

Guidelines for Material Data Sheets in IMDS - Faraday & Future, Inc., (aka Faraday Future).

The purpose of the submission of Material Data Sheets, (MDSs), into the IMDS is to enable a vehicle manufacturer to complete an environmental survey for Sustainability Engineering, which is related to RRR, the three "Rs" of Reuse of Components or Materials, the Recyclability of Materials, and the Reduction of waste as a plan for a vehicle at the end of its useful life, (ELV). Sustainability Engineering seeks to maximize contribution to the Circular Economy for Materials for a vehicle at the end of its usage by a customer.

In general, Faraday Future requires that suppliers make full use of the active IMDS Recommendations 001 to 023 as listed on the IMDS / DXC website. The IMDS Recommendations provide definitions – direct or implied - for items like Components, (top-level components and sub-components) as objects; for semi-components as Articles; for Materials, Basic Substances, Symbols, and Classifications; and for Tree Structures, which are arranged to protect the highly confidential disclosures of MDSs.

The IMDS Recommendations list rules, which are requirements. Exceptions to compliance with requirements may be granted if the Supplier provides compelling reasons in writing, which would warrant such relief.

The IMDS 001 - 023 Recommendations provide Guidelines, which define "Best Practice" methods to describe objects or articles and to disclose and to declare Materials and Basic Substances. Because a Material Data Sheet is a PPAP document in-situ in the IMDS, Faraday Future, (FF), requires the usage of the "Best Practice" methods. This doctrine is best explained by the question: Why would a Supplier use anything less than a "Best Practice" for compilation of the data in the Production Part Approval Process package? Also, since the data is written into a PPAP document, all data is required to be accurate and complete. It is a Best Practice is to create an efficiently written Tree Structure in an MDS.

Faraday Future, (aka FF), requires each Supplier to provide the Name of an active IMDS contact and to provide a valid e-mail address for this same IMDS contact.

Getting started:

Open page: www.mdssystem.com; then click on: New at IMDS?

Or click on: Help/Contact/IMDS Service Centers.

For the step by step procedure for creating a material in the IMDS system, please access:

https://public.mdssystem.com/documents/10906/16811/IMDS+Create+MDS+tips_Material.pdf/11ee4395-31de-4b44-ae30-6e3b34d2e98d

For the step by step procedure for creating a component in the IMDS system, please, access:

https://public.mdsystem.com/documents/10906/16811/IMDS+Create+MDS+tips_Compoment.pdf/426cf575-8398-474e-9c62-8f39d7db9b32

Since one of the primary purposes of the IMDS is to furnish data on Materials to enable completion of a survey of a vehicle's environmental footprint, Faraday & Future Incorporated is attuned to the efforts of the Global Automotive Stakeholders Group and the GADSL.org. Faraday & Future, Inc. makes use of the Global Automotive Declarable Substance List for each evaluation of a Material Data Sheet in the IMDS.

Global Automotive Declarable Substance List (GADSL)

Quoting: Guidance Document (2016) [published] Feb., 2016 from –
<http://www.gadsl.org>.

Global Automotive Declarable Substance List (GADSL)

Major objectives of automotive product development include continuous improvements in quality, safety, and the reduction of environmental impact throughout vehicle the life cycle. As much as possible, these objectives should be achieved in an efficient, cost effective way to optimize consumer value. A large number of construction, operational and processing materials are used in the automotive manufacturing chain, and their selection and proper use can have significant impact on these objectives.

To meet these objectives, an ongoing dialogue and information flow within the global automotive supply chain, including automobile manufacturers, tier suppliers and material suppliers, has been established, called the Global Automotive Stakeholder Group (GASG). Early information and dialogue up and down the supply chain will help facilitate compliance with current and future regulations, as well as take into account customer requirements to ensure sustainable products. Optimized handling of relevant information flow can help automobile manufacturers meet existing and projected requirements in a consistent, understandable and efficient way.

The product of the GASG dialogue is the Global Automotive Declarable Substance List (GADSL). The GADSL covers declaration of certain information about substances relevant to parts and materials supplied by the supply chain to automobile manufacturers. The information is applicable to the use of these parts or materials in the production of a vehicle up to its usage and relevant to the vehicle's re-use or waste disposal.

The scope is to cover declarable substances in the flow of information relevant to parts and materials supplied throughout the automotive value chain, from production to the end of life phase. The GADSL only covers substances that are expected to be present in a material or part that remains in the vehicle or part at point of sale. End Quotes.

