our system. If you don't know correct number for your part please ask your contact person in purchasing department for help.

Standard MANN+HUMMEL part number has to be filled without any blanks or special characters as dashes, dots etc.!!! This rule doesn't apply to MANN+HUMMEL FILTRATION TECHNOLOGY, MANN+HUMMEL FILTRATION TECHNOLOGY POLAND and MANN+HUMMEL MOLECULAR numbers only.

e.g. EXP 089103 BLACK, C25082, 566_406_31_100, 11 816 17 S01. All these part numbers are WRONG and will be rejected!!



4. HOW TO REPORT YOUR PRODUCT

Products in IMDS structure are reported by using 4 kinds of symbols called "nodes". These nodes have hierarchical structure. Different nodes are commonly not mixed on the same level. The upper node is called parent node, the below node is called child node.

- Component
 Semi-component
 Material
 Substance
 ✓ Component WRONG!!
 ✓ 0.0q Semi Component
 ✓ 0.0q Semi C
- Component is a single finished product or assembly with defined weight. e.g. screw, cover, O-ring, pressure sensor, sound pipe assembly
- Semi-component is a semi-finished product that will go through further process steps to make a finished component (e.g. cutting, stamping...). Typical semicomponents are steel coil, pipe, sheet metal, leather hide, plated steel, roll of paper, coil of wire.

These "materials" are supplied in a form of a sheet, coil, pipe and then cut in production to smaller pieces or treated by something for example. Due to the fact that this is not a finished product, it is created without a weight but specific weight kg/m², kg/m has to be filled.

Material represents homogeneous structure, typically consists of basic substances only. Material must be described in its final state, without solvents, process chemicals which are not present after reaction anymore, such as oxygen etc.

Adhesives or paints must be reported in their dried state.

A mixture of components with semi-components or materials on the same level is allowed, if the material or semi-component is not an article, but a coating, lubricant or similar, added to the component



There is an exemption to the rule that material consists of basic substances only. It is valid for coloured thermoplastics when basic polymer and colour masterbatch are mixed and processed into a new coloured material. In this case the parent material is homogeneous.

The structure is then following:



You have to create this material internally and then use for your MDS.

Two or more materials forming layers cannot be regarded as homogeneous. Example Zinc coating on steel or paint layers cannot be reported as a material with sub-materials, as the top material is not homogenous.

Substance is basic structural element for all materials. Only producers of materials should use them for creation of their MDS.

There are special substances called process chemicals. These substances are reactive substances as solvents and they are usually not present in the finished product. In this case the shouldn't be part of MDS. In case they stay in finished product and their content is above 0,1% chemical presence type (impurity, reaction residue, intended use) must be chosen.

For example substance 1,3 Di-o-tolylguanidin as below.

| ∇ 💊 2.22g ACM | Name(s) | 1.3-Di-o-tolylguanidine |
|---|----------------------------------|------------------------------|
| | Name(s) | 1,5-DI-O-tolyiguanidine |
| 4 35.0 - 45.0% Carbon black | | 1,3-Ditolylguanidine |
| 0.5 - 1.5% 4-(1-Methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl]aniline | | N.N'-Bis(2-methylphenyl)guan |
| 1.0 - 2.0% 1,3-Di-o-tolylguanidine | | |
| 4 6.0 - 9.0% Further Additives, not to declare | | N,N'-Di-o-tolylguanidine |
| | CAS No. | 97-39-2 |
| | EINECS-No. | 202-577-6 |
| | EU-Index | - |
| | GADSL Category | duty-to-declare |
| | REACH-SVHC | No |
| | Mathematical Amounts and Weights | |
| | Portion | 1.0 - 2.0 % |
| | weighted mean | 1.5% |
| | | |
| | Basic substance groups | Process Chemicals |
| | | Reactive Substances |
| | | Renault Complete |
| | | Renault Orange |
| | Chemical presence type | |
| | Chaminal annual han | |
| | Cnemical presence type | (W) |
| | | |



