IMDS General Rules and Guidelines	IMDS 001

General Rules and Guidelines for IMDS Material Datasheets

Contents

IMDS General Rules and Guidelines IMDS 001

1 Purpose

This document describes the basic requirements for the creation of IMDS Datasheets (MDSs) describing components, semi-finished components and materials. Following these requirements will support the entry of high quality and consistent compositional data which is needed to fulfill applicable legal obligations. These requirements are agreed to by all car manufacturers subscribing to the IMDS and define harmonized rules valid throughout the supply chain. Following the rules and guidelines will support an efficient transfer of material data. Nevertheless, there may be additional customer-specific requirements that cannot be harmonized, example: requirements concerning the recipient-specific information. Customer-specific IMDS requirements are published in the respective customer specifications. Questions regarding an MDS rejection should be directed to the customer and not the IMDS Helpdesks.

Each section of this document gives a general description of specific elements of an MDS along with the ***Rules*** and ***Guidelines*** that are valid for that element.

Rules are mandatory requirements (either by the IMDS or by IMDS-using companies), while **Guidelines** are generally accepted as best practice throughout the supply chain. A violation of a **Rule** given in this document may result in an IMDS Error or Warning[1]. The creator of the MDS must be aware that

a) An MDS containing Errors cannot be sent/proposed/published/internally released in IMDS.
b) An MDS containing Warnings can be sent/proposed/published/internally released, but may be rejected by the recipient of the MDS. Warnings are intended to draw the attention to possible deviations from Rules or Guidelines. After investigation, should it be determined that the Warning was invalid and the Rule or Guideline was followed, the MDS must be accepted by the recipient.
c) An MDS violating any Rules given in this document may be rejected by the recipient of the MDS even if there has been no Warning or Error in IMDS as some Rules cannot be checked by the IMDS check procedures. Rules leading to customer rejections can be requested from the respective customer.

2 References

The following are additional references that are mentioned in this document:

- *GADSL (Global Automotive Declarable Substance List; http://www.gadsl.org)*
- *Renault RNES List (Renault list of declarable substances)*
- *all IMDS Recommendations*
- *ISO 1043 (Plastics – Symbols and abbreviated terms)*
- *ISO 1629 (Rubbers and lattices – Nomenclature)*

[1] The IMDS system performs a check procedure before the MDS can be sent/proposed to a customer, internally released, published and when a customer is reviewing for acceptance. There are two types of messages presented – **Warnings** and **Errors**.

An **Error** means that there is something not acceptable in your MDS. You cannot proceed without resolving the particular issue. Due to evolving IMDS requirements, an MDS that was acceptable in prior versions of IMDS may no longer be acceptable and might require updating.

A **Warning** means that there is something that is not acceptable by all customers in your MDS. While you may ignore the warnings and proceed, that does not mean that the MDS will be accepted by your downstream customer. Due to evolving IMDS requirements, an MDS that previously had no warnings may now have several on the check procedure.

- *ISO 9000 (Quality management systems – Fundamentals and vocabulary)*
- *ISO 18064 (Thermoplastic elastomers – Nomenclature and abbreviated terms)*
- *VDA Vol. 2 (Quality management in the automotive industry – Quality assurance of supplies)*
- *VDA 231-106 (Material classification in motor vehicle construction – structure and nomenclature)*
- *other material-related international standards*
- *other OEM substance standards*
- *IMDS Frequently Asked Questions (FAQ) (http://www.mdsystem.com ➔ Information Pages ➔ Help ➔ FAQ)*

3 General IMDS Reporting and Change Management

The following sections describe the General IMDS Reporting and Change Management Requirements.

3.1 General Reporting

The flow of data through IMDS using companies must reflect the flow of materials and components through the automotive supply chain. The flow is initiated when materials become introduced for the first time into the supply chain. Material data are passed along the supply chain (tier^{n}, tier^{n-1}, … to the automobile manufacturer). It is the data creator's responsibility to ensure that requirements are passed downstream in the supply chain to assure that compliance and data reporting of the material formulation is accurate. In general, all components and materials being used throughout the supply chain must be disclosed. Upon special request by the customer, the supplier utilizing the IMDS reporting has to prove per evidence that he has collected all material data from its sub-tier levels.

Rule/Guideline	Description
Rule 3.1.A	Material data must be passed along the supply chain (tier^{n} ➔ tier^{n-1} ➔ … ➔ automobile manufacturer).

3.2 Change Management

This section describes the conditions under which MDSs shall be revised, updated and/or resubmitted. All valid quality assurance guidelines (example: VDA Vol. 2, QS 9000 / PPAP) are not made invalid by the following rules.

3.2.1 Basic Rules concerning MDS Revisions

A new MDS needs to be created when the part or material described therein is introduced for the first time. A revision of existing datasheets is caused by several circumstances described by the Rules and Guidelines in the table below. Depending on the circumstance leading to the revision, either a new MDS (new IMDS ID) or an update of an existing MDS (new version) is nec-

essary. The following rules are valid for MDSs sent to specific customers as well as for published MDSs (see also **Figure 1**).

Rule/Guideline	Description
Rule 3.2.1.A	When a new part or material is introduced to a customer for the first time, a new MDS (new IMDS ID) has to be created if the part or material is also new on the supplier side. If the part or material already exists on the supplier side, the supplier may add the customer as a new recipient to the latest MDS version.
Rule 3.2.1.B	The addition of any new material(s) or the elimination of any already reported material(s) contained in a part requires the revision and resubmission of the corresponding MDS.
Rule 3.2.1.C	A change in mass of a part exceeding the allowed deviation listed on the production part drawing or in customer requirements requires the revision and resubmission of the corresponding MDS. Small changes made over a period of time may accumulate to be significant, and, in that case, a resubmission of the MDS is required. The customer may determine the significance of the change according to Quality Management Guidelines.
Rule 3.2.1.D	When there is a change to the GADSL (suppliers to Renault: RNES list) or the REACH SVHC list, all MDSs that have a joker/wildcard in their tree structure must be reviewed to determine whether the substance that the joker/wildcard replaces is now declarable or prohibited. Should that be the case, a revised submission with a full non-confidential disclosure of the declarable or prohibited substance is required by the date in the legislation. If no date is given or the date is longer than 6 months, the resubmission must occur no later than 6 months from the publication date of the updated GADSL or REACH SVHC list(OEMs may determine a longer timeframe).
Rule 3.2.1.E	If a new revision is required, the most recent IMDS Rules & Recommendations must be adhered to in the ingredients section that is being edited. Sections of the tree structure that were previously proposed to the customer and accepted by the customer do not necessarily have to be updated if IMDS does not generate an error on those nodes.
Rule 3.2.1.F	If a datasheet is older than 10 years, the datasheet must no longer be used in new datasheets. If those datasheets are still used in production, the datasheets must be revalidated.