[Faraday Future defines "expected to be present" as the end-state composition of a Material, as an object or an article rides, (remains or resides), in a vehicle.]

Again, Quoting GADSL.org:

GADSL Definitions*

Part* -	A manufactured object made up of one or more homogeneous material(s).
Component -	An element of a vehicle that has a defined weight and shape. [Per FF - an "object" of a vehicle that has a stable shape and a defined weight. FF restricts the word "Element" to chemistry as it relates to the "Table of the Periodic Elements" as published by the IUPAC].
Products/articles -	Materials which have been transformed during production to take a specific shape, surface or form, which has a greater influence on their function than their chemical composition does.
Materials -	Chemical elements, chemical compounds or preparations thereof in finished state used to manufacture products/articles. [Per FF ...used to manufacture an object or an article.]
Substances -	Chemical elements or chemical compounds as parts of materials or preparations. [Per FF - Chemical elements or chemical compounds as portions of materials or preparations.]
Preparations -	Mixtures, composed of two or more substances. End Quote. [per FF - bonded mixtures with either cohesive bonds or adhesive chemistry, for Oils, Greases, Adhesives, etc.; or fused-mixtures, which include Glass, Ceramics, Lacquers, powder-coat paint, etc.]

[*FF note - This list of definitions has be re-ordered to match the Tree Structure of a Material Data Sheet, (an MDS), in the IMDS. The term - Parts - was changed to Part to match the "singular" definition.]

Again, quoting: [GADSL] Guidance Document

4. Substance declaration in IMDS

4.1 Information about reporting the presence of declarable substances

The International Material Data System (IMDS) contains detailed information on materials and substances in automobile parts. IMDS Recommendations give instructions on how to report the presence of declarable substances in parts and materials. In addition, specific requirements of individual vehicle manufacturers can be found. GADSL is standard in IMDS.

4.2 Function of GADSL and IMDS Basic Substance List (IMDS-BSL)

The complete list of substances in IMDS is called the BSL "Basic Substance List". To simplify identification and reporting of GADSL-listed substances they are marked separately with D or P in IMDS System. [FF explanation - "marked as Declarable or Prohibited in the IMDS."]

End Quotes: [GADSL] Guidance Document (2016) [published] Feb., 2016

Definitions for some of the IMDSs' key-words - FF's interpretation:

Top-Level Component - the item, the object or article, which is PPAP'd.

Sub-Component - an object, which is set at an index-level below the Top-Level Component.
An item or object, which comprises a portion of the Top-Level Component.

If the object can be wholly disassembled with various types of common tools, such as wrenches, pliers, dowel-pin punches, arbor press-out punches, and screwdrivers, then, the Material for each portion of the object may disclosed as a sub-component at the next stepped-down index-level of the Tree Structure.

Semi-Component - an Article, which is composed of laminated, clad, woven, sewn, bonded, or fused portions of Materials. Some portions of the Article may involve cut-to-length Thread, cut-to-size fabrics, fused weld filler-metal, buttons or dollops of solder, glue, carrier-stock, gum-resin, composite layers, etc.

In general, an Article may be composed as a configured laminate, a conformal laminate, a congruent laminate, a cylindrical laminate, a ribbon-laminate, a circular-laminate, etc.

Examples of Articles, whose construction is best confirmed and described as a semi-Component, which is accompanied by a Flat Bill of Materials, an FBOM:

Configured laminate - a Printed Circuit Board, which is dressed with micro-electronic devices.

Conformal laminate - a shell of plastic, which is bonded or fused to a layer of foam; two brackets joined with weld-filler metal; weld studs, which are fused to a plate of metal via resistance welding or projection welding; a sleeve of plastic, which is over-molded to one-half of the surface area of a tongue of stainless steel.

Congruent laminate - a shielding tape, which has a layer of foil, a layer of a fabric-carrier, and a layer of adhesive; 3 layers of plated-metal, such as Chromium (top), Nickel (middle), and Copper (bottom and adhered to) and on a Plastic substrate; a bolt with a layer of zinc, which is over-coated with chromium-oxide, and sealed with a plastisol coating.

Cylindrical Laminate - a tube with a webbed or woven sheath clad to its circumference.

Ribbon laminate - a flat-wire with an over-molded sheath of insulation. A roll of tape is a ribbon laminate.