5. WHAT IS CORRECT NAME FOR YOUR PRODUCT

Component

Please note that component name should be descriptive and in English. Capital letters should be used. Added translation to different language is possible and correct format is following:

e.g. COVER / DECKEL, SCREW / SCHRAUBE or O-RING

Semi-component

For semi-component the name should be also descriptive and in English.

e.g. SHEET METAL, STEEL COIL, PIPE

Material

The following table describes some Rules and Guidelines for the material name. (see IMDS Recommendation 001 Rule 4.4.2)

| Rule/Guideline | Description | | | | |
|----------------------|---|--|--|--|--|
| Rule 4.4.2.A | The material name must be entered in English. in the EN field. The added name translation in other languages is optional. | | | | |
| Rule 4.4.2.B | The material name must not be a trade name. Trade names can be entered in the field "Trade name" (see below). | | | | |
| Rule 4.4.2.C | the material is described in a public standard, or if the nomenclature for ma- rials of a certain type is described in a public standard (example: ISO 1043- to 4 for plastics, ISO 1629 for elastomers or ISO 18064 for thermoplastic astomers), then the material name according to this public standard must be intered, example:: | | | | |
| | For steels – EN 10027, JIS norms, example: STM-C 540 | | | | |
| | For aluminum alloys – EN 573, JIS norms, example: Al-Si12 | | | | |
| | For copper alloys – ISO norms, example: CuAl5 | | | | |
| | For plastics – ISO 1043-1 to -4, example: PE-LD | | | | |
| | For elastomers – ISO 1629, example: ACM | | | | |
| | For thermoplastic elastomers – ISO 18064, example: TPA-ES | | | | |
| Rule 4.4.2.D | f no name is available which is described in a public standard, then the name nust be descriptive. Examples are: | | | | |
| | Aluminum alloy | | | | |
| | Adhesive layer | | | | |
| | Basecoat, clear coat | | | | |
| | Glass | | | | |
| | Propellant, airbag | | | | |
| | Lubricant | | | | |
| Rule 4.4.2.P | The above mentioned Rules do also apply for the recipient specific name, if the MDS is sent to customers. | | | | |
| Guideline 4.4.2.a | For a (non-standard) descriptive name, the material name should identify the category (example: metal, polymer, mineral, propellant, organic, lubricant). | | | | |

UPDATE: With IMDS Release 12.0 in May 2019 only English material name can be entered. Field for other languages was removed.

Material names for plastic materials classification 5.1, 5.2 and 5.3 are given also in Annex IMDS Recommendation 001a.

Examples of wrong material names:

Sarlink 3170B, Thermoplastic Elastomer, EB058O, Copy_Polypropylene Fibers>PP<

Please note that wrong material name is one of the most common rejection reasons!!

6. WHAT ARE MATERIALS PUBLISHED BY IMDS COMMITTEE AND HOW TO FIND THEM

Many material MDS, especially for metallic materials, have been published by IMDS Steering Committee. Materials are published under 3 IMDS companies: IMDS-Committee (IMDS-Committee, Committee/ILI Metals and Stahl und Eisen liste).

When applicable, these must be used instead of creating your own. Making an identical copy of these material MDSs is not allowed!!! Use them in your MDS directly with ID published by IMDS Committee.

If material used does not match the material composition given in published MDS, the material MDS must not be used. In this case please inform us about this fact. If you use metallic material please try to find standard published MDS in the system first. It is done in material search folder.



First you have to choose Published MDS, then choose the supplier, in this case IMDS-Committee companies to sort all published MDS.