3.2.2 New IMDS ID vs. New Version

The following rules define when an MDS with a new IMDS ID (either a completely new MDS or a copy of an existing one) must be created and resubmitted, and when a new version of an existing MDS (same IMDS ID, higher version) is required. Again, the following rules are valid for MDSs sent to specific customers as well as for published MDSs.

Rule/Guideline	**Description**
Rule 3.2.2.A	A new customer part number requires a new MDS (new IMDS ID) unless you are informed otherwise by your customer.
Rule 3.2.2.B	The same customer part number with updated content requires a new MDS version (same IMDS ID, higher version number), if: - there is a change in GADSL or the REACH SVHC list - A reference is added, changed or deleted - there is a change in part mass - there is a special request concerning the law.
Rule 3.2.2.C	Material MDSs must only be sent once to each customer. You must not create a new material MDS for a new customer part number of a customer who already received the Material MDS.

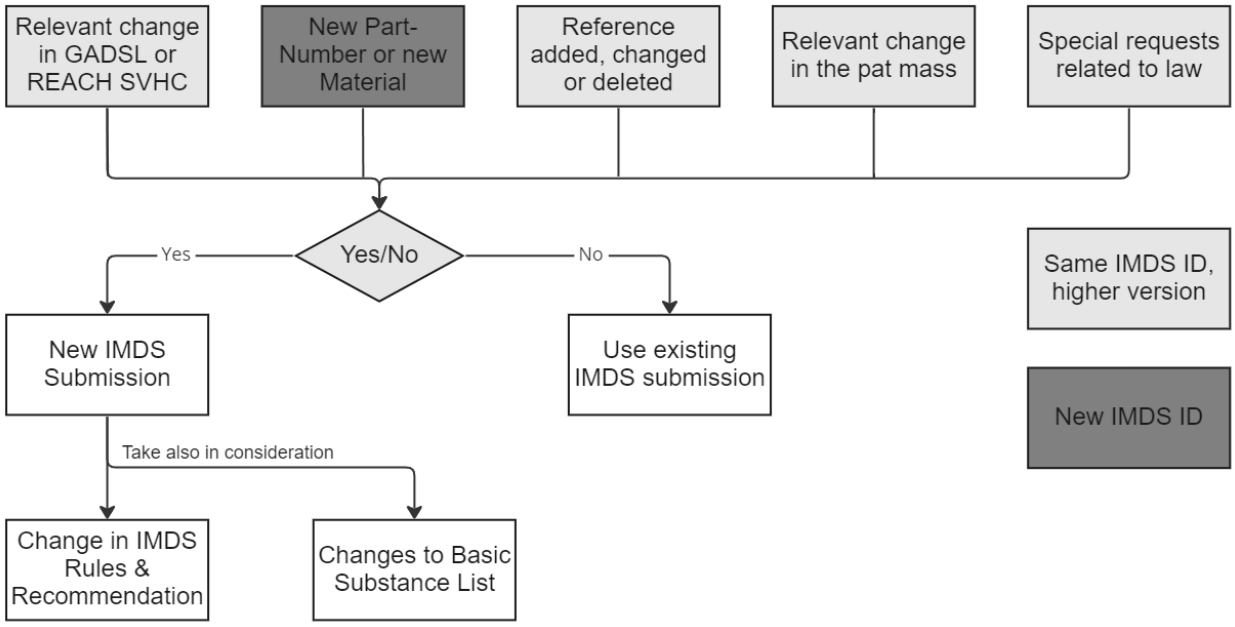


Figure 1 – Change Management Flow

MDSs and substances can be deactivated/deleted in IMDS. Continued processing of deleted MDSs and their references degrade IMDS data quality.

Rule/Guideline	**Description**
Guideline 3.2.3.a	Deleted MDSs or containing deactivated substances shall not be transacted in existing MDS ID

4 Datasheets (MDSs/Modules)

The following section describes the general tree structure and the rules and guidelines surrounding components, semi-components, materials and basic substances.

4.1 General

4.1.1 Structure

An MDS is built up as a tree structure following a hierarchical parent/child relationship (Figure 2). Each branching point in the structure is called a node. The higher node is called the "parent" and a node directly attached to the parent is called a "child". The rules and guidelines for the different node types are described in subsequent sections of this document.

For additional information on how to create an MDS, please refer to the IMDS homepage (http://www.mdsystem.com) under ***New to IMDS ➔ Reading for new Users***

Rule/Guideline	Description
Rule 4.1.A	Child nodes of the same parent node must be of the same type (ex. a semi-component parent node may consist of all semi-component child nodes or all material child nodes, but not a mixture of semi-component and material child nodes). 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.

The following figure depicts the top parent node with 2 child nodes (components) and the 2nd child node is also a parent node with 2 child nodes (materials).

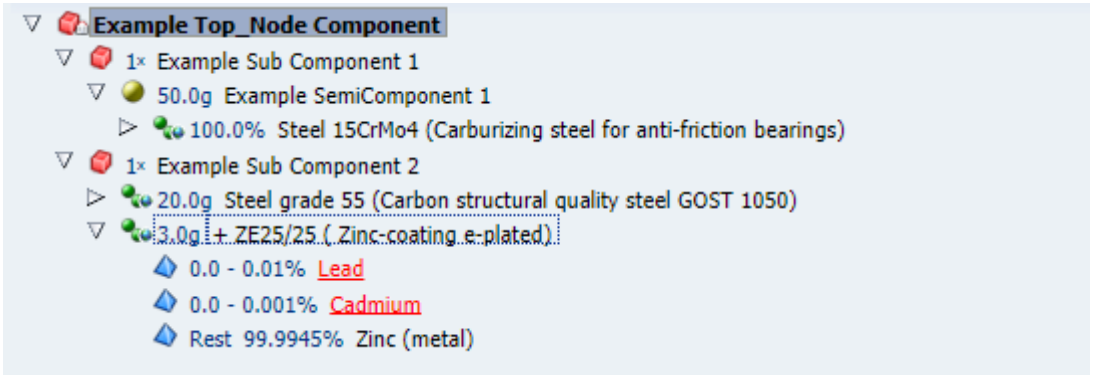
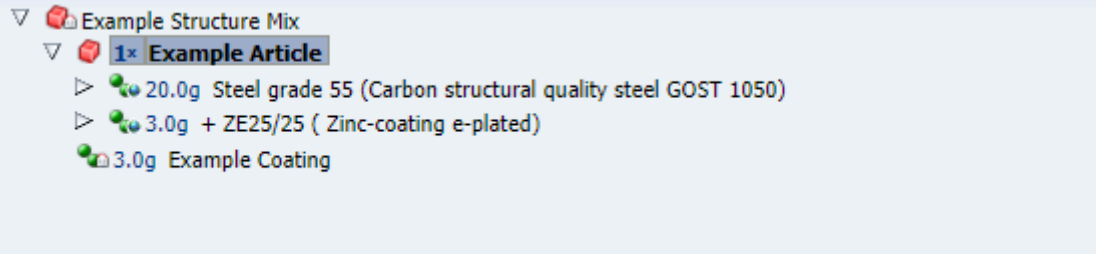


Figure 2 – Sample MDS

The following figure depicts a mixed structure, containing an example article with an example coating:



4.1.2 Sending MDSs

MDSs can be sent to your customers. In the recipient specific information you enter the information as requested by your customer.