Circular laminate - a metallic disk or metallic ring, which is over-molded with an elastomer to make a seal.

In nearly all instances, the composition of a semi-Component Article - see examples above - is best disclosed with one Flat Bill of Materials. Generally, it is inefficient to create a Tree Structure with a single, Parent-node sub-Component, which has multiple Child-node semi-Components.

In nearly all instances, the composition of a semi-Component Article - is best disclosed with a single semi-Component entry and one Flat Bill of Materials at the next step index.

Example:

Sub-Component icon: Shielding-Tape

Semi-component icon: Foil, Carrier, Gum Adhesive

Material icon: Aluminum

Material icon: PET

Material icon: Polyacrylate

Guidance for the proper format for data entries into key textboxes of a Material Data Sheet:

A listing of key textboxes -

Part/Item No. textbox

Part Description (for a Top-Level Component)

Part Description (for a sub-Component)

Article Name (for a semi-Component)

Name (for a Material)

Std. Mat No. (Standard Material Number [code or designation])

Symbol (for a Material with Classifications of 5.x or 6.x)

Guidance for the Part/Item No. textbox

The Part Number must be assigned from the FF Bill of Materials, (BOM) or the FF Manufacturing BOM, (MBOM).

Guidance for the Part Description of the Top-Level Component

The Part Description in an MDS must be an exact match for the FF Part Title, which corresponds to the Part Number on the FF Engineering Bill of Materials or Manufacturing Bill of Materials.

The Supplier is not permitted to introduce abbreviations of the FF terms or phrases or to truncate the Part Description of the Top-Level component. The Supplier must not introduce the Name of the company or FF or the Names of any of its vehicles as a prefix or a suffix to the Part Description of the FF Bill of Materials.

Guidance for the Part Description textbox for the sub-Component

The entry in the Part Description textbox must identify a common automotive item or object with a well-targeted phrase or a brief, accurate name. The name or phrase must be placed in the first-position of the textbox.

The entry in the Part Description textbox must not contain any of the characters, which are banned from entry in the - Reason for Denial - textbox, because such characters will cause the transmission of the Reason for Denial to be blocked, when the Part Description is quoted in the RfD textbox. Such characters include a quote mark ("), which would be used to indicate inches, and (%), percent sign, (...) a series of periods, (&) and ampersand, etc.

Guidance for the Part Description textbox for the sub-Component - continued

Next, the entry in the textbox for the Part Description must not contain the Name of a Material or Materials, because one of the primary purposes of the pattern of the Tree Structure is to shield the Name of each Material and each Basic Substance out-of-view in the lower index-levels. The Tree Structure is designed for the confidential disclosure of the Materials / Substances, such that the Trade Secrets of the Supplier, and, simultaneously, the Trade Secrets of the Recipient are sequestered out-of-view. There is no sound reason to disclose the Name of a Material or of a Basic Substance out-of-order in the Tree Structure.

Also, the entry in textbox for the Part Description must not consist of a Trade name or a commercial code. The Trade name / commercial code is not allowed, first, because the Trade name or code rarely states an accurate Name or phrase in the first-position of the textbox. Secondly, the Trade name / commercial code is fairly viewed as advertising. FF does not permit such advertising to appear in the textboxes for the Part Description, Article Name, or Material on the Ingredients page. Thirdly, the Trade name / code, most often, is not sufficiently descriptive so as to enable the Recipient to easily recognize a common, automotive object and to further the evaluation of the reasonableness of the composition and disclosure(s) of the Materials and Basic Substances for this survey.

Guidance for the Article Name textbox for the semi-Component

The entry in the Article textbox must identify common automotive items or list laminates with well-targeted phrasing. The name or phrase must be placed in the first-position of the textbox. The entry in the textbox for the Article Name must not contain any of the characters, which are banned from entry in the - Reason for Denial - textbox, because such characters will cause the transmission of the Reason for Denial to be blocked, when the Article Name is quoted in the RfD textbox. Such characters include a quote mark ("), which would be used to indicate inches, and (%), percent sign, (...) a series of periods, (&) and ampersand, etc.

Next, the entry in the textbox for the Article Name must not contain the Name of a Material or Materials, because one of the primary purposes of the Tree Structure is to shield the Name of each Material and Basic Substance out-of-view in the lower index-levels. The Tree Structure is designed for the confidential disclosure of the Materials / Substances, such that the Trade Secrets of the Supplier, and, simultaneously, the Trade Secrets of the Recipient are sequestered out-of-view. There is no sound reason to disclose the Name of a Material or of a Basic Substance out-of-order in the Tree Structure.