| MDS + | Functions - Administration | + Help + | Supplier MDSs, Own MDSs/Modul | 25 | |
|-------|----------------------------|----------|--|-------------------|-----------|
| - 🐁 r | Component Search | Ctrl+1 | accepted MDSs 🗹 published MDS | s 🗌 own MDSs 🗌 ow | n Modules |
| | Semicomponent Search | Ctrl+2 | Enable search by supplier | _ | |
| Nau | 💁 Material Search | Ctrl+3 | | | |
| | mDS/Module Search | Ctrl I 1 | Supplier | Company- / OrgID | |
| | 🐣 In Box | • | IMDS-Committee | 423 | |
| | 🖄 Out Box | + | IMDS-Committee / ILI Metals Stahl und Ficen Liete | 18986 | |
| L | 👗 Where-Used Analysis | | | 515 | |
| 54 | 📣 Substance Search | Clil+5 | | | |
| | 🐽 Basic Substance Request | | Org Unit | | |
| υ | Basic Substance Changes | ۲ | Assigned | × | Ť |
| | 🎨 MDS updates | | | | |
| | Clipboard | | | | Q Search |

You can narrow search results by using several keys – material name OR standard international material number OR public norm OR classification OR all these information together.

| MDS 🗸 Functions 🗸 Administration 🗸 Help 🗸 🛛 📔 🤝 🔛 🛛 🞼 | 12 2 - 2 - 9 0 0 0 1 |
|---|-------------------------------|
| % Material Search Ingredients Supplier Data Recipie | ent data Analysis MDS Request |
| Name, ID, Version, Date | Norm, Symbol, Classification |
| Name X5CrNi18-10 | Trade name |
| Internal MatNo. | Std. MatNo. 1.4301 |
| ID Current versions 🗸 | Symbol |
| Development Sample Report | Norm EN 10088 🔍 🤤 |
| Language English 🔽 | Classification 1.1.2 🔍 🤤 |
| Date (only for MDSs) | |
| from 07/21/2015 🖄 to 08/21/2015 🖏 | |

Then click on search and all relevant results are displayed in the window below.

| Internal Internal MatNo. ID Current versions Sample Report Sample Report Induct Name Supplier Company- / Org Norm EN 10088 Classification 1.1.2 Cassification Cassificatio |
|--|
| Tune Name Symbol Trade name Std Mat No Internal Mat No ID / Version Sympler |

When you find suitable material MDS, please open it and check if the material composition in the MDS corresponds with composition of the material you use. If they are compliant, please use the published material.

| MDS 🗸 Functions 🗸 Administration 🗸 Help 🗸 📔 | ㅋ 🗄 🕞 🔁 🕭 ㅋ 🖆 ㅋ 🔗 👄 🎭 🧐 🛝 |
|---|---|
| Material Search Ingredients Supplier Data | Recipient data Analysis MDS Request |
| 🔁 🔁 Filter GADSL 🔽 🗸 | |
| √ | Type Material (published MDS) ID / Version 22854 / 11 |
| ↓ 0.0 - 2.0% Manganese ↓ 0.0 - 0.11% Nitrogen | Node ID 528360978 Node count 10 |
| ♦ 8.0 - 10.5% Nickel ♦ 0.0 - 0.045% Phosphorus ● 0.0 - 0.045% Colleburg | MDS Supplier Stahl und Eisen Liste Name X5CrNi18-10 ? |
| ↓ 0.0 - 0.013% Support ↓ 17.5 - 19.5% Chromium ↓ Rest 70.63% Iron | Trade name - 🕜 Internal MatNo. 1.4301 |
| | Development Sample Report No I have declared all GADSL Yes substances |
| | ✓ Dates |
| | Create Date 3/24/2015 🕜 |
| | Check/Release Date 3/24/2015 🕜 📑 Recommendation |
| | ✓ Material Information |
| | Std. MatNo. 1.4301 Symbol - |
| | Classification 1.1.2 highly alloyed |
| | Norms / Standards |
| | Company Norm Norm Code |
| | - UIN 5512-3 - EN 10028-7 - EN 10088-1 |
| | - EN 1008-2 - EN 10088-3 |

For common surface treatments as e-plate, passivation, zinc-flake coating, topcoat and sealant you can also find standard published materials by IMDS Committee, Zentralverband Oberflaechentechnik or by producer of this coating. The biggest producers are for example Nof Metal Coatings, Doerken MKS, Magni.

Material MDS must ONLY be created by producers of these materials. Companies not producing materials must ask their material suppliers for material MDS or use respective material MDS published by IMDS Steering Committee!!! Creator of the MDS is responsible for correctness and completeness of created MDS.