Rule/Guideline	Description
Rule 4.1.2.A	If your customer requests a certain Supplier Code from you, use the Supplier Code your customer issued to you. If your customer requests to have your DUNS Number as Supplier Code, you must use the DUNS number of the manufacturing site.

4.2 Components

The following section describes the requirements of a component parent node.

4.2.1 General Information

A **component** is used to represent a single part, a complete assembly or a complete part within an assembly. A complete part on a lower level is usually called a sub-component. A sub-component is described by the same symbol as a component.

Rule/Guideline	Description
Rule 4.2.1.A	A **component** node must have at least one sub-component, one semi-component or one material child node.
Rule 4.2.1.B	The **component** name must not be the default name generated by the IMDS (example: Component_12345678)
Rule 4.2.1.C	The top node component name must be descriptive and be in line with applicable customer specifications. If the component is a top node and will be sent to a customer, the recipient information controls the name the customer will see.

Rule/Guideline	Description
Guideline 4.2.1.a	The **component** name (in the field “Description”) should be reported in English. MDSs in English will not be rejected by an OEM.
Guideline 4.2.1.b	The **component** name should be consistent with the described product so that the material-related Application Code (if any) is related to the component name (example: component name: *Bush*, application code: *Alloying element in bearing shells and bushes*).
Guideline 4.2.1.c	If applicable, the top node component name should be similar to the Bill of Material (BOM) description.

4.2.2 Weight

The value entered in the field ***Measured Weight per Item*** is the stated weight of the component.

The ***Calculated Weight per Item*** is provided by the IMDS system and is the sum of the Measured Weight per Item of the direct child nodes.

<table>
<tr><th>Rule/Guideline</th><th colspan="2">Description</th></tr>
<tr><td>Rule 4.2.2.A</td><td colspan="2">For any component, its real weight (measured weight; if not available, the weight given on the drawing) must be given.</td></tr>
<tr><td>Rule 4.2.2.B</td><td colspan="2">It is not allowed to lower the weight of a component node and then control the weight of the component by multiplying the quantity of the component.</td></tr>
<tr><td rowspan="8">Rule 4.2.2.C</td><td colspan="2">The ***Deviation*** between measured and calculated weight per item must not exceed the defined values in the table below.</td></tr>
<tr><td>Weight of component (X)</td><td>Max. deviation in %</td></tr>
<tr><td>X < 1g</td><td>100%</td></tr>
<tr><td>1g < X ≤ 100g</td><td>10%</td></tr>
<tr><td>100g ≤ X < 1kg</td><td>5%</td></tr>
<tr><td>1kg ≤ X < 10kg</td><td>2%</td></tr>
<tr><td>10kg ≤ X < 100kg</td><td>1%</td></tr>
<tr><td>X ≥ 100kg</td><td>0.5%</td></tr>
</table>

4.2.3 Material Marking (or Parts Marking)

Rule/Guideline	Description
Rule 4.2.3.A	Physical Parts Marking is mandatory according to ISO 1043-1, ISO 1043-2, ISO11469 and ISO 1629 in case one or more child nodes are as below; 1) Total weight of plastics (material classification 5.1.x, 5.4.x, 5.5.x) exceeds 100g 2) Total weight of rubbers (material classification 5.2, 5.3) exceeds 200g

4.2.4 Multi-Sourcing

When you use parts from different suppliers with different ingredients or weights, you can create Multi-Source Components.

Rule/Guideline	Description	
Rule 4.2.4.A	Multi-Source Components must have a preferred alternative. The alternative that is used in the majority of the cases must be set as preferred alternative.	
Rule 4.2.4.B	The ***Deviation*** between the measured weight of the preferred alternative and each other alternative must not exceed the defined values in the table below.	
	Weight of preferred alternative	Max. deviation in %
	X < 1g	100%
	1g ≤ X < 100g	10%
	100g ≤ X < 1kg	5%
	1kg ≤ X < 10kg	2%
	10kg ≤ X < 100kg	1%
	X ≥ 100kg	0.5%
Guideline 4.2.4.a	Multi-Source Components shall be used if the alternative parts differ. For identical products by different suppliers the use of Multi-Source is optional.	

4.3 Semi-components

The following section describes the requirements of a semi-component parent node.

4.3.1 General Information

A **semi-component** is a semi-finished product (example: steel coil, pipe, leather hide, plated steel) that will go through further process steps (example: cutting, stamping) to make a finished component. A semi-component does not have a stated weight as, before further processing, the weight cannot be defined. Therefore a semi-component MDS is created without a weight attached. However, it is possible to enter a usage weight type (example: kg/m², kg/m) for a semi-component in order to make weight calculations easier once the semi-component MDS is attached to or changed into a component node. A semi-component can contain several materials or semi-components (see Figure 3).

Rule/Guideline	Description
Rule 4.3.1.A	A **semi-component** parent node must have at least one material or one semi-component child node.
Rule 4.3.1.B	In semi-components created since release of IMDS 7.0, the usage weight type (kg/m, kg/m² or kg/m³) of the semi-component must be entered.
Rule 4.3.1.C	The semi-component must be reported in the state which it will have in the finished component. Removal ties, wraps, liners etc. must not be reported.
Rule 4.3.1.D	The semi-component name (article name) must not be the default name generated by the IMDS system (example: Semi-Component_12345678).
Rule 4.3.1.E	The top node semi-component name (article name) must be descriptive and be in line with applicable customer specifications.
Guideline 4.3.1.a	The semi-component name should be reported in English. MDSs in English will not be rejected by an OEM.

The following figure depicts an acceptable structure for a semi-component.

Figure 3 – Example Structure of a Semi-Component

4.3.2 Portion (Percentage) Ranges

IMDS allows the user to define the portion (percentage) of a semi-component or a material child node attached to the semi-component parent node. This portion may be a fixed percent value, a

range “from X to Y %”, or “Rest” (IMDS calculates the percentage from the portions of the other child nodes of the same parent node).

<table>
<tr><th>Rule/Guideline</th><th colspan="2">Description</th></tr>
<tr><td>Rule 4.3.2.A</td><td colspan="2">The portion type “range” must be used solely to reflect real variations of a material or semi-component amount in a semi-component description. Ranges must not be used as a means to avoid declaring the full composition.</td></tr>
<tr><td rowspan="4">Rule 4.3.2.B</td><td colspan="2">If the portion type “range” is selected, for semi-components or materials that are attached to a semi-component, the following maximum portion range applies:</td></tr>
<tr><td>Portion: from X % to Y %</td><td>Maximum M = Y % – X %</td></tr>
<tr><td>0 < X ≤ 100</td><td>M ≤ 20</td></tr>
<tr><td colspan="2">Example: the Range 30% to 70% is not allowed because the M value would be 40 in this case (70-30) and the maximum M allowed is 20%.