Guidance for the Article Name textbox for the semi-Component - continued

Also, the entry in textbox for the Article Name must not consist of a Trade name or a commercial code. The Trade name / commercial code is not allowed, first, because the Trade name or code rarely states an accurate Name or phrase in the first-position of the textbox. Secondly, the Trade name / commercial code is fairly viewed as advertising. FF does not permit such advertising to appear in the textboxes for the Part Description, Article Name, or Material on the Ingredients page. Thirdly, the Trade name / code, most often, is not sufficiently descriptive so as to enable the Recipient to easily recognize common, automotive laminates and to further the evaluation of the reasonableness of the composition and disclosure(s) of the Materials and Basic Substances for this survey.

Guidance for the Material Name textbox

The Name of a Material must be coordinated with its Basic Substance(s). Trade names are not acceptable. The Name of a Material must be placed in the "first-position" of the textbox. A textbox entry, with the Name of a Material and the Trade name (or a commercial code) written together, is not acceptable. For plastics, elastomers, thermoplastics, and metals, the Name of a Material should be derived the applicable Norms / Standards of Material Science organizations. If no norm or standard applies, then the Name of the Material must be clear and descriptive and directly associated with its Basic Substance(s).

The Name of a Material must be determined by and coordinated with its Basic Substance(s). The Name of a Material must be placed in the first-position of the textbox. Typically, the identity of a Material is best disclosed with a common Material Science, automotive code or phrase. There are many instances for the disclosure of a Material whereby the Name (or code) for the Basic Substance and the Name of the Material are exactly the same.

A Trade name, by rule, is not an acceptable entry or item for a textbox. A textbox entry, with the Name of a Material and the Trade name (or a commercial code) written together, is not acceptable. For metals, plastics, and elastomers, (rubber-like materials), the Name of a Material should be derived from applicable norms or public standards of national or international engineering organizations. If no norm or standard applies, then, the Name of the Material must be clear and descriptive and specific to its Basic Substance(s).

If the Name of a Material includes the Symbol(s) for chemical elements, which are published in the "International Periodic Table of the Elements" by the International Union of Pure and Applied Chemists, (the IUPAC), then, the Symbol(s) must quoted accurately in all instances.

Guidance for the Material Name textbox – continued

Caution - Some enterprise organizations - like JAMA - publish codes / designations for Materials, which are not grounded in Material Science. Example - JAMA published the code - SAC - for a solder, which is a Tin Alloy (Stannum alloy), which has deliberate additions of Silver and Copper.

For JAMA, the S stands for Stannum (Tin), A for Argentum (Silver), and the C stands for Copper. Apparently, JAMA does not count it worthwhile to use the Symbols of the International Periodic Table of the Elements, as published by the International Union of Pure and Applied Chemists, whereby the capital-letter -"S" - must be used to represent Sulphur only in the disclosure of an elemental substance, and, likewise, the cap-letter - "C" must be used accurately to disclose the presence of Carbon. An enterprise code - like SAC - must not be applied into a textbox to Name a Material, because a code like - SAC - is equivalent to a Trade name.

Each entry into the textbox to Name a Material must qualify as providing the identity of a Material or a Basic Substance, which is present. FF does not permit the usage of the term - Leadframe - in any textbox to Name a Material. (A Leadframe is a Surface Mounted Device, an SMD, on a printed circuit-board assembly.) The term - Leadframe - introduces confusion as to the presence - or not - of Lead, as Plumbum. Since Lead is a Prohibited Substance, a term, which creates confusion about its presence, is not acceptable. FF only allows the term - lead - in any form or phrase in a Material textbox, when plumbum is actually present as an elemental Basic Substance or present in a compound in a sub-Component or in a semi-Component.

Similarly, FF does NOT permit the phrase - Lead free - to be written into the textbox to Name a Material. Taking note of the "Lead" as a free-standing term, then, there is immediately a confusion as to whether or not Lead is present in the List of Basic Substances. Since the purpose of the MDS is to disclose the Substance(s), which are present in the Component, then, it is never necessary to disclaim the presence of Plumbum or Lead. Hence, the entry of LEAD in a textbox must be qualified by the actual presence of Pb.