If you are not a producer of material used and it is not possible to use standard published material by IMDS Committee you have to ask your material supplier to provide you material MDS (send it to your IMDS company ID).

If MANN+HUMMEL is your supplier of material for further production please send your request for material MDS to mdm@mann-hummel.com. We will provide you this material MDS.

7. RECEIVE MDS FROM SUBSUPPLIER AND ADDING THEM TO OWN MDS

When you receive MDS from your supplier you should check if it is compliant with current IMDS Recommendation to avoid further rejection. You can find MDS sent to your company ID in folder In Box. You can sort them according part number, ID, name, date of transmission, status or supplier.





Please open the required MDS, check it according to IMDS Recommendation and MANN+HUMMEL rules mentioned in this manual then go back to received MDS folder, stand on the line with MDS and click the right mouse button.

If the MDS is correct, click on accept. If there are any errors please reject the MDS and fill in rejection reason for your supplier.

| FUTCO | 04050 | | | | | |
|---------------------------------|------------------------------|--------------------|---|--|--|----------|
| . 🕑 Vie | ew | | | | | |
| l co | ру ⊦ | | L | | | |
| 📮 Fo | rward | | | | | |
| T Cre | eate MDS Report | | | | | |
| Ch 🕻 | eck | | | | | |
| lb co | py to clipboard | | | | | |
| 🕹 Ac | cept | | | | | |
| 😯 Re | ject | | | | | |
| in the sh | ow reject reason | | | | | |
| E Foi | llow Up | | | | | |
| | | | | | | |
| Reason fo <mark>r den</mark> ia | al | | | | | |
| teason for denial | Dear supplier, | | | | | ~ |
| | Your MDS was rejected. Pleas | e amend following, | | | | \sim |
| | < | | | | | > |
| | | | | | | |
| | | | | | | 👎 Reject |

In case you have accepted the entry from your supplier you can use it for your own MDS now.

You can also use published MDS ID which has been provided by your supplier. Usually big companies producing materials publish their MDS so there is no need to send them to every customer.

Create the component, semi-component or material node you need the supplier MDS for and click on appropriate icon to add the reference. You can add component, semi-component or material.



| MDS 🗸 Functions 🗸 Administration 👻 Help 🗸 🔰 🥃 | | | | | | | | |
|---|---------------------------|---------------------|---|--|--|--|--|--|
| 😂 Sent MDSs Ingredients * Supplier Data * Recipient data * Analysis MDS Request | | | | | | | | |
| 🔁 🔁 Filter GADSL 🔽 🗸 💕 👻 📽 🗣 🥵 🖓 🥥 🗸 🕼 🗸 🛊 | | | | | | | | |
| C EXAMPLE Add a Material reference Details | | | | | | | | |
| | ✓ Common Information | | | | | | | |
| | Туре | Component (own MDS) | | | | | | |
| | ID / Version | 552229008 / 0.01 | | | | | | |
| | Node ID | 552229008 | | | | | | |
| | Node count | 1 | | | | | | |
| | MDS Supplier | MANN+HUMMEL GmbH | | | | | | |
| | Description | EXAMPLE | * | | | | | |
| | Part/Item No. | | | | | | | |
| | Development Sample Report | | | | | | | |

Search box appears where you can search for published, accepted or your own MDS. Please tick this option on the right side.

You can also search the MDS by it's name, part number, ID or date of acceptance on the left side.

| MDS - MATERIAL DATA SYSTEM | | | | | | | | | |
|--|---|---------------------------------|--|--|--|--|--|--|--|
| Name, ID, Version, Date Name Internal MatNo. ID Current versions Development Sample Report Language English Date (only for published / accepted / internally MDSs) released from 07/28/2015 to 08/28/2015 | Norm, Symbol, Classification Trade name Std. MatNo. Symbol Norm - Q @ Classification - Q @ | Supplier MDSs, Own MDSs/Modules | | | | | | | |

When you find the required MDS, stand on it and click the apply button on the bottom of right side. The MDS will be added to your MDS. Then you have to fill in weight of the material or number of components / semi-components. Then fill in all ingredients information.