For semi-components and materials in MDSs published by the IMDS Steering Committee (Supplier: IMDS-Committee, ID 423; IMDS-Committee/ILI Metals, ID 18986 or Stahl und Eisen Liste, ID 313), this rule does not apply by the IMDS system.</td></tr>
</table>

4.4 Materials

The following section describes the requirements of a material parent node.

4.4.1 General Information

A **material** normally consists only of basic substances. For details on basic substances see section 4.5 Basic Substances. In some cases a material can consist of other materials (example: filled thermoplastics consisting of the materials: basic polymer, master batch colour and master batch flame retardant that are processed into a new coloured, flame-retarding, filled thermoplastic compound).

Rule/Guideline	Description
Rule 4.4.1.A	A **material** parent node must have at least one substance or two material child nodes attached to it.
Rule 4.4.1.B	A material must be described in its end state. Only basic substances contained in the final material are to be reported (example: cured adhesives or paint coatings are entered without the evaporating solvents).
Rule 4.4.1.C	Process chemicals used in the production of a material/part that are not contained in the end material/part must not be reported.
Rule 4.4.1.D	If a material parent node has material child nodes, the material represented by the parent node must be homogeneous. 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 homogeneous.
Rule 4.4.1.E	Material data must only be created by material-producing companies or material-processing companies. Companies not producing materials must obtain material data from their material suppliers or (if they use materials described in a public standard supported by IMDS) use the respective material MDS published by the IMDS Steering Committee.
Guideline 4.4.1.a	A polymer material (classification 5.x) should have at least two substances attached to it.
Guideline 4.4.1.b	A material supplier SDS (safety data sheet) usually does not provide sufficient data for the creation of MDSs. MDSs must be descriptive of all substances found in the end state material (i.e. final product), including additives, excluding process chemicals.

4.4.1.1 Material MDSs Published by the IMDS Steering Committee

If the real material composition can be described more precisely than in Steering Committee MDSs (e.g. lead content of an aluminum is guaranteed 0,1%, but Steering Committee MDSs show 0 % - 0,25%) own material MDSs can be created. The IMDS Steering Committee has published many MDSs. When applicable, these must be used instead of creating your own.

These published materials will complete the requirements by IMDS. Neither the Steering Committee MDSs nor the more precise own creations should lead to a rejection due to the composition of the datasheet by the recipient

The IMDS Committee has published primarily MDSs for metallic materials (Classification 1 – 4) that are defined in public standards supported by IMDS. The IMDS Steering Committee has published MDSs under three (3) IMDS companies: IMDS-Committee (423); IMDS-Committee/ILI Metals (18986) and Stahl und Eisen Liste (313).

The IMDS Steering Committee has also published other materials that may be used when applicable (example: metal coatings etc.).

Material MDSs issued by the IMDS Steering Committee are exempt from IMDS check procedures. Application of Material MDSs issued by the IMDS Steering Committee is responsible by data creator and is checked if it is applicable by data recipient.

If a material that is defined with its chemical composition in a public standard like ISO, EN, JIS, ASTM etc., is not published by the IMDS Steering Committee, it is recommended to ask one of the IMDS Helpdesks to have the material added.

Public material composition standards only exist for metal classifications. Not all material standards are publishable by the IMDS Committee (example: certain SAE norms that only describe material properties and not composition, Korean and Chinese standards).

Rule/Guideline	Description
Rule 4.4.1.1.A	If material MDSs published by the IMDS Steering Committee are used, they must be referenced or attached to a tree structure. Making an identical copy of these material MDSs is not allowed.
Rule 4.4.1.1.B	If the materials used do not match the material descriptions given in the respective IMDS Steering Committee material MDSs, these material MDSs must not be used.
Guideline 4.4.1.1.a	For materials manufactured according to a public standard supported by IMDS, material MDSs published by the IMDS Steering Committee should preferably be used.

4.4.2 Information Given in Material MDSs

There are several fields to be filled in when creating a material MDS. Each provides a certain kind of information. Some of this information is optional, other mandatory. This section describes each field and the respective rules.