The entry in the (Material) Name textbox must not contain any of the characters, which are banned from entry in the - Reason for Denial - textbox, because such characters will cause the transmission of the Reason for Denial to be blocked, when the Material Name is quoted in the RfD textbox. Such characters include a quote mark ("), which would be used to indicate inches, and (%), percent sign, (...) a series of periods, (&) and ampersand, etc.

Guidance for the Material Name textbox – continued

Next, the entry in the textbox for the (Material) Name must not contain the Name of an object or item - a sub-Component, nor contain an Article Name or the Name of a Laminate - a semi-Component. The IMDS Recommendations establish the textboxes for Part Descriptions and for Article Names at the index-levels above the icons and textboxes for Materials. There is no sound reason to write a Part Description or an Article Name into a textbox, which declares the Name of a Material. Such information, when present in a Material Name textbox, is written out-of-order to the format of the Tree Structure of the IMDS Recommendations.

Guidance for a List of Basic Substances

The Basic Substance or the List of Basic Substances must establish the identity of the Material and represent the homogeneity of the Parent-node Material. The disclosure of a Substance in an End-State condition must represent engineering intent whereby said Substance was designed to be present in the final product, in the finished-goods.

The disclosure of the composition as a Process Chemical, as a starter-chemical, which, subsequently, had undergone a significant transformation or which actually exists in a different phase, is not permitted. Plasticizers, catalysts, and hardeners are Process INPUT Chemicals, which become fully integrated into the principal Substance(s) of the Material. The weight or the proportion of the plasticizer, catalyst, or hardener must be integrated into the weight of the principal Substance(s). Such INPUTS must not be reported as independent of the Principal Basic Substances(s) in the List of Basic Substances in an End-State Material.

Inadvertent Process-Chemical residues must not be disclosed, when present in miniscule amounts, which are not routinely proven to be present in the end-state Material.

A single List of Basic Substances for a Material must not confuse the composition of discrete layers of laminates into a single entry, which misrepresents homogeneity.

Example - A bracket, whose substrate is steel, is plated with three discrete layers of metals - Copper on a substrate, Nickel on the Copper, and Chromium on the Nickel. The List of Basic Substances must not be written with the confusion of Cu, Ni, and Cr as though homogeneous. The discrete layers must be named at the index-level of a Material with the disclosure of each metal as a separate Material: as a Material, whose Name was written as Copper; as a Material, whose Name was written as Nickel; and a third Material, whose Name was written as - Chromium. The stacked and discrete layers of Materials must not be consolidated and confused into a single List of Basic Substances.

Regulated Substances

Substances, which are widely recognized as "regulated" - cadmium, lead, mercury, and hexavalent chromium - must be reported in the instances where each exceeds 0.1% by weight of the affected Material and for Cadmium, when it is present in a Material in an amount, which exceeds 0.01% by weight of the affected Material.

Regulated / Prohibited Substances are Application relevant substances, (aka - Appl. rel. subst.). An appropriate application code must be selected for materials containing certain restricted substances from / among those currently in force in the latest version of ELV – Annex II.

<https://mdsystem.com>

Select the correct application among those currently in force in ELV Annex II.

The list of applications is available at:

https://public.mdsystem.com/documents/10906/17094/Substance_Application.xls

Example: Since Lead, Plumbum, is an Application Relevant Material, an App. Rel. prohibited Material, an appropriate application code must be selected for this material / substance.

On the Ingredients Details page and for the Basic Substance's index-level, there is a section, whose title is - "Basic substance groups". Substances, which are categorized as - Appl. rel. subst. - as Application relevant substances - are denoted in this section. The Supplier must acknowledge the presence of all Application Relevant Substances and understand that any error(s) as related to the declarations for the End State composition for an - Appl. rel. subst. - is a basis for the "Reason for Denial" of acceptance, that is, a basis for Rejection of the MDS.

Some Process Chemicals, (INPUTS to a process), are Application Relevant Substances.

Example of Process Chemicals, which are Appl. rel. subst.: the Polycyclic Aromatic Hydrocarbons, PAHs. The Basic Substance, which is coded as - PAHs - as polycyclic aromatic hydrocarbons, is a common constituent of certain Distillate Oils - of Naphthenic Petroleum Oils and of Paraffinic Petroleum Oils. These types of oils are often used as Process INPUT Chemicals in the molding or extrusion of thermoplastic elastomers and elastomers. When the finished object ejects from a molding or extrusion process, the oils have undergone substantial transformation and must not be characterized or disclosed as "Distillates". For this situation, the Basic Substance, "Petrolatum-oxidized", is descriptive.