If you want to add another supplied / published / internally released MDS to your current entry, you have to stay on the node where it should be added.



8. HOW TO FILL IN INGREDIENTS FOLDER

(Weight, polymeric question, preliminary MDS field, SCIP number)

For all components in your MDS following information as on the printscreen below must be filled.

| MDS - Functions - Administration - He | elp + 🔰 📄 🚽 🔚 🛛 🛃 🛃 🚽 💆 + 🗌 🙆 🧠 🗞 🕅 🐰 |
|---------------------------------------|---|
| 🛯 🍓 Received MDSs 🔹 Ingredient | s Supplier Data Recipient data Analysis MDS Request |
| 🗊 📁 Filter GADSL 🔽 🗸 | 2 |
| ✓ | Details |
| | Type Component (received MDS) |
| | ID / Version 556260203 / 2 Node ID 566851897 Node count 6 MDS Supplier |
| | Description Mittelrohr / Centre Pipe |
| | Part/Item No. 1093311501 Preliminary MDS No |
| | ⊻ Dates |
| | Create Date 12/4/2015 🧭 |
| | Check/Release Date 12/4/2015 🕜 📑 Recommendation |
| | Amounts and Weights |
| | Measured weight per item 23.0 g |
| | Calculated weight per item 23.0 g |
| | Deviation 0.0% (7) |
| | ✓ Parts Marking |
| | Polymeric part(s) marked Yes (Parts marked as required by law.) ? |

IMPORTANT!!! DON'T TICK PRELIMINARY MDS FIELD!!! THIS FIELD IS NOT USED FOR SERIAL PRODUCTION. MDS MARKED AS PRELIMINARY WILL BE REJECTED!!!

Please also double check if reported weight is correct, this is very important information for us.

Polymeric question

This question appears only for plastic materials. Please check your product whether the polymeric marking is engraved or painted on it. e.g. >PP-TD20<, >PA66-GF30<, >AEM<.

Answer to this question for products above 100g (classification 5.1x, 5.4.x, 5.5.x) and for products above 200g (classification 5.2, 5.3) is mandatory.

In case your product is marked, please answer the polymeric question "YES", no matter what is the weight of the component.

Please note: It is very likely for a part containing more than 100 grams of polymeric material to have polymeric mark.

In case your product is not marked, please answer "NOT APPLICABLE".

Possibility "NO" should not be chosen because this means that part should be marked according the drawing but it is not, which is not acceptable for MANN+HUMMEL.

With release 13.0 was added new field SCIP number and taric code. If your product contains relevant amount of SVHC substance and you are EU producer you have to fill SCIP number, but if your product contains relevant SVHC substance and you are not EU producer you can fill only taric code.



INFORMATION ABOUT RECYCLATE USED

For some materials recyclate information has to be filled. With IMDS Release 12.0 this answer is mandatory for materials with classification 5.x.

With IMDS Release 14.0 the Recyclate handling has been changed. In addition to previous recyclate, now renamed as 'Mechanical Recyclate', two new types of information reporting were added, Chemical Recyclate and Bio-based content. In addition, recyclate reporting expanded now for classifications 6.x, 7.3 and 9.x.

Recyclate information is also available for classifications 1.x–4.x.

Please note that raw material producer has option to fill this information.

| ≚ Source of material, includi | Source of material, including circular materials | | | | | | | |
|---|--|--------|--|--|--|--|--|--|
| Does the material contain recyclate? | Yes | 🕘 View | | | | | | |
| Mechanical (pre-consumer) | 2.8 - 3.6 % | | | | | | | |
| Mechanical (post-consumer) | 0.0 - 0.0 % | | | | | | | |
| Chemical (pre-consumer) | - | | | | | | | |
| Chemical (post-consumer) | - | | | | | | | |
| Certified according to | - | | | | | | | |
| Is the material (partially) bio-based? | Yes | | | | | | | |
| Content of secondary bio- based material | 0.0 - 0.0 % mass-balanced | | | | | | | |
| Certified according to | - | | | | | | | |