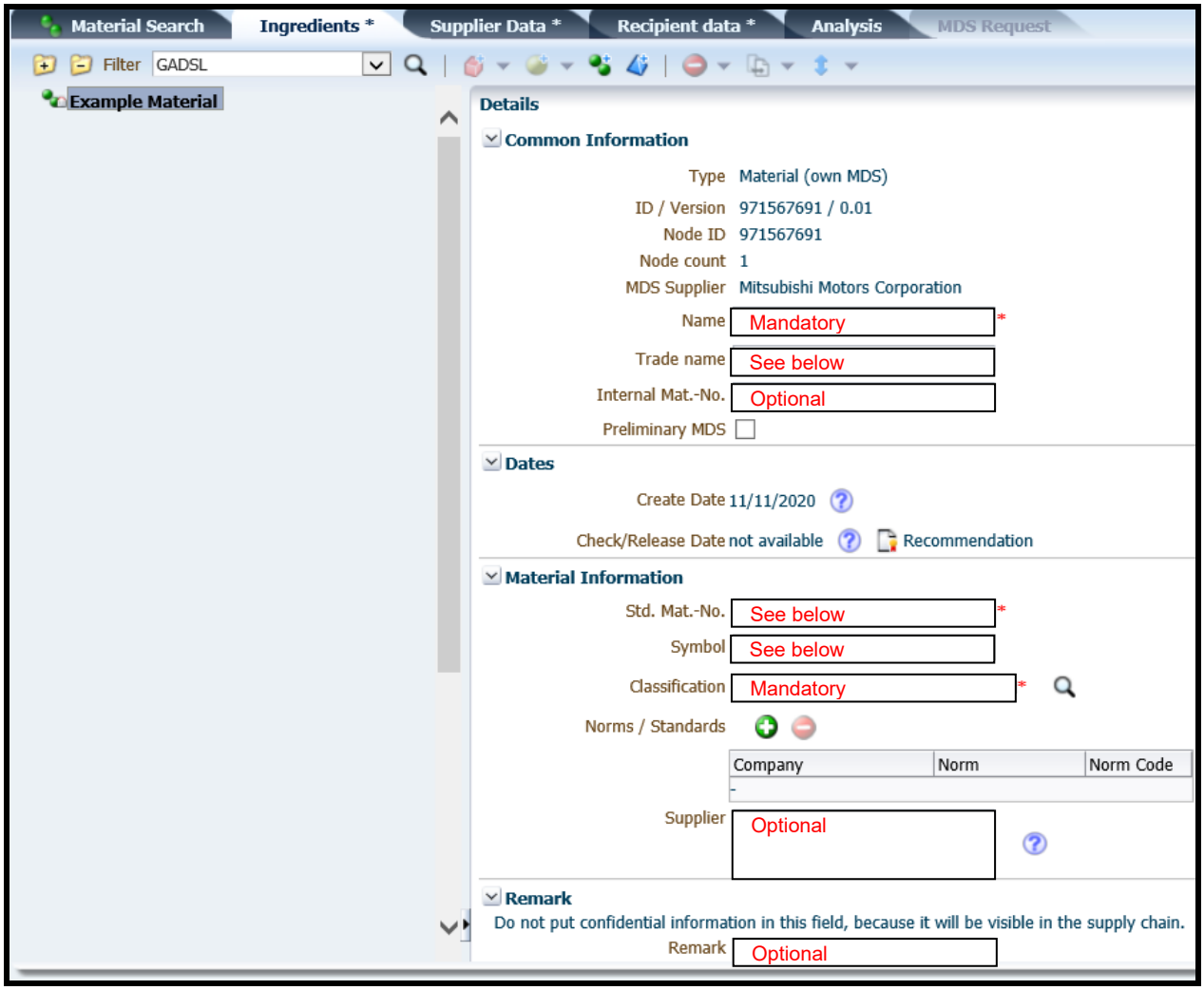


Figure 4 – Structure of a Material MDS

ID/Version

The IMDS ID/Version of a material MDS is automatically generated by the IMDS whenever a new material MDS is created. With this ID, the material MDS can be clearly identified.

MDS Supplier

This entry informs about the material MDS creating company and is also automatically created by the IMDS.

Name

The following table describes some Rules and Guidelines for the material name.

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	If the material is described in a public standard, or if the nomenclature for materials of a certain type is described in a public standard (example: ISO 1043-1 to 4 for plastics, ISO 1629 for elastomers or ISO 18064 for thermoplastic elastomers), then the material name according to this public standard must be entered, 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	If no name is available which is described in a public standard, then the name must 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).

Internal Mat. No.

Suppliers often use internal material numbers to identify their products. This internal material number can be entered in this field. This entry must not be mixed up with the standard material number (see the section **Std. Mat. No.**).

Rule/Guideline	Description
Guideline 4.4.2.b	This entry is optional.

Trade Name

This is the trade name of the material.

Rule/Guideline	Description
Guideline 4.4.2.c	This entry is optional.

Std. Mat. No.

This is the standard material number described for materials in public standards. The standard material number must not be mixed up with the internal material number (see above). The field is only accessible for material classifications 1 - 4.

Rule/Guideline	Description
Rule 4.4.2.E	For materials in parts with a weight > 5 g *and* for which a material number is defined in public standards, this entry is mandatory.

Symbol

This is the standard symbol for thermoplastics, thermoplastic elastomers and elastomers as defined in the respective ISO standards. The field is only accessible for material classifications 5.x and 6.x.

Rule/Guideline	Description
Rule 4.4.2.F	For materials in parts with a weight > 5 g that are thermoplastics (filled/unfilled, ISO 1043, see IMDS 001a), thermoplastic elastomers (ISO 18064, see IMDS 001a), and elastomers (ISO 1629, see IMDS 001a), this entry is mandatory. These materials are typically found in material classifications 5.1a/b – 5.3.

Classification

This is the classification of the material according to VDA 231-106. Additional information on how to assign correct VDA classifications can be found in IMDS 001a (Annex I of IMDS 001).

Rule/Guideline	Description
Rule 4.4.2.G	This entry is mandatory. For all materials a *correct* classification must be assigned independent of the material weight in the part.

Norms/Standards

Public standards in which material compositions are defined (example: EN, DIN, JIS, ASTM, ISO etc.).

Rule/Guideline	Description
Rule 4.4.2.H	If a material is described in a public norm, supported by IMDS, this entry is mandatory.

In-house Norms

This is not a free text field. These norms are specific to a particular car manufacturer's material specifications. Only users of the creating company and the car manufacturer whose norm it is will be able to see the norm when used.

Rule/Guideline	Description
Guideline 4.4.2.d	This entry is optional.

Supplier

This is a free text field where the material supplier can be entered.

Rule/Guideline	Description
Guideline 4.4.2.e	This entry is optional.

Remark

This is a free text field and can be used for material-related comments. It is not searchable.

Rule/Guideline	Description
Rule 4.4.2.J	This field must be used for material-related comments only.
Rule 4.4.2.K	Statements which refer to contractual requirements (example: legal disclaimers, exclusion clauses) are not allowed in this field.
Rule 4.4.2.N	This field can be viewed through the supply chain; therefore, confidential information should not be entered.
Guideline 4.4.2.f	This entry is optional.

Preliminary MDS

A checked box here marks this material MDS as a “preliminary” or “prototype” MDS (see section 4.4.4 Preliminary or Prototype MDS).

Rule/Guideline	Description
Rule 4.4.2.L	In final MDSs (i.e. MDSs representing production parts), this box must not be checked. If the child node contains a prior report or a data sheet for the initial stage of mass production preparation, it will be an error and cannot be transmitted.

4.4.3 Portion (Percentage) Ranges

When a material parent node has material child nodes, IMDS requires the user to define the portion (or percentage) of the parent node that each sub-material contributes. This portion may be a fixed percent value, a range “from X to Y %”, or “Rest” (calculated from the portions of the other sub-nodes on the same tree level).

<table>
<tr><th>Rule/Guideline</th><th colspan="2">Description</th></tr>
<tr><td>Rule 4.4.3.A</td><td colspan="2">The portion type “Range” must be used solely to reflect real variations of a material in another material. This must not be used as a means to avoid declaring the full composition.</td></tr>
<tr><td rowspan="4">Rule 4.4.3.B</td><td colspan="2">If the portion type “Range” is selected, for materials that are attached to a material parent node the following maximum portion range applies:</td></tr>
<tr><td>Portion: from X % to Y %</td><td>Maximum M = Y % – X %</td></tr>
<tr><td>0 < X ≤ 100</td><td>M ≤ 20</td></tr>
<tr><td colspan="2">Example: The Range 30% to 70% is not allowed because the M value would be 40 in this case (70-30) and the maximum M allowed is 20%.

For materials in MDSs published by the IMDS Steering Committee (Supplier: IMDS-Committee, ID 423; IMDS-Committee/ILI Metals, ID 18986 or Stahl und Eisen Liste, ID 313), this rule does not apply.</td></tr>
</table>

4.4.4 Preliminary or Prototype MDS (Details see Recommendation IMDS 023)

Preliminary or prototype material MDSs are intended for use during the development process of a part where the exact composition of a material is not yet known.

For each material classification, the IMDS Steering Committee has published a so-called Prot-Mat MDS (see IMDS 023, section 4.1), containing 100 % wildcards, which may be used for preliminary MDSs.