Caution - Distillate Oils, which contain PAHs, are not flagged as Red, (Prohibited), because the Oils are Process INPUT Chemicals and NOT End-State chemicals. The inclusion of such Oils in a List of Basic Substances will not trigger a Red-flag via a GADSL related-code even though PAHs are Appl. rel. substances, which are regulated and prohibited Material content of the End State.

GADSL-related disclosures of Basic Substances

All intended substances, which are present in the end-state in an item, object, or article, and which are contained in "The Global Automotive Declarable Substance List" (GADSL), MUST be disclosed in a Material Data Sheet in the IMDS. Threshold for declaration - All GADSL substances must be declared if present at or above 0.1 % by weight, unless a lower threshold is listed in regulations, which cite the substance as - application-relevant.

Guidance for the entry to provide a Classification of a Material

FF requires that the most descriptive Classification code be assigned to a Material.

The Classification of 8.1 Electronics must not be used for a Material, which can be declared with a more descriptive Classification code.

Example - a Copper Alloy must show a Classification of 3.2 and not 8.1.

Guidance for the textbox for a Std. Mat No. (Standard Material Number, a code or designation)

The code or designation, which is entered into the textbox to provide the Std. Mat No., must be sanctioned in an active national publication or international publication, which provides the composition of a Material for any of the Classifications 1, 2, 3, or 4. The organization, which published the code or designation for the composition, must be recognized by the IMDS as competent to provide such data.

Caution - FF does not accept a code or designation, which begins with the letters - AISI. The AISI, the American Iron and Steel Institute, began issuing disclaimers for the composition of Irons and Steels in 1995. Circa the calendar year, 2000, the Society of Automotive Engineers, (the SAE), noted that the AISI does not support compositional data. Any reference to a composition code from the AISI has been obsolete for more than 20 years.

Guidance for the textbox for a Symbol (for a Material with a Classification of 5.x or 6.x)

Three international standards, the ISO 1043 series plus ISO 1629 and ISO 18064, provide codes, which relate to the composition of Materials in Classifications 5x and 6x. The entry for the textbox for the Symbol can be selected from Tables in the IMDS. The Symbol should be enhanced to represent a complete disclosure of the principal constituents of each Material plus 10% or more of any filler substance(s) or fire-retardant substance(s). It is a Best Practice to use a complete Symbol as the entry into a textbox to Name the Material.

Caution - a code for a Plasticizer must not be written into the Symbol because the Plasticizer was fully integrated into the principal Material(s). A Plasticizer is not a discrete constituent chemical in the End-State Material - except as an inadvertent residue.

Accuracy of the Weight of the Top-Level Component

The deviation determined by the IMDS system between a measured-weight and a calculated weight must be "within tolerance" in the MDS. Deviations above 5 % will likely be rejected. Deviations of concentrations and weights shall only display real variations. Therefore, the maximum tolerance range is $\pm 5\%$.

FF applies a 5%-by-weight maximum as a limit for the amount of Substances like – Further Additives not to declare, Misc. - not to declare, and Pigment-portion not to declare, etc. in relation to the sub-Component object or to the semi-Component Article.

The "Last Eyes and Last Hands on the MDS" Responsibility

The IMDS contact for the Supplier had the "last eyes and last hands on" (last possession of), the Material Data Sheet prior to submission to a Recipient. When the Supplier's IMDS-contact accepted the IMDS Terms of Use, the IMDS-contact accepted all responsibility to make certain that each section of the Tree Structure of this Material Data Sheet, MDS, was structured per the IMDS Recommendations and the rules, embedded therein, to ensure an accurate and complete disclosure of the Material composition of the Component, as the MDS is submitted to the Recipient, to FF. The IMDS Supplier-contact has all responsibility for all content. If the supplier-contact receives written notice of deficient sections of the MDS, then, the contact has the responsibility to make a correction or to secure a correction from a sub-Tier Supplier.

If there is not sufficient cooperation from the sub-Tier Supplier, then, the Tier 1 Supplier-contact must replace the deficient section of the MDS with the best information / best data available.

Rejected MDSs must be edited and resubmitted as soon as is practicable.