MDS - MATERIAL DATA SYSTEM Source of material, including circular materials All values entered here refer to the entire material, not only the polymer content. E.g., in case of filled polymers the recyclate content can only be 100% if the filler material is also 100% recyclate. Content of inorganic or fossil-based material 70.0 - 71.0 % (?) Does the material contain recyclate? Yes Content of primary inorganic or fossil-based material 95.0 - 96.0 % Content of recyclate 4.0 - 5.0 % Content of mechanical recyclate thereof 100.0 - 100.0 % 🕜 Content of pre-consumer recyclate thereof 100.0 - 100.0 % (?) Content of post-consumer recyclate thereof 0.0 - 0.0 % 🕜 Content of chemical recyclate thereof 0.0 - 0.0 % 🕜 Content of bio-based material 29.0 - 30.0 % (?) Content of primary bio-based material 100.0 - 100.0 % 🕜 Content of secondary bio-based material 0.0 - 0.0 % (?) mass-balanced Yes (?) Certified according to - 🥐 Close

APPLICATION CODES IN IMDS

The IMDS system contains many basic substances. Some are marked "duty to declare" or "prohibited". Since release 3.0, when using a restricted substance, you must also declare how you are using it by supplying an Application Code. Application codes are required for lead (and all of its compounds), hexavalent chromium (and all of its compounds), mercury (and all of its compounds) and cadmium (and all of its compounds) as well as for Nickel and Polycyclic Aromatic Hydrocarbons (PAHs). Application codes are only displayed in English, regardless of the language the IMDS user is using

Application codes are assigned when attaching the material to a component MDS. Application codes are set ONLY on components

| Application Component | Housing | | | |
|--------------------------|-----------------|---------|---------|--|
| Application | Basic Substance | % (MIN) | % (MAX) | Application [ID] |
| | Nickel | 6 | 8 | Other application (Surface not routinely touched or nickel release rate < 0.5µg/cm2/week) [33] |

Please be sure that you always use valid Application code

9. WHAT IS CORRECT CLASSIFICATION OF MATERIAL USED AND WHAT NEEDS TO BE FILLED FOR THIS MATERIAL CLASSIFICATION

Material classifications are specified in Annex I to the IMDS001 Recommendation available on IMDS public pages after login to system.

| MDS \bullet Functions \bullet Administration \bullet | Help 🗸 📔 🚽 🔛 🛛 🎲 🔁 🗄 🛫 🖆 🖉 🙆 🎭 🧐 其 | | | | | |
|--|---|--|--|--|--|--|
| MDS/Module Search Ing | CP Online User Manual Recipient data Analysis MDS Request | | | | | |
| Name, ID, Version, Date | Prequently Asked Questions | | | | | |
| Part/Item No., Item- /MatNo., Mate | Release Information Terms of use | | | | | |
| Development Sample | Recommendation ons | | | | | |
| La | (i) About | | | | | |
| Date (only for MDSs) published / accepted / internally released created (own MDSs) from 07/17/2015 to 08/17/2015 | | | | | | |

Classification 1-4 is used for metallic materials – steel, iron, aluminium, magnesium, titanium, copper, zinc and nickel alloys including also special metals as silver, platinum or lead. Where applicable choose standard published material by IMDS Committee.

Classification 5 is used for polymer materials – thermoplastics, elastomers, duromers, textiles.

Classification 6 are process polymers as lacquers, adhesives and sealants.

Classification 7 are other materials and compounds such as modified organic materials (paper, wood, fleece, cotton), ceramics, glass and others.

Classification 8 is used for electronics. Solders and metallic materials in electronics should be classified according to their composition, for example 4.2 Special metals.

Classification 9 is used for fuels and auxiliary means such as fuels, lubricants, brake fluids, coolants, refrigerant, battery acid and preservatives.

These are only general classification groups, concrete category has to be chosen!!!