Rule/Guideline	Description
Rule 4.4.4.A	If the material is marked as “Preliminary” (shown by checking the box, Preliminary MDS), whatever parent node it is attached to must also be marked “Preliminary”.
Rule 4.4.4.B	The use of “Preliminary” material MDSs (including the ProtMats published by the IMDS Steering Committee) is allowed solely in “Preliminary” MDSs, provided there are no GADSL (suppliers to Renault: RNES list) or REACH SVHC substances contained in the material.
Rule 4.4.4.C	The use of “Preliminary” material MDSs in final MDSs (representing production parts) is forbidden. In a final MDS (during PPAP/Initial Sample Report), the material composition must be known and has to be declared in accordance with this document.
Guideline 4.4.4.a	To avoid duplication of work, the preliminary MDS will be updated once with the final data (once known) and submitted to the customer as a final MDS.

4.4.5 Application Codes

For some basic substances, an **Application Code** must be selected when the material containing one of these substances is first attached to a component type parent node. The substances requiring an application code are generally substances whose use in automotive products is limited to certain applications.

When an Application code is required, an additional tab “**Application**” appears. If there is more than one substance in the material that requires an application code, all substances appear on the same tab. The applicable application code for each substance can then be selected from this tab. ***While the IMDS system makes a suggestion as to an application, it is the responsibility of the user to verify that this is the correct application for each substance.***

Application codes are not a free-text field. Acceptable options for the application code are presented by IMDS. IMDS uses the substance, material classification, and percentage of the substance in the material to determine which application codes can be used. Selection of the appropriate application code is made through checking the appropriate radio button. Only one application code per substance can be selected per material.

Application Codes are updated according to legal requirements. In accordance with section 3.2 Change Management, new MDSs may not contain outdated application codes.

Rule/Guideline	Description
Rule 4.4.5.A	If a substance in a material MDS is application-relevant, the correct application code must be assigned when the material MDS is referenced in a component MDS.
Rule 4.4.5.B	The application code must reflect the real use of the material within the component.

Rule 4.4.5.C	If the application code “Within GADSL Limits” is available, this application code must be used.
Guideline 4.4.5.a	If a substance becomes application-relevant for the first time, the respective MDSs should be modified and resubmitted.

4.5 Basic Substances

4.5.1 General Information

A **basic substance** is part of a material. It can be either a chemical element (example: iron, copper) or a compound (example: acrylic resin, zinc oxide). Basic substances are defined by either a specific Chemical Abstract Number (CAS#) or generically by function. Generally, they fit in three distinct categories:

- ***CAS-numbered basic substance*** *– This is a basic substance with a CAS# assigned to it, meaning it is a clearly defined substance, example: Iron (CAS# 7439-89-6).*
- ***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". It is important to point out that these substances are accepted as real substances in IMDS and are not considered as wildcards.*
- ***Jokers or Wildcards*** *– These substances do not define a specific substance. There is only a very limited amount of wildcards available within IMDS, and all have “system” in the CAS# field. Examples are "Misc., not to declare" or "Not yet specified, not to declare".*

The list of basic substances in IMDS (Basic Substance List; BSL) is centrally administered. It is not possible for users to add a basic substance themselves. If a basic substance is missing, its addition can be requested sending an email with the relevant information to an IMDS helpdesk.

The names of basic substances that are **declarable** according to GADSL appear in blue letters. The names of basic substances that are declarable / **prohibited** (forbidden) according to GADSL appear in red letters. The names of basic substances that are **SVHCs** (Substances of Very High Concern) according to the European chemical regulation REACh are underlined. Basic substances of concern for Renault can be seen by selecting a substance list (“Renault Black” = prohibited, “Renault Grey” = to be substituted, “Renault Orange” = declarable). Substances that are declarable, prohibited, SVHC, require an application code, no CAS/EINECS number or on the Renault lists cannot be marked as confidential (see 4.5.2 Confidential Substances).

Rule/Guideline	Description
Rule 4.5.1.A	Basic substances must be entered in the form in which they exist in the material. This means that an elemental breakdown (example: polymers represented by their formulation C, H, N, O) is not allowed.
Rule 4.5.1.B	All basic substances in a material must be disclosed, either explicitly or with a Joker/Wildcard (see Sections *4.5.2 Confidential Substances* and 4.5.3 Jokers/Wildcards (Highly Confidential Substances).

Rule/Guideline	Description
Rule 4.5.1.C	The total of all basic substances in a material must be 100 %. If ranges are used, the system-calculated weighted averages plus other fixed percentages must sum up to 100 %.
Rule 4.5.1.D	Declarable and prohibited substances and their concentration/application must be declared in a manner that compliance to legal requirements can be evaluated..
Guideline 4.5.1.a	If applicable, a basic substance should always be associated with its CAS number.

4.5.2 Confidential Substances

Substances that are: not declarable or prohibited according to GADSL, not an SVHC, do not appear on a Renault list, or do not require an application code may be marked *confidential*. These substances have a check box **confidential** in the detail section of the basic substance on the Ingredients page. If a substance is marked confidential it may only be seen by users in the creating company and by “trusted users” in another IMDS company. A user in another company is given “trusted user” status by the company administrator at the company of the MDS-creating company. The MDS-creating company remains the data owner. Along the supply chain this information is only visible to these “trusted users”. It is ***not*** possible to transfer confidential substances via data download into in-house systems – not even by OEMs. It is ***not*** possible for users in other IMDS companies to make a copy of the tree and retrieve the actual data.

If a substance that is marked confidential is later marked declarable or prohibited according to GADSL or as a REACH SVHC, the confidentiality will automatically be suspended two weeks after the GADSL or REACH SVHC update in IMDS.

Rule/Guideline	Description
Rule 4.5.2.A	Substances may only be marked as confidential if they are not declarable or prohibited according to GADSL (suppliers to Renault: RNES list), are not an SVHC, and do not require an application code.
Rule 4.5.2.C	The sum of confidential substances, including wildcards for highly confidential substances (see section 4.5.3) must not exceed 10 % of a material. Exceptions are allowed for masterbatches in sub-materials; see 5.1 (Highly) Confidential Substances in Plastics Masterbatches and IMDS 001a. If substance ranges are used, the respective maximum values of the ranges are applied for calculating this sum.
Guideline 4.5.2.a	As IMDS is providing certain tools to simplify and automate necessary updates of MDS containing confidential substances, it is highly recommended to use confidential substances instead of wildcards (cf. 4.5.3) to cover your secret substance information.

4.5.3 Jokers/Wildcards (Highly Confidential Substances)

Substances that are not declarable or prohibited according to GADSL (suppliers to Renault: RNES list), are not an SVHC, and do not require an application code may sometimes be *highly confidential* to a supplier. These substances may be replaced by a joker/wildcard in the tree structure. This means that the actual substance is not entered as such (as in the case of confidential substances), but completely replaced with a wildcard. Thus, even a “trusted user” or other users in the creating company cannot see the substance hidden by the wildcard.

In IMDS, jokers/wildcards for highly confidential substances are assigned the pseudo CAS# “system”. Currently, there are nine different wildcards available (see Figure 5) in order to characterize the type(s) of highly confidential substance(s).