Faraday Future has 2 categories for deficiencies in an MDS: Major Errors and Minor Flaws

Major Errors and Minor Flaws

Examples of Major Errors:

- a. Incorrect FF Part/Item No. number for the Top-Level Component.
- b. The Part Description for the Top-Level Component does not match Faraday & Future, Inc.'s PPAP documents and does not correspond to the FF Part Number.
- c. The failure to use the correct symbols of the International Periodic Table of the Elements as published by the IUPAC.
- d. Unacceptable usage of a prohibited/restricted substance. (The usage does not fit the Application exemptions of ELV Annex II and the IMDS Recommendations).
- e. Failure to use a ZVEI Committee semi-Component to disclose and declare the composition of a Printed Circuit Board, which is dressed with micro-electronic devices and connectors.
- f. Excessive number of warnings and errors that would add up to significant inaccuracies for the recyclability calculation.
- g. Submission of an MDS, which has generated a significant Warning.
- h. Unnecessary "system generated" Warnings.
If a warning is unavoidable, as does occur for some unique items, it will be handled on a case-by-case basis.
- i. Usage of the Faraday Future name or trademarks to describe or to name Components, Sub-Components, Semi-components, or Materials. Since parts of IMDS submittals are often "recycled" to other customers, this could jeopardize confidentiality of the exchange of data between FF and the supplier.
- j. Misrepresentation of Lead, Pb, with the symbol code - PB. (PB is polybutylene.) Any similar misrepresentation of an Application Relevant Substance in the end-state composition.
- k. The deliberate disclosure of a dangerous or toxic chemical as a joke or a prank.
- l. Incorrect Description of a Material and a wrong /incomplete List of Basic Substances, which comprise the Material. Mismatch for a Material and its Basic Substances.
- m. The usage of a Tradename to identify a material.
- n. Confusion of multiple Materials into a single List of Basic Substances.
- o. Failure to establish a proper Tree Structure or an accurate Description or a proper Article Name.
- p. Incorrect Classification (category) of the Material.
- q. Deviation of more than 5% between the measured weight and calculated weight.
- r. Incorrect and/or missing Norms/Standards for Materials in IMDS Classifications 1x through 5x when the Material's weight is over 5 grams. If the Material weighs more than 5 grams, the most current Norm or Standard and code, which applies, must be written into the textbox.
- s. An "Editorial / Disclaimer Comment" in the Remark section, which indicates that the full and accurate disclosure of composition was not submitted and that the Recipient must search outside of the IMDS for disclosures and declarations about the Materials / Substances.

This is especially serious when the manufacturer is quoted for Process INPUTS - like Plastic pellets - and the company was sold, such that the quote, had originated in an organization, with a different company name or in a company, which no longer exists.

Significance for a Major Error -

A single Major Error on an MDS can be the basis for writing a "Reason for Denial" of Acceptance.

Minor Flaws

- a. The failure to post the Name of the Material into the "first position" of the textbox for the Name of a Material.
- b. An "Editorial / Disclaimer Comment", which was written into the "Remark" section, which does not enhance the description of the Material. A "Remark", which contains legalisms and disclaimers, which are not consistent with a complete and accurate disclosure.
- c. Typographical errors

A Minor Flaw will not usually trigger a "Rejection" by itself. Each Minor Flaw will be included in the "Reason for Denial" along with Major Errors. It is expected that flaws will be corrected.

Warning Report - Since it is rare for an MDS to be written perfectly, nearly every report, which is accepted into the IMDS contains one or more errors. Hence, the typical status of such an MDS is - Accepted with error(s). There are circumstances where an MDS will be given an Accepted with Errors status in the IMDS, which is followed with a Warning Report, which is e-mailed to the Supplier-contact. The purpose of the Warning Report is to make clear that the PPAP practice of Continuous Improvement must be applied by the Supplier to gain acceptance for the next, similar version of the MDS in the future.

Summary for the IMDS Guidelines

These IMDS Guidelines, while comprehensive, do not present the entire list of topics and hints, which aid acceptance of an MDS by FF within the database. Nor do the Guidelines provide all of the possible issues or deficiencies, which might be written into a Reason for Denial, (RfD). When a Supplier puts their "best-foot forward" on the pathway of Continuous Improvement, then, FF and each Supplier will have concordance for progress for Sustainability Engineering. Then, the projective survey for the environmental footprint of FF's vehicles at ELV can be completed efficiently and accurately.