For classification 5. x specific requirements are placed!! Materials of classification 5. x should contain at least 2 substances. Material names must be chosen from relevant ISO norm, the same applies for symbol field. Also relevant ISO norm must be filled into the standard field.

Relevant public norms for polymer materials are:

ISO 1043 for 5.1.x Thermoplastics and 5.4.x Duromers

- ISO 18064 for 5.2 Thermoplastic elastomers
- ISO 1629 for 5.3 Elastomers
- ISO 2076 for 5.5.2 Textiles.

Example of correctly filled plastic material:

| Details | | | Ma |
|--|---|-----------|-----------|
| Common Information | | | |
| Туре | Material (own MDS) | 85-20 | |
| ID / Version Node ID MDS Supplier Name | 80460185 / 3 397072222 MANN+HUMMEL GmbH PA6-GF30 ? | | |
| Trade name Internal MatNo. | PENTAMID B GV30 H2 RC 1673522505 | S black 🕜 | |
| Development Sample Report I have declared all GADSL substances | No - | | |
| Material Information | | | |
| Std. MatNo. | - | | |
| Symbol | PA6-GF30 | | |
| Classification | 5.1.a filled Thermoplastics | , | |
| Norms / Standards | | | |
| | Company | Norm | Norm Code |
| | - | ISO | 1043 |

10. HOW TO FILL IN RECIPIENT DATA FOLDER

Before sending MDS to MANN+HUMMEL you have to fill recipient data information in.

| MDS \star Functions \star Administration \star Help \star | 🗋 🔻 | 🖼 🕞 🔁 3 | Ł マ 💄 マ | 1 🖉 🗣 🗣 ք |
|---|---------------|----------------|----------|-------------|
| 💝 Received MDSs Ingredients | Supplier Data | Recipient data | Analysis | MDS Request |

Please note that information you fill in this folder (name, part number) is what we see on our side. If the name and part number in ingredient folder differs from information in recipient data folder, we see what is in recipient data. Supplier code has 6 digits, for M+H Purolator it begins with letter "P"+ 5 digits. This is your company code in our system. Also please fill in the drawing information if possible (not relevant for materials and semi-components) – drawing number, drawing date, drawing change level. You can find this information in MANN+HUMMEL drawing.

If there is no drawing change included, there is no need to fill in drawing change level. In this case drawing date will be in format 00 / xx.xx.xxxx.

| DEPT./ ABT. MHIN-SC | DATE/ <i>DATUM</i> DD.MM.YYYY | NAME NAME | NA | ME | Ξ. | / | BEI | VEN | NU | NG | | | | | | | | | | |
|------------------------|----------------------------------|--------------|-----------|----------|------------|-------------|--------------|-----|-----|----------------|-----|----|-----|-----|----|------------|----|-------------|----------|----|
| DRAWN/ <i>BEARB</i> . | 23.12.2014 | KUSEBAUCH_R | | | | | | Г | | ~ ' | - 1 | | | - | | <u>ь т</u> | | | | |
| CHECK./ GEPR. | 16.01.2015 | BARTEL_F | | | | | | L | | U I | | NI | К | E | | Р Т | PE | | | |
| APP./ GESEH. | | | | | | | | L | | | _ | NI | TT. | ELI | RO | THR | | | | |
| MANN+HUMMEL GMBH | | | DR. ZE | AV IC | VII CHA | NG ///// | - NO 65 - | NR | | | | | | | | | _ | SHEI BLA | ET 77 | 1 |
| D-71631 LUDWIGSBURG | | | _ | | 1 | 1 | 1 | 8 | 3 4 | 1 3 | | 3 | 1 | S | 60 |) 1 | | OF VON | | 1_ |

In case there is a drawing change in the drawing included, you fill in new drawing date and change level. Please see example below.