Name	CAS No.	EU-Index	EINECS-N	Synonym	GADSL / SVHC
Flame Retardant, not to declare	system	system	system	-	-
Further Additives, not to declare	system	system	system	Additives, not to declare	-
Impact modifier, not to declare	system	system	system	-	-
Inorganic Ingredient, not to declare	system	system	system	Mineral Material, not to declare	-
Misc., not to declare	system	system	system	Miscellaneous	-
not yet specified, not to declare	system	system	system	-	-
Organic Ingredient, not to declare	system	system	system	Natural Ingredient, not to declare	-
Pigment portion, not to declare	system	system	system	colorant, not to declare	-
Plasticizer, not to declare	system	system	system	-	-

Figure 5 – Available wildcards for highly confidential substances in IMDS

The nine (9) jokers/wildcards are as follows:

- ***Flame retardant, not to declare:*** This wildcard is used for non-declarable flame retardants.
- ***Further Additives, not to declare:*** This wildcard is used for non-declarable additives (example: polymers).
- ***Impact modifier, not to declare:*** This wildcard is used for non-declarable substances that influence the impact resistance of a material.
- ***Inorganic Ingredient, not to declare:*** This wildcard is used for non-declarable inorganic substances that are pure substances in a material (example: rock powder, ash content)
- ***Misc., not to declare:*** This wildcard is used for impurities or residues that are non-declarable substances.
- ***Not yet specified, not to declare:*** This wildcard is used in preliminary material MDSs during the development phase for substances in a material that are not yet defined/known and are not expected to be declarable.
- ***Organic Ingredient, not to declare:*** This wildcard is used for organic substances that are pure substances in a material (example: wood fibers).
- ***Pigment portion, not to declare:*** This wildcard is used for non-declarable pigments.
- ***Plasticizer, not to declare:*** This wildcard is used for non-declarable substances in plastics that influence the deformation behavior of a material.

Rule/Guideline	Description
Rule 4.5.3.A	If wildcards are used to hide a substance, the owner of the data is obliged to archive the related data (for a minimum of 30 years) which must instantly be available in case of legal enquiries.
Rule 4.5.3.B	Wildcards must not be used to hide substances that are declarable or prohibited according to GADSL (suppliers to Renault: RNES list), an SVHC, or require an application code.
Rule 4.5.3.C	In special justified cases (health care, environmental protection) the data about the actual substance must-be made accessible to the customer on their request.
Rule 4.5.3.D	When the GADSL (suppliers to Renault: RNES list) or SVHC list is updated, every material-creating supplier that uses wildcards in their structures must follow Rule 3.2.1.D
Rule 4.5.3.E	The sum of confidential substances, including jokers/wildcards for highly confidential substances, must not exceed 10 % of a material. If substance ranges are used, the respective maximum values of the ranges are applied for calculating this sum.
Rule 4.5.3.F	In “Preliminary” material MDSs, the amount of wildcards is not restricted.
Rule 4.5.3.G	Wildcards must not be marked *confidential*.
Rule 4.5.3.H	The wildcard **not yet specified** is only allowed in preliminary material MDSs. It must not be used in materials for final (PPAP/Initial Sample Report) MDSs.
Guideline 4.5.3.a	Due to the effort required for a periodic review of all jokers/wildcards after a change to the GADSL or REACH SVHC list (see 3.2 Change Management) and the archival requirement, it is highly recommended that substances be marked confidential instead of using the joker/wildcard for highly confidential substance information.
Guideline 4.5.3.b	The wildcard **Impact modifier** is targeted for phase out and should be avoided in new datasheets if possible. Most duromers and plastics include the impact modifier in the pseudo-substance (example: PA66-I, see IMDS 001a).
Guideline 4.5.3.c	The wildcards **Plasticizer** and **Flame retardant** are targeted for phase out and should be avoided in new datasheets. Information on up-to-date plasticizers can be found in IMDS 001a.
Guideline 4.5.3.d	Do not use the portion type *Rest* for wildcards if portions are used for other substances as it may lead to a warning that there are more than 10 % undeclared substances in a material (see Figure 6).

The following depicts a case where the use of “rest” on a joker leads to a warning although at first glance it appears acceptable.

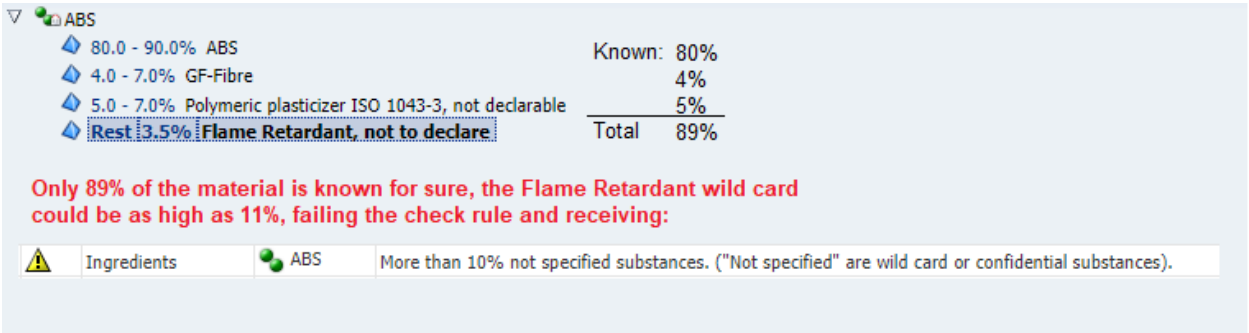


Figure 6 – Use of Portion Type "Rest" for Wildcards Leads to Warning

4.5.4 Portion (Percentage) Ranges

IMDS requires the user to define the portion of a basic substance used in a material. This portion may be a fix percentage value, a range “from X to Y %”, or rest (calculated by IMDS).

<table>
<tr><th>Rule/Guideline</th><th colspan="2">Description</th></tr>
<tr><td>Rule 4.5.4.A</td><td colspan="2">The portion type “range” must be used solely to reflect real variations of a basic substance in a material. Ranges must not be used as a means to avoid declaring the full composition of a material.</td></tr>
<tr><td rowspan="6">Rule 4.5.4.B</td><td colspan="2">If the portion type “range” is selected, the following maximum portion ranges apply:</td></tr>
<tr><td>Portion: from X % to Y %</td><td>Maximum M = Y % – X %</td></tr>
<tr><td>0 ≤ X ≤ 7.5</td><td>M ≤ 3</td></tr>
<tr><td>7.5 < X ≤ 20</td><td>M ≤ 5</td></tr>
<tr><td>20 < X ≤ 100</td><td>M ≤ 10</td></tr>
<tr><td colspan="2">If ranges are used (example: 2 % – 8 %), the smaller number defines the row and M value in the table to be used. Consequently, the range 2 % – 8 % is not allowed because for the lower limit 2 %, the maximum Y value is 5 (2 + 3 = 5).

Exemptions from this rule:

A basic substance as part of a material that is defined with a larger range in a public norm (although in this case, the respective material MDSs published by the IMDS Steering Committee should preferably be used when available).

A basic substance as part of a material is defined with a larger range in an in-house specification (see 4.4.2 In-house Norms). This in-house specification must be part of the delivery conditions.

Basic substances in MDSs published by the Steering Committee (Supplier: IMDS-Committee, ID 423; IMDS-Committee/ILI Metals, ID 18986 or Stahl und Eisen Liste, ID 313).

Materials containing substances with a natural range higher than those given in the table.</td></tr>
</table>

4.6 Regulatory Compliance

The IMDS Chemistry Manager functionality will allow users to enter Biocidal Product (BPR) and REACH Annex XIV regulatory information for Material MDSs and components. This functionality will only be available to users with a new privilege that can be assigned to them by a Company Administrator. Anybody with this user privilege will be able to send a request anonymously to the creator of an MDS to enter regulatory information or update it if it is incomplete. It will also be possible to send these anonymous requests for references within accepted MDSs. Once the MDS creator releases a new version of the regulatory information, it will instantaneously be made available for everybody who can view this MDS. This will allow for a quick distribution of BPR and REACH Annex XIV data among the supply chain.

4.7 Legacy Spare Part

(Semi-)Component MDSs can be declared as “Legacy Spare Part” in the recipient specific screen. Declaring the MDS as a legacy spare part for all recipients will prevent the "Invalid Application Code" Warning from being shown when sending or proposing the MDS.

5 Special Cases

5.1 (Highly) Confidential Substances in Plastics Masterbatches

Plastics masterbatches generally consist of a basic polymer and a (coloured) pigment (see Figure 7)).

Rule/Guideline	Description
Rule 5.1.A	If a plastics material consists of sub-materials, any restrictions concerning the substance ranges and sum of (highly) confidential substances do not apply to the sub-materials, but are calculated with regard to the topmost material level (see Fig. 7).

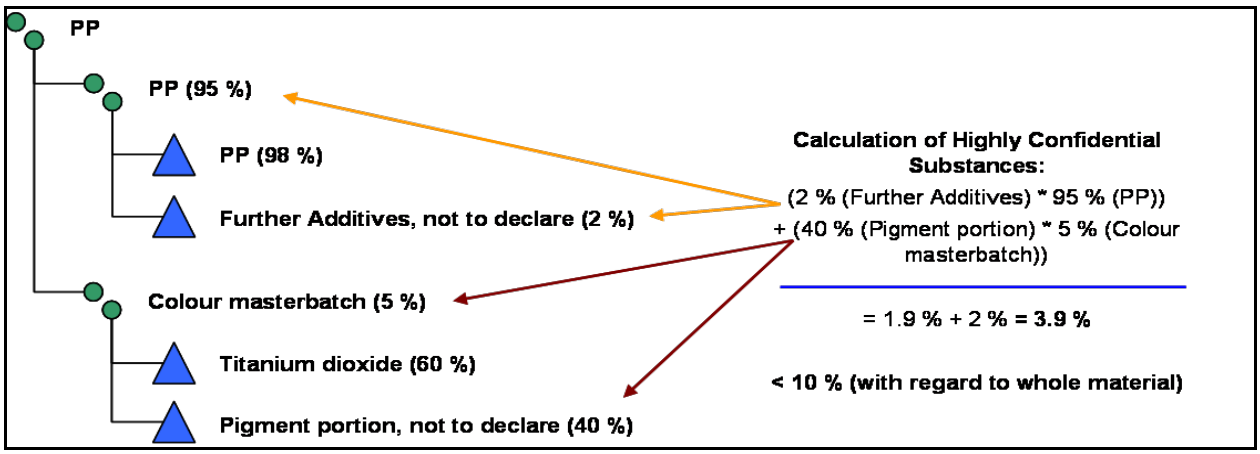


Figure 7 – Example for a Plastics Masterbatch

5.2 Flat BOM (FBOM) Reporting Method

In order to simplify material reporting structures, it was allowed for certain applications to combine certain components into summarizing component groups.

With revision 11 such Flat BOM reporting is no longer allowed.

6 Recommendation 001 Release and Revisions

6.1 Release

The recommendation was first approved and released on December 13th 2002.

6.2 Revisions

Rev.	Date	Description / Reason	Originating Committee
1	Aug. 2003	Better definitions of the material and basic substances levels	IMDS SC
2	24.09.03	Editorial changes	IMDS SC
3	30.10.03	More specific definitions in points: 1, 3.5.2 and 3.5.4	IMDS SC
4	Dec 2005	3.2.2.3 definition FBOM 3.2.3 specification of weight ranges 3.3.2 extended description of semi-components and example 3.3.3 portion ranges of semi-components 3.4.2 extended definition and description of materials 3.4.3 portion ranges of materials 3.5.2 extended description of basic substances 3.5.4.10 example for the use of wildcard additional editorial changes	IMDS SC
5	March 2007	Adapted to check procedure of release 4.0: 3.3.3 Ranges for semi-components 3.4.2 Fields updated (Release 4.0), Std. Mat.-No / Internal Mat.-No. defined 3.5.2 Ranges for substances adjusted to the different classifications 4.2 Example added additional editorial changes	IMDS SC

Rev.	Date	Description / Reason	Originating Committee
6	March 2008	Use of standard materials specified 3.4.5 Link to Recommendation IMDS 023 (ProtMats) added.	IMDS SC
7	October 2008	Adapted to check procedures of release 6.1 (ranges for small parts): 3.4.2 Norms/standards and std. material number optional for small parts 3.5.2 Ranges adjusted for small parts	IMDS SC
8	November 2009	Changed into IMDS Rule 001 General rework, inclusion of Change Management, expanded detail, set Rules and Guidelines	IMDS SC with input from AIAG, CLEPA, and JAPIA
9	January 2010	Change of **Rule 3.2.1.A (wording changed for better understanding)** Change of Figure 7, p. 23 (renamed example for rule 5.1.A)	IMDS SC
10	April 2012	Editorial changes	IMDS SC
11	September 2022	Added chapter 4.2.3, 4.6, 4.7, 4.8 Removed Flat BOM Changed chapter 4.2.2, 4.4.2 Changed Rule 3.2.2.B, 4.1.A, 4.4.2.L Added Rule 4.4.2.M, 4.4.2.N, 4.4.2.O	IMDS SC
12	xxx 2023	Editorial changes, update images Added chapter 4.1.2; 4.2.4 Changed chapter 3.1; 4.4.1.1; 4.4.2; 4.5.2 Deleted chapter 4.4.2 Recyclate; 4.7 Added rule 3.2.1.F; 3.2.2.C; 4.1.2.A; 4.2.4.A/B; 4.4.2.P; 4.4.5.C Changed rule 3.2.1.D; 3.2.2.B; 4.4.2.H; 4.5.1.D; 4.5.3.D Deleted rule 4.4.2.I; 4.5.2.B Added guideline 4.2.4.a	IMDS SC