| NO. <i>AE</i> | CHNO. <i>AEM.</i> | DESCRIPTION OF CHANGE Aenderung | DATE <i>DATUM</i> DD.MM.YY |
|------------------|----------------------|---|----------------------------------|
| 01 | F49915 | TOLERANCE UPDATED / TOLERANZERWEITERUNG | 24.07.15 |

| Details | | | | | | |
|---|--|--|--|--|--|--|
| ✓ Transfer Information | | | | | | |
| Company Organisation unit Recip. Status | MANN+HUMMEL GmbH [1126] - accepted | | | | | |
| Supplier Code | 503024 🕜 | | | | | |
| Part/Item No. | 1184331501 ⑦ | | | | | |
| Transmission/Check Date Forwarding allowed | 8/19/2015 Yes | | | | | |
| ✓ Drawing | | | | | | |
| Drawing No. | 1184331501 | | | | | |
| Drawing dated | 01 / 24.07.2015 🕜 | | | | | |
| Drawing Change Level | F49915 🕐 | | | | | |

With Release 12.0 option Legacy Spare part was added for components and semicomponents. This option can be used for outdated parts using ELV exemptations valid at IMDS creation date but not valid anymore. Such MDS will be exempt from application check.



| Details | |
|---|--|
| | |
| Company Organisation unit Recip. Status | MANN+HUMMEL GmbH [1126] - accepted |
| Supplier Code Name | 503024 🕜 Clamp / Klammer |
| Part/Item No. | 4403609119 (?) |
| Legacy Spare Part | No 🕐 |
| Transmission/Check Date Forwarding allowed | 11/5/2019 Yes |
| ✓ Drawing | |
| Drawing No. | 4403609119 |
| Drawing dated | 02/19.09.2011 |
| Drawing Change Level | F37611 |
| Purchase Order | |
| Purchase Order No. Bill of Delivery No. | - |
| Report | |
| Report No. Date of Report | - |

11. WHERE TO FIND REJECTION REASONS

If you MDS has been rejected by MANN+HUMMEL please check the rejection reasons at first. It is possible to choose automatic notice in settings so you receive rejection email to your email box. You can also find the rejection reasons in online system.

Go to Out box, find the rejected MDS, stand on it and click the right mouse button.



If there is any material ID recommended in rejection reasons, please search for this material ID and check if this material is applicable. It means if the composition of the material used is compliant with this ID. If it is possible, use this material.

If the recommended ID is not suitable in your opinion, please inform us by email, so we know that you have checked this issue and it is not possible for you to use standard material.

In case the rejection reason is formulated as: "Please double check, if ..." it means we are asking you to consider this possibility and await your feedback. If you don't provide any feedback and don't change the MDS it can cause another rejection. So please communicate with us.

Under rejection reasons is always stated contact person who checked your MDS. You can contact her for explanation, help, or a discussion about the rejection reasons.

SUMMARY - TEN STEPS TO SUCCESS

- 1. When you are asked for MDS data please create them and send as soon as possible. If there is any relevant change please update your MDS automatically without request. It is your obligation and responsibility.
- 2. Send your MDS to ID 1126 (MDS for MHFT exceptionaly to ID 172844 or ID 206036 for MHFT Poland, MDS for MANN+HUMMEL Molecular GmbH to ID 256848).
- 3. Fill in correct MANN+HUMMEL part number in correct format.
- 4. Before creation of your MDS please consider if your product is component, semi-component, material or some assembly and what the MDS should contain.
- 5. Fill in correct product name in English or according the public norm.
- 6. Use standard published materials by IMDS Committee for metallic materials and surface treatments if possible. Never create material MDS until you are producer of the material.
- 7. Check your product (weight, marking) and fill in ingredient information carefully according to the real state. Don't tick the preliminary MDS field.
- 8. Choose classification for your material carefully. Fill in all required information for classification chosen.
- 9. Fill in recipient information carefully.
- 10. If your MDS was rejected, please check carefully the rejection reasons and try to correct them. If you don't understand the meaning please ask for explanation. Don't submit the MDS again with the same errors.

IF YOU HAVE DOUBTS REGARDING YOUR MDS, DO NOT HESITATE TO ASK FOR HELP!!!

Please feel free to contact us via email or phone for further assistance.

Email: mdm@mann-hummel.com Phone: +420 568 898 246

MANN+HUMMEL MDM